**T05**

**Reaction Time Game**

**Test Plan**

Table of Contents

Revision History 2

Test Equipment 3

System Tests 3

Functional Tests 3

Board connectivity 3

Power System 4

Display Screen power 4

Button Power 4

Game Play Tests 4

Opening Graphics 4

Select number of players 4

Push button to Early 5

Reset game 5

Enclosure Tests 6

Button box strength 6

Display module drop 6

# Revision History

|  |  |  |  |
| --- | --- | --- | --- |
| Rev # | Reviser | Date | Comments |
| 1.0 | Kris | 11/24/14 | Document created |
| 1.1 |  |  |  |
| 1.2 |  |  |  |

# Test Equipment

* Digital Multi-meter

# System Tests

## Functional Tests

### Board connectivity

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Test Writer:** Kris Gibbs | | | | | | | |
| **Test Case Name:** | | Board Connectivity | | | | **Test ID#** | FT-1 |
| **Description:** | | Test the connectivity of all board traces and elements. | | | | **Test Type:** | White Box |
| **Name of Tester:** | |  | | | | **Date:** |  |
| **Hardware Version:** | |  | | | | **Time:** |  |
| **Set Up:** | | Populated board and Digital Multi-Meter(DMM) | | | | | |
| **Step** | **Action** | **Expected Result:** | **Pass** | **Fail** | **N/A** | **Comments** | |
| 1 | Test all traces for connectivity | Use DMM to touch all traces on either end. Multi meter should sound connectivity tone. |  |  |  |  | |
| 2 | Test all grounds | Use DMM to touch all ground points with the ground plane. Multi meter should sound connectivity tone. |  |  |  |  | |
| **Overall Test Result:** | | |  |  |  |  | |

### Power System

### Display Screen power

### Button Power

## Game Play Tests

### Opening Graphics

### Select number of players

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Test Writer:** Kris Gibbs | | | | | | | |
| **Test Case Name:** | | Select Number of players | | | | **Test ID#** | GP - 2 |
| **Description:** | | Test the software game modes | | | | **Test Type:** | Black Box |
| **Name of Tester:** | |  | | | | **Date:** |  |
| **Software Version:** | |  | | | | **Time:** |  |
| **Set Up:** | | Fully populated hardware set up with game program flashed to microcontroller. | | | | | |
| **Step** | **Action** | **Expected Result:** | **Pass** | **Fail** | **N/A** | **Comments** | |
| 1 | Push 1 player select button | Game mode should start in 1 player mode |  |  |  |  | |
| 2 | Push 2 players select button | Game mode should start in 2 player mode |  |  |  |  | |
| 3 | Push 3 players select button | Game mode should start in 3 player mode |  |  |  |  | |
| 4 | Push 4 players select button | Game mode should start in 4 player mode |  |  |  |  | |
| **Overall Test Result:** | | |  |  |  |  | |

### Push button to Early

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Test Writer:** Kris Gibbs | | | | | | | |
| **Test Case Name:** | | Push Button to early | | | | **Test ID#** | GP - 3 |
| **Description:** | | Test how the game reacts to a button push by any player before the cue is given | | | | **Test Type:** | Black Box |
| **Name of Tester:** | |  | | | | **Date:** |  |
| **Software Version:** | |  | | | | **Time:** |  |
| **Set Up:** | | Fully populated hardware set up with game program flashed to microcontroller. | | | | | |
| **Step** | **Action** | **Expected Result:** | **Pass** | **Fail** | **N/A** | **Comments** | |
| 1 | Push player 1 button before the cue. | Game should report that someone is trying to cheat |  |  |  |  | |
| 2 | Push player 2 button before the cue. | Game should report that someone is trying to cheat |  |  |  |  | |
| 3 | Push player 3 button before the cue. | Game should report that someone is trying to cheat |  |  |  |  | |
| 4 | Push player 4 button before the cue. | Game should report that someone is trying to cheat |  |  |  |  | |
| **Overall Test Result:** | | |  |  |  |  | |

### Reset game

# Enclosure Tests

## Button box strength

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Test Writer:** Kris Gibbs | | | | | | | |
| **Test Case Name:** | | Button Box Strength | | | | **Test ID#** | EC - 1 |
| **Description:** | | Test the ability of the button box to withstand repeated bashing by game players | | | | **Test Type:** | White Box |
| **Name of Tester:** | |  | | | | **Date:** |  |
| **Hardware Version:** | |  | | | | **Time:** |  |
| **Set Up:** | | Button box with button installed | | | | | |
| **Step** | **Action** | **Expected Result:** | **Pass** | **Fail** | **N/A** | **Comments** | |
| 1 | Slam hand down on button hard and repeatedly for 1 minute | Box should not break and button should still register that it was pressed. |  |  |  |  | |
| **Overall Test Result:** | | |  |  |  |  | |

## Display module drop