Instructions panel:

1. Connect to J2 of the Ultimate MPU.
2. Set Ult. MPU game select sw. 1 & 2 on. Reset MPU. Wait for MPU reboot.
3. Press self test to advance test #.
4. Crdt/mtch ind test #.
5. Do not press more than one sw. at once.

SOLENOID TEST – TEST NUMBER 3

SOL 1 SOL 2 SOL 3 SOL 4 SOL 5 SOL 6 SOL 7 SOL 8 SOL 9 SOL 10
SOL 11 SOL 12 SOL 13 SOL 14 SOL 15 SOL 16 SOL 17 SOL 18 SOL 19

94V0 005 E194565

DISPLAY TEST – TEST NUMBER 1

NUM 1 NUM 2 NUM 3 NUM 4 NUM 5 NUM 6 NUM 7 NUM 8 NUM 9 NUM 0 BLANK AUTO CLEAR

1 MIL 100K 10K 1K 100's 10's 1's

ULTIMATE MPU ENHANCED DIAGNOSTIC TEST INTERFACE

LAMP TEST – TEST # 2

UP   DWN   SCR

The Ultimate MPU Test Card

AllTek Systems

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Chesapeake, VA 23322

E-mail: mpusupport@allteksystems.com
Website: www.allteksystems.com
Office (757) 546-0742

Version 4

Getting Started

Thanks for purchasing The Ultimate MPU Test Card. The following instructions will help you to test your pinball machine much faster than before. The firmware is based on the original Stern® enhanced diagnostics test program. If at any time you are unsure of how to proceed or have a question, STOP. We offer phone support at (757) 546-0742 or e-mail at mpusupport@allteksystems.com with an ever improving technical support page on our website at www.allteksystems.com. The first step is to install your Ultimate MPU Board. Use the manual that you received with your board purchase to help you setup your Ultimate MPU board properly. From this step forward we will assume you have the Ultimate MPU Board installed.

Setup

Take a look at your new test card. You will notice that it is divided into 3 sections as follows:

> Display Test – Test Number 1
> Lamp Test – Test Number 2
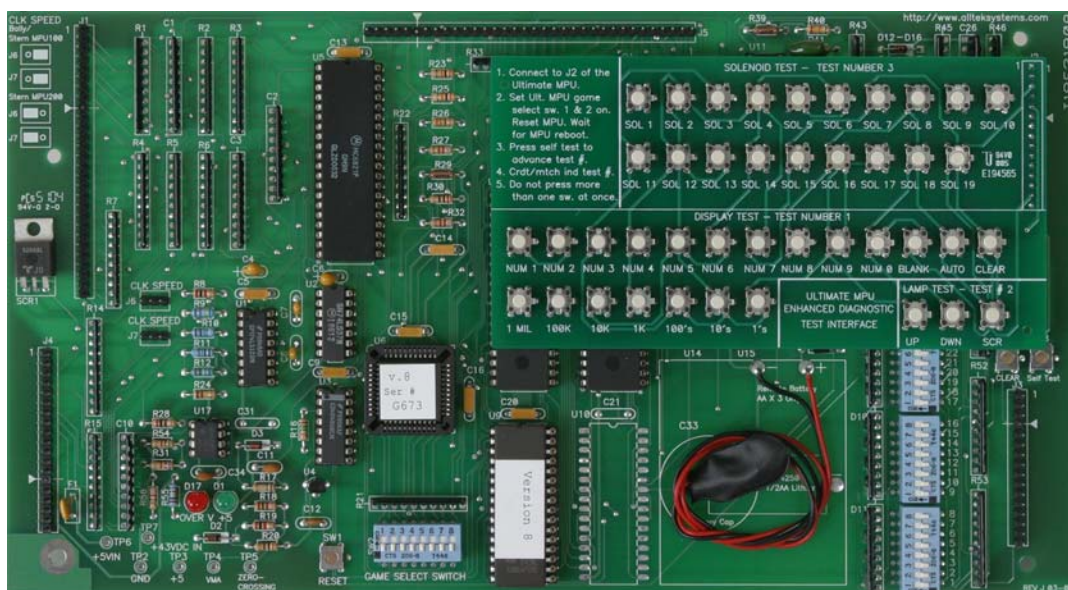> Solenoid Test – Test Number 3

Fig. 1 Test card piggybacked on to the Ultimate MPU Board

To setup your game for testing first make sure that the machine is turned off. Unplug the J2 connector that is presently plugged into the Ultimate MPU Board.

Position the Ultimate Test Card so that it piggybacks the J2 connector and it covers up the right top corner of the Ultimate MPU Board as shown in figure 1.

Locate the Game Select dipswitch as shown in figure 2. Turn on the 2 left most switches by placing them in the up position. This will place your game in Enhanced Diagnostics Mode. You can leave the other switches as they are.
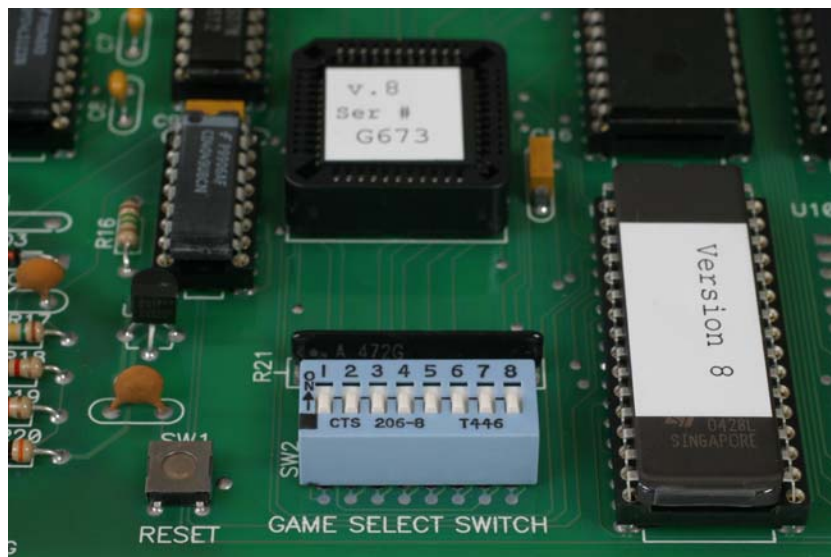

Fig. 2 Game Select Switch

Test Procedures

It's now time to turn the machine. When your machine comes up you will notice the following conditions, a 0 will come up in the Credit/Match position window along with flashing 0's in players 1 through 4. Locate the test button on the front door of the game. Push and release the Self-Test button once to place the machine in Display Test Mode. You should have a 1 in the Credit/Match display window.
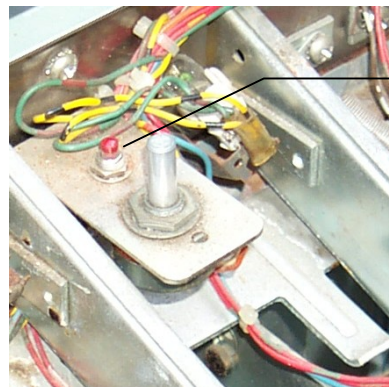
Red
Self-Test
Button

Display Test Mode – Test # 1

With this test you can place any number in any position on the displays. First press the desired number you want displayed (Num1 – Blank). Then press the desired position that you want to see the number placed in on the display (1 Mil – 1's). To clear the displays press the clear button. *Note: Your displays must have 7 digits to use the 1 Mil button.*

You will notice that the desired number is now placed in the desired position. If you want to just cycle the displays, press the auto button. To stop the auto placement and go back to manual mode press the auto button again.
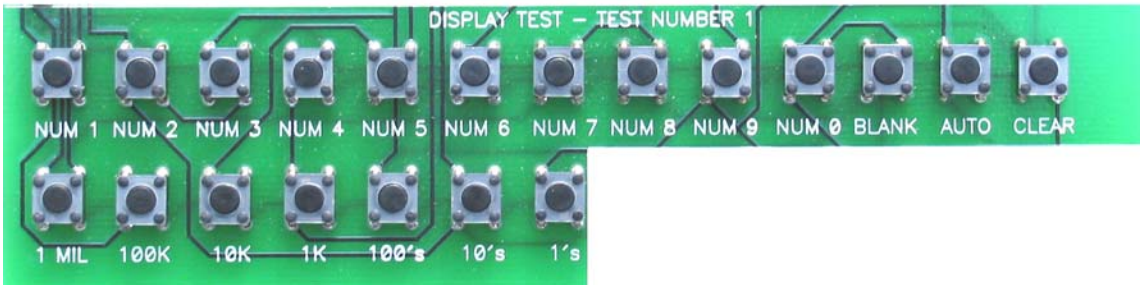

Fig. 3 Display Test Button Area

Lamp Test Mode – Test #2

Push and release the self-test button once more to place the machine into Lamp Test Mode. You should have a 2 in the Credit/Match display window. The game will now start to cycle through each column of lamps and then each row of lamps. At any time you can press the SCR button to place the game into single lamp mode. This mode will allow you to check out individual lamps that might not be working. Using the up and down buttons, you will notice that the SCR lamp number will be displayed in the Credit/Match. Using your manual, select the SCR lamp driver number that you want to test. At any time you can press the SCR button again to cycle through columns and rows.

Fig. 4 Lamp Test Button Area

Solenoid Test Mode – Test #3

Push and release the test button once more to place the machine into Solenoid Test Mode. You should have a 3 in the Credit/Match display window. In this test mode press the solenoid test button to activate the associated solenoid. This will fire the solenoid transistor 4 times.

Don't forget that the game will not typically use all of the solenoids. Also if your game uses an expander relay circuit, you will not be able to check any of the solenoids that are associated with that circuit.

Fig. 5 Solenoid Test Button Area

Burn-in Test Mode – Test #5

Push and release the test button **twice** to place the machine into Burn in Test Mode. You should have a 5 in the Credit/Match display window. You don't want to press any buttons on your Ultimate Test Card in this test. You machine will start to cycle all of its game functions until you press the test button on the front door, which will start the entire test process again.

Completing the Test Procedure

Turn off your game. Remove the Ultimate Test Card. Plug the game connector back into the J2 connector. Make the Game Select dipswitch as it was before. Your game is ready for normal game operations.