Technical Information

The Gold Fishing game uses an enumeration process at power on to identify each sensors position to the main board. This process will allow each sensor to address itself with its own identification number and report that to the game board. When the game is first turned on you will notice the display counting from 1 through 25. When a senor enumerates, it reports what is its address to the game board through the serial data (all score sensor listen to this information too). This is what is displayed when the game is showing 1 through 25 that is the last sensor address that was reported. They will turn either Green (sensor tested good and enumerated), Yellow (sensor tested weak and enumerated), or Red (Sensor is bad but enumerated) during the Enumeration process.

We use three different types of sensor boards in the playfield. These sensor boards are only interchangeable with the same type. Each sensor board has a six pin plug. The pinout is below.

Note 1: Pins 2 and 3 will have 5vdc until it passes the enumeration process. When the game recognizes the sensor this 5vdc will drop to 0vdc.

Note 2: Sensor 1 input release is always held low at 0vdc to start the enumeration process

Note 3: You will also notice the red led on the bottom of the board (D6) is study light until it had assigned an I.D. This light will flash like a heartbeat when it is enumerated. Pins 2 and three will have 5vdc until it passes the enumeration process. When the game recognizes the sensor this 5vdc will drop to 0vdc.

Note 4: Low power conditions or dropping power supplies will cause the enumeration process to reset

Pin 1 is the serial data (green) and is common to all sensor and main board.
Pin 2 is the output release
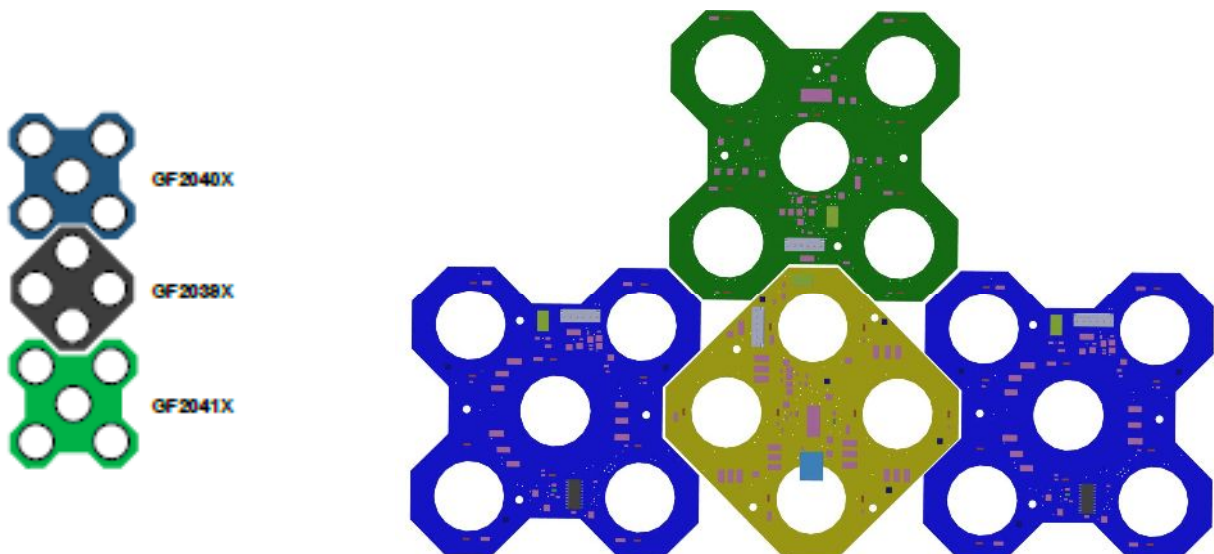Pin 3 is the Input release
Pin 4 is your 12vdc (orange)
Pin 5 is your ground (black)
Pin 6 is your 5vdc (red)

For example:
If sensor 5 has a faulty input, the game will stop counting at 4. (as sensor 5 was not found).
If sensor 5 has a faulty output, the game will stop counting at 5. (as sensor 5 did not allow sensor 6 to communicate).

• **When playfield sensors won't enumerate**

1) Turn the game off, and then back on.

2) Wait for the sensors to light as the display counts its way up to 25. If there is a sensor issue the game will hang at the highest sensor that it can assign a number to.

3) Once the game is hanging on a number/score hole, turn the rotary switch to seven.

    a. Watch the sensors light one led board at a time.
    b. Any sensors that double light are questionable and need to be swapped with a known good sensor.
    c. Replace the sensor that is double lighting if the problem followed that sensor.
    d. If the problem is not that sensor swap the sensor prior to the one that is double lighting as it may be a faulty signal leaving the prior board into the board that is double lighting.
    e. Replace the faulty sensor that is sending a bad signal out to double light the faulty board.

4) Lift the playfield up and view the sensors from the bottom of the playfield. Each sensor board will have a red led (D6) light upon startup. When a sensor is found it will flash red. If the red led doesn't light it may be missing power. If it stays solid, then it is not found by the system.
    a. Check power going to the sensor.
    b. Swap J2 to J3
    c. Replace main board

• **Enumeration process resetting:**

1) Check 12v at power supply - make sure it is not resetting.

2) Check the input voltage to the sensor after last sensor that properly enumerated (i.e. if the game counts 1, 2, 3, and then resets check the voltage at sensor 4)

3) Swap the sensor after last sensor that properly enumerated

4) By pass the last sensor to see if the enumeration process continues (i.e. if the game counts 1, 2, 3, and then resets, bypass 4)

    a. To bypass a sensor, unplug the sensor that you wish to bypass
    b. On the sensor prior to the bypassed sensor attach a wire on pin 2
    c. On the sensor after the bypassed sensor connect the wire (from step b) to pin 3
    d. Turn the game on if the game progresses further in the enumeration process then there is a break in the harness.

• **Enumeration process stopping at 24:**

1) Check for low power condition to the last few sensors.
2) Turn the rotary switch to 7.
    a. Watch the sensor light and display their ID.
    b. If 24 and 25 both light as 24 then run additional ground, +5, and +12 wires to last sensor board (25).
    c. Turn rotary switch back to 0 and power cycle the game.