

Bird Brain is a coin operated system in which a trained chicken plays Tic-Tac-Toe with your customers.

When the proper coin is inserted in the coin box, a sign lights saying "bird's turn". After a short delay, the chicken pecks a switch to light a "O" in the upper left square of a display board. A different sign lights to say "your turn". The customer then presses a button in any of the remaining eight squares of the board to light an "X" in that square.

The game thus continues until the game is tied or results in a win by the chicken. An appropriate sign, "bird wins" or "it's a tie" lights to announce the end of the game. Because the chicken plays first, and because her selections are actually made by electronic circuitry, the customer can do no more than tie the game.

The chicken triggers the "O" circuitry when she pecks the switch. She has been trained to respond to a flashing light which appears behind a clear plastic switch plate at the proper times. A delay of a few seconds before the switch plate is illuminated adds to the illusion that the chicken is actually thinking about the game. The mystery is increased by the effect of a translucent shield which largely conceals the bird's real actions.

If the chicken pecks the switch plate before the flashing signal appears, the time delay is lengthened. This feature discourages a tendency of some birds to peck continuously, rather than to wait for the signal.

At the end of the game, when the chicken makes her last response, the bird is automatically rewarded with a few grains of food.

The final score remains on display when the game is over and, in a few seconds, begins to flash the display. Insertion of another coin clears the board.

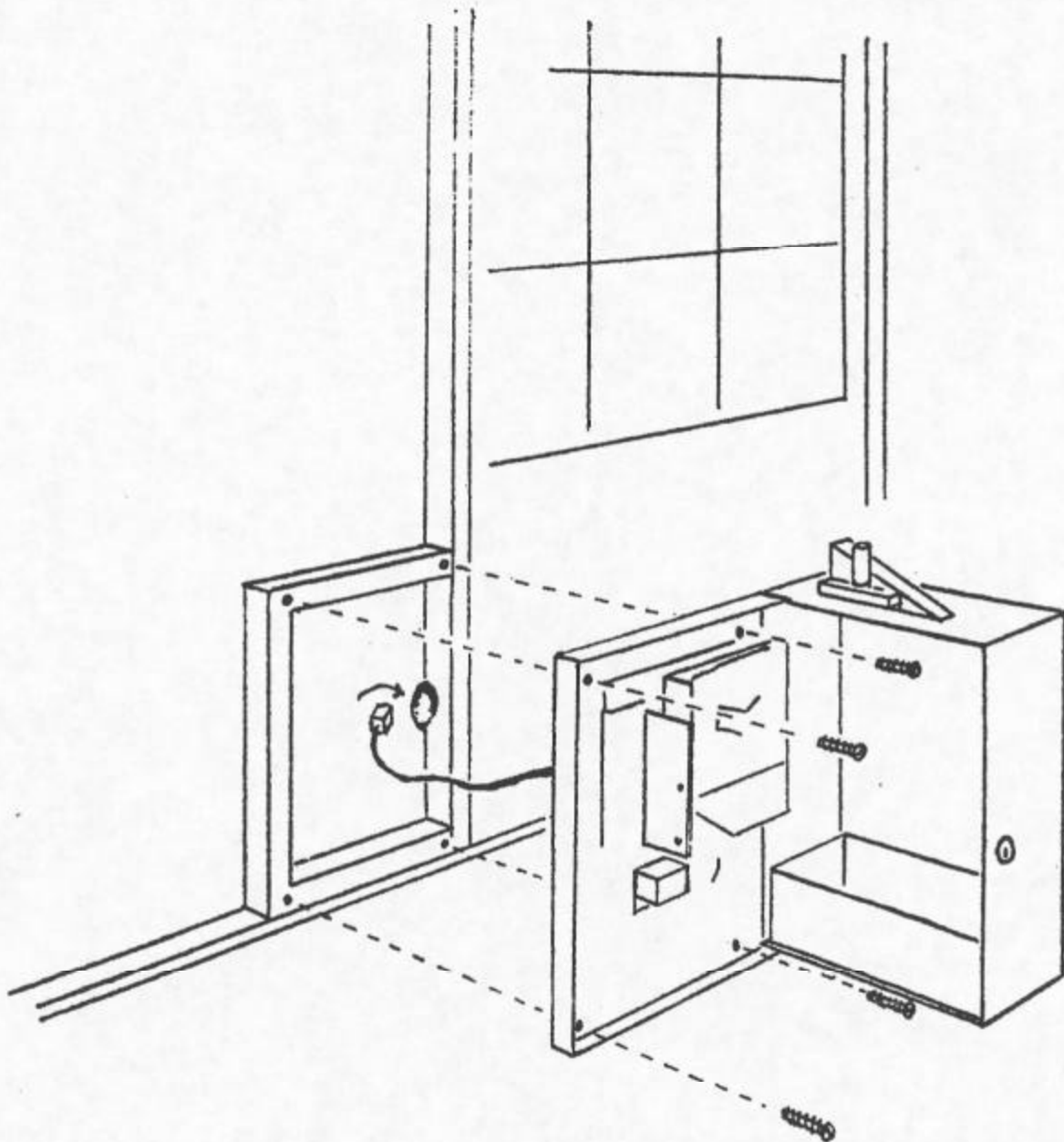
A timer limits the time a customer is allowed for each "X" selection. An electronic number display counts down from "9". If a customer delays until the count-down is complete, the game ends as a "time's up" sign lights. In this case the chicken is automatically signalled to give a final peck of her switch for which she is rewarded.

The time limit is labelled to indicate a count of seconds, but actually, in fairness to customers, each step of the count is about two seconds long. A simple adjustment permits you to lengthen the "time's up" interval if you so wish.

#### SETTING UP

The unit is shipped almost completely assembled. It is necessary only to attach the coin box and to fasten a sign to the top of the cabinet.

The unit must be placed on a table or counter about 30 inches high and measuring two by four feet or larger. If the display is to be set up outdoors, it must be well sheltered from sun or rain. The equipment is not waterproof. Exposure of the enclosed cabinet to direct sunlight may overheat the chicken's compartment. The result could be serious harm or even death for a very valuable bird!



The coin box mounting bolts are in place below the window of the cabinet. Remove the bolts, open the coin box, push the coin box plug through the hole into the compartment behind the Tic-Tac-Toe display, then bolt the coin box to the cabinet.

Reach through the display compartment door at the rear of the cabinet and plug in the coin box cable to the socket labelled "coin box".

The coin box will return coins that are inserted when electric power is off or if a game is unfinished.

#### THE CONTROL SYSTEM

The game logic, the lighting of signs, cueing the bird, operating the electric feeder, etc. is all under the control of an electronic programmer located behind a sloping panel at the rear of the display section. A separate metal box contains the power supply for lights and logic.

On the logic panel are two push buttons and a toggle switch. The toggle, in the up position, sets the systems so that the chicken receives a food reward for her first response at the start of each game. Normally she is rewarded only at the end of a game, but there may be times when a bird is slow to perform. A few games during which she is more generously rewarded will improve her behavior. The double reward is particularly recommended at first when a bird is likely to be somewhat disturbed by her new surroundings.

One of the push buttons ("free play") by-passes the coin box and so permits testing the equipment or a bird's behavior without registering on the coin counter.

Another button lights all of the display lamps at the same time to simplify checking for burned-out bulbs.

A slotted shaft labelled "time's up" or "time out" permits changing the player's time limit. The shaft can be moved with help of a screwdriver (or a dime). In its normal, counter-clockwise, position the player's time for each play is limited to about 18 seconds. If the shaft is advanced one "click", the time limit is increased to 36 seconds. A third clockwise position sets the timer at about 10 minutes - essentially abolishing the time limit.

#### TESTING

When the unit is first set up, it should be tested by hand before a trained chicken is put to work.

When the equipment is powered, or following any power interruption, the display board may light up in an unpredictable pattern, but which is erased when a game begins.

To test, press the free play button or insert a coin to "clear the board" and start a game. When the chicken's cue lamp begins to flash, press the bird's switch plate to light the first "O". Proceed with a sample game alternating between the lighting of "X's" and pressing the chicken's switch in response to the flashing light. At the end of the game, tie or win, the electric feeder should deliver a few grains of feed.

Testing is easier if done by two people - one to play the game from the front of the cabinet, the other to work the chicken switch from the rear.

Do not try a chicken in the equipment until you are assured that the flashing cue light, the chicken's switch and the electric feeder are working properly. The correct functioning of these parts is essential to the maintenance of the behavior of the trained chickens.



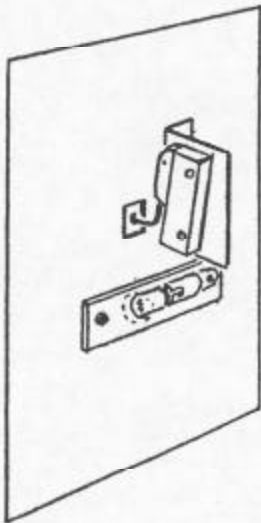
Failure of the cue lamp probably simply means a broken or burned out lamp which is easily replaced at the rear of the chicken's switch. Vibration or rough handling during shipment may have caused a misadjustment of the chicken's switch or of the electric feeder. See Maintenance below.

#### MAINTENANCE

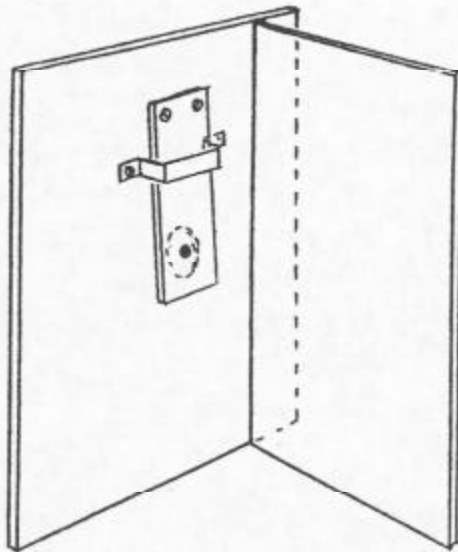
The chicken's plastic switch plate is pivoted at the top and is pressed outward lightly from behind by the arm of a micro-switch. The action of the switch is easily tested. When it is correctly adjusted gentle pressing of the switch plate produces a soft click. Another click is heard when the plate is released. A wing nut holding the switch to its bracket can be loosened and the switch may then be pivoted as required for correct adjustment.

All of the light bulbs of the display board are in sockets mounted on the door at the back of the display. Loosening two sash locks permits the door to be opened exposing the lamps. Pressing the "lamp test" button should light all of them, including the chicken's cue lamp. In the test, any failure of a lamp indicates a defective bulb.

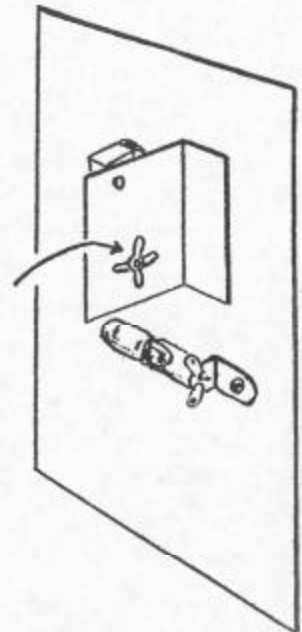
The cue lamp and the display board lamps are 12 volt automotive types. Two sizes are used. The larger ones, lighting the "X's", are type 67; the smaller ones are type 1891. Type 57 may be substituted for type 1891, but usually has a shorter life.



Rear view of switch and lamp.

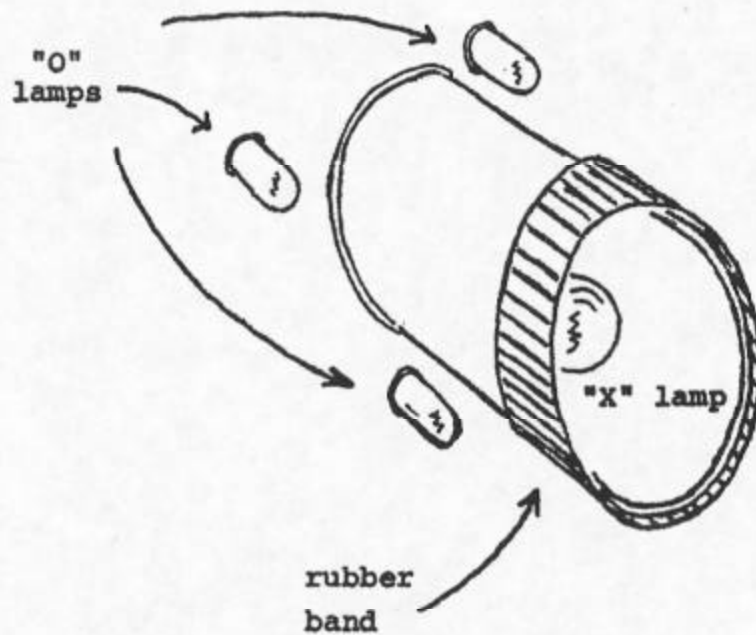


The switch must click when the clear plastic plate is pressed and click again when it is released.



Loosen the wing nut to pivot the switch if adjustment is needed.





Each "X" lamp is enclosed in a metal tube to prevent its light from leaking into its surrounding "O" area. A rubber band at the outer end of each tube seals it against the front panel. If a light leak occurs between an "X" - "O" pair, slip the rubber band slightly outward.

The electronic control system includes a number of modern integrated circuits. It cannot be repaired locally. If trouble should develop, it will be necessary to notify Animal Behavior Enterprises to arrange for repair or replacement.

The system has been carefully designed and assembled from high quality components. It was thoroughly tested before shipment. It is not tamper-proof, but under normal operation it should perform reliably for many years.