Installation guide for the LED Display-Set 20002

Following you will find the instruction to update your Pinball with the new LED Dotmatrix. If you have further questions - please let us know by e-mail: Technik@aus.at

- If you follow the next steps the installation is very easy and safe.
    1. **Unplug the mains plug.**
    2. Open the Backbox.
    3. Put the Display / Speaker Panel on the playfield cover glass.
    4. Disconnect the cables from the original display.
    5. Remove the four nuts and washers of the old display. You will need them later to mount the new display.
    6. Remove the old display.
    7. Get the new LED Display into a suitable position in the Display / Speaker Panel.
    8. Mount the display with the four nuts and washers.
    9. Connect the flat cable to the new display.
    10. **The LED Display has its own power supply. It needs a 9-10VAC or 12-14VDC input.**

<div style="border:2px solid red; color:red; text-align:center">

!! ATTENTION !!

The original 8 pin connector of the original display is no longer in use!!!! You can put it aside. THE DIFFERENT SUPPLY VOLTAGES SUPPLIED BY THIS CONNECTOR CAN'T DRIVE THE LED LED DISPLAY!!!!

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- **Bally/Williams with original Power Driver Board installed:**
    The best way to get the necessary input voltage at Bally/Williams pinballs is to connect the display to the 9VAC winding of the transformer. The two red wires of **J101**
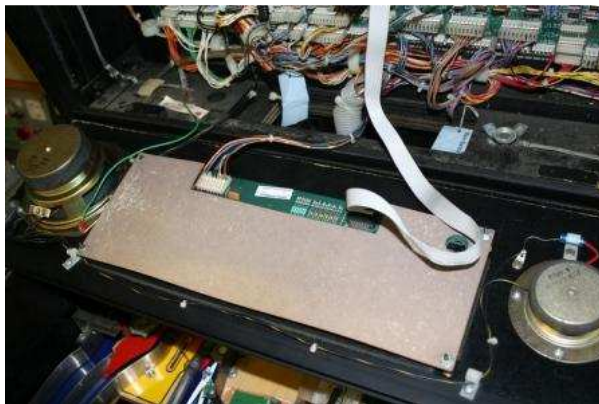
pin 1 and 2 bring the 9VAC to the Driver Board. Connect the included display power cable with the two clamps to the two red incoming wires at J101. Don't matter about the sequence because the two wires supply the board with AC and the display has its own rectifier. Connect the four pin plug to the display.

- **Bally/Williams with LED Power Driver Board installed:** If you have the WPC/WPC95 LED Power Driver Board installed in your machine you can use directly J100. J100 supplies directly 9VAC to the display. You have to connect a second four pin plug in the same way as on the other end of the included power cable. Then connect it to J100 and the display.

- **Data East:** The best way to get the necessary input voltage at Data East pinballs is to connect the display to the unregulated 12VDC voltage. You have to use the cables coming in at **CN2 pin 2 (black)** and pin 6 (grey/white) of the sound board. Connect the included display power cable with the two clamps to pin 2 (black) and pin 6 (grey/white) of the incoming wires at CN2 of the sound board. Don't matter about the sequence because the display has its own rectifier. Connect the four pin plug to the display.

- **SEGA/Stern:** The best way to get the necessary input voltage at SEGA/STERN pinballs is to connect the display to the 9VAC winding of the transformer. You have to use the cables coming in at **J17 pin 1 (red)** and **pin 4 (red)**. Connect the included display power cable with the two clamps to the two red incoming wires at J17. Don't matter about the sequence because the two wires supply the board with AC and the display has its own rectifier. Connect the four pin plug to the display.

- **Gottlieb:** The best way to get the necessary input voltage at Gottlieb pinballs is to connect the display to the unregulated 12VDC input voltage of the 5V power supply A2. That is the little circuit board with the large heat sink. The unregulated 12VDC is coming in at J1. Connect the included display power cable with the two clamps to the input of A2. Connect the one red wire to the wire that comes in at pin **1 (brown/black)** and the second red wire to the wire that comes in at **pin 2 (white)**. Don't matter about the sequence because the two wires that supply the display board with DC and the display has its own rectifier (so you can't make it wrong). Connect the four pin plug to the display.

11. Reinstall the Display / Speaker Panel.
12. Install the Backglass again.
13. Connect the main plug..
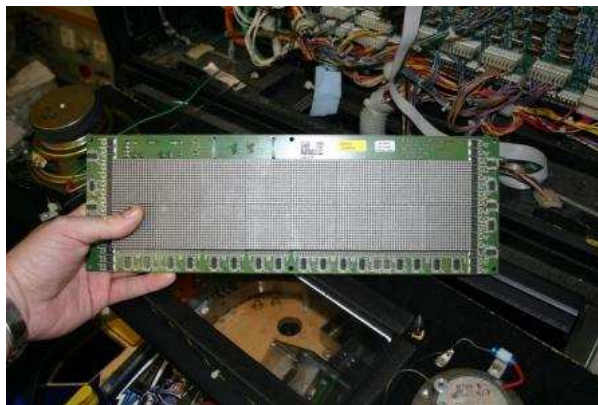14. That's it. Switch on the pinball and enjoy the game ....

Installation in Bally / Williams Games

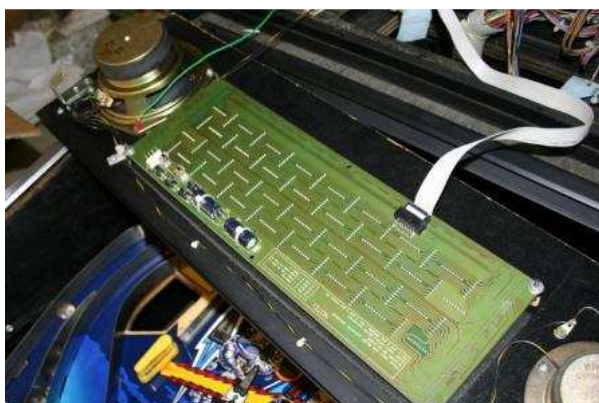**In the following pictures you can see some of the points above. (Example Bally/Williams Twilight Zone)**

Point 3:

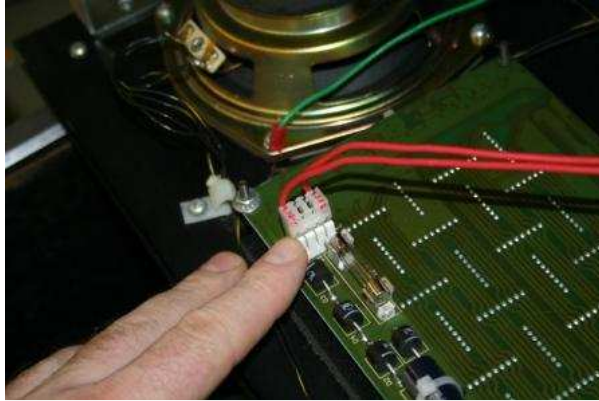**Put the Display / Speaker Panel on the playfield cover glass.**

Point 7:

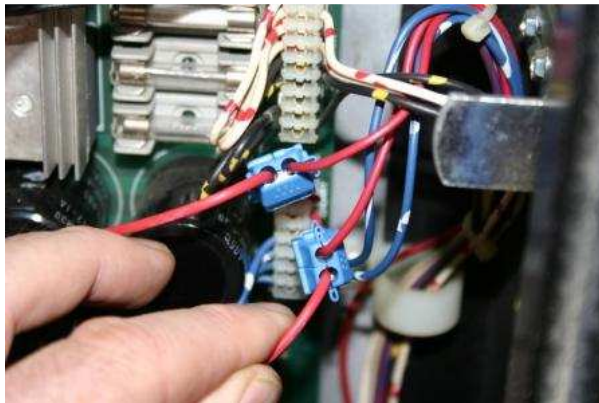**Get the new LED Display into a suitable position in the Display / Speaker Panel.**
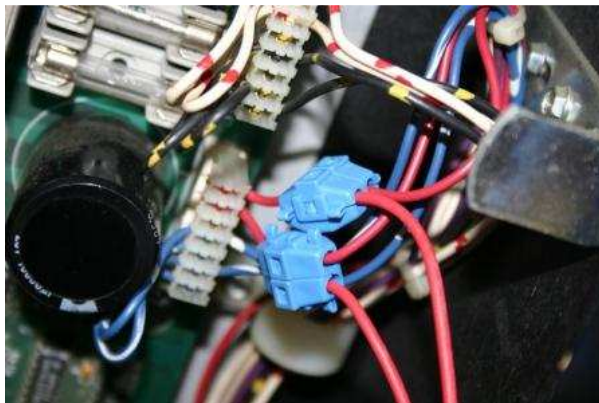

Points 7 to 9:

Install new LED Display and connect the flat cable.

Connect the included power cable.

Point 10:

Connect the included display power cable with the two clamps to the two red incoming wires at J101.

Point 10:

The two red wires of J101 pin 1 and 2 bring the 9VAC to the Driver Board.

The original 8 pin connector of the original display is no longer needed !!!!

That's it. Switch on the pinball and enjoy playing....

Installation in Data East Pinball Machines

In the following pictures you can see some of the points above. (Example Data East Jurassic Park).

Point 3:

Put the Display / Speaker Panel on the playfield cover glass.

Loosen the four mounting screws and remove the Display Driver Board.

Remove the four spacers of the Display Driver Board. Remove the two left mounting screws and take the metal plate beside.

Loosen the five mounting screws of the old display and remove it.

Put the new LED Display in place and mount the five screws again. Connect the flat cable and the in the display set included power supply cable.

Mount the metal plate back again and tighten the two nuts. Install the four spacers back again.

Install the Display Driver Board and connect the two flat cable again. **Put the original glass tube power connector aside.** **The original 8 pin connector of the original display is no longer needed !!!!**

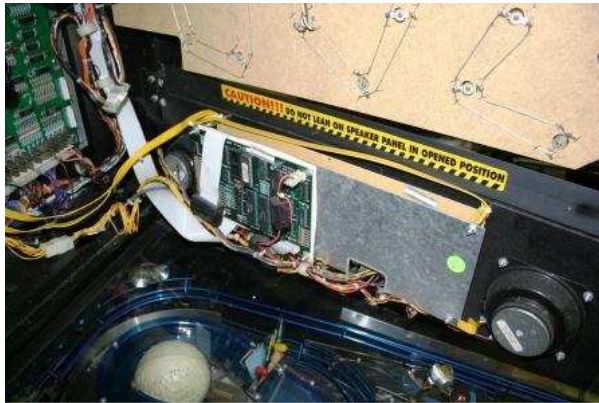You can get the unregulated 12VDC from the Sound Board CN2.

Connect the included display power cable with the two clamps to the two red incoming wires at CN2 pin 2 (black) and pin6 (grey/white).

That´s it - turn on the pinball machine and have fun with the game...

Installation in Sega / Stern Pinball Games

In the following pictures you can see some of the points above.
(Example SEGA/STERN Apollo 13).

Point 3: Sway away the display/speaker panel

J17 is located on the I/O Power Driver Board. Here you have to connect the included power cable.
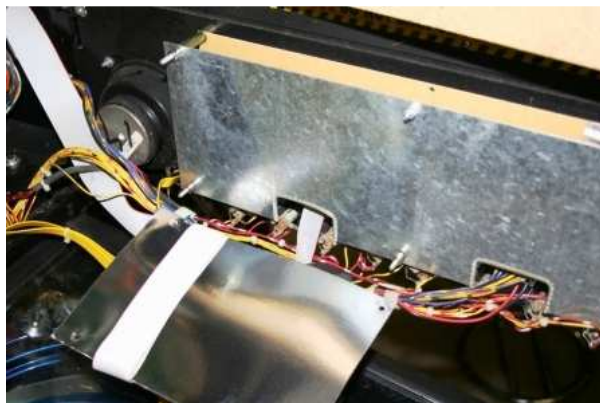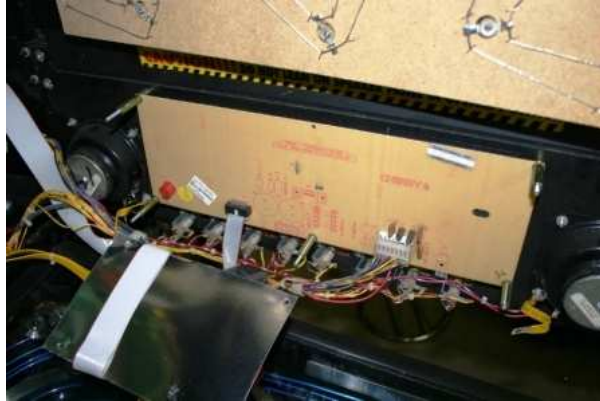
Clip the cable ties.
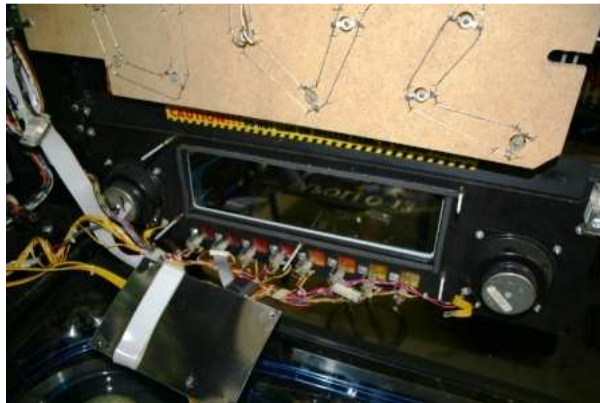

Left cable tie.

Right cable tie

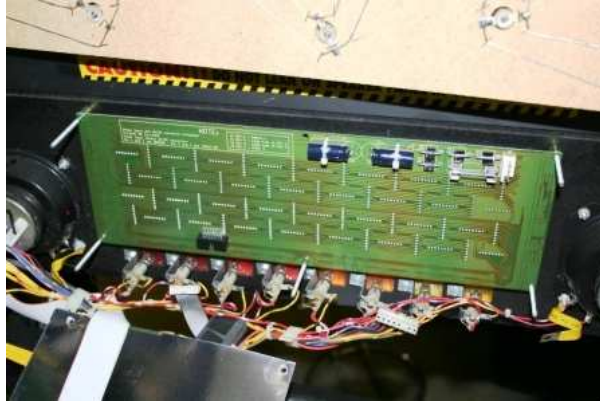Loosen the four mounting screws of the Display Driver Board and remove it. Remove the three spacers.

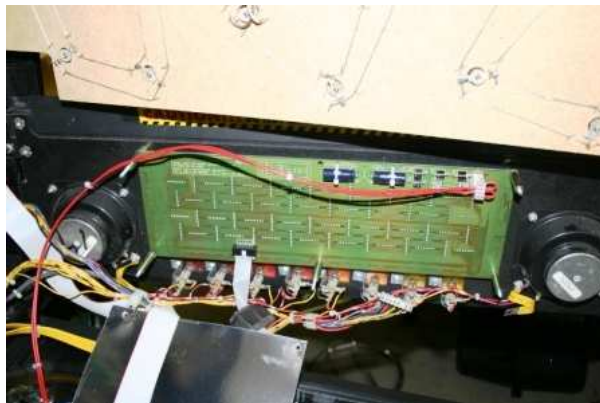Loosen the two mounting nuts and remove the metal plate.

Disconnect the flat cable and the power supply cable from the old display. Remove the five spacers and the five washers from the long mounting screws.

Remove the old display

Install the new LED Display.

Connect the flat cable and the included power cable to the new display. Install the five washers and the five spacers back again.
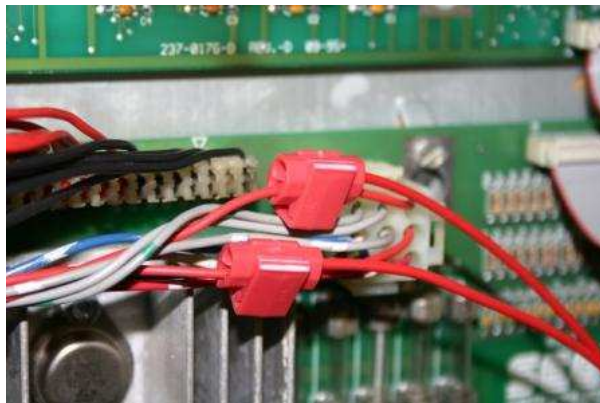

Install the metal plate and the three small spacers from the Display Driver Board back again. Install the Display Driver Board and the ground wires back again.

Tighten the ground wires with new cable ties.

Connect the included red power cable to J17 pin 1 and 4 (both red wires).

You can connect the power cable with the two included clamps to J17 pin 1 and 4.

This is the whole setup. **Put the original glass tube power connector aside.** **The original 8 pin connector of the original display is no longer needed !!!!**

Remove the high voltage fuse on the Display Power Board. That is only for your safety. Otherwise the original display power connector can make a short circuit near the new LED Display.

That's it. Switch on the pinball and enjoy playing....