

Gottlieb 6 to 7digit conversion with GODISP80

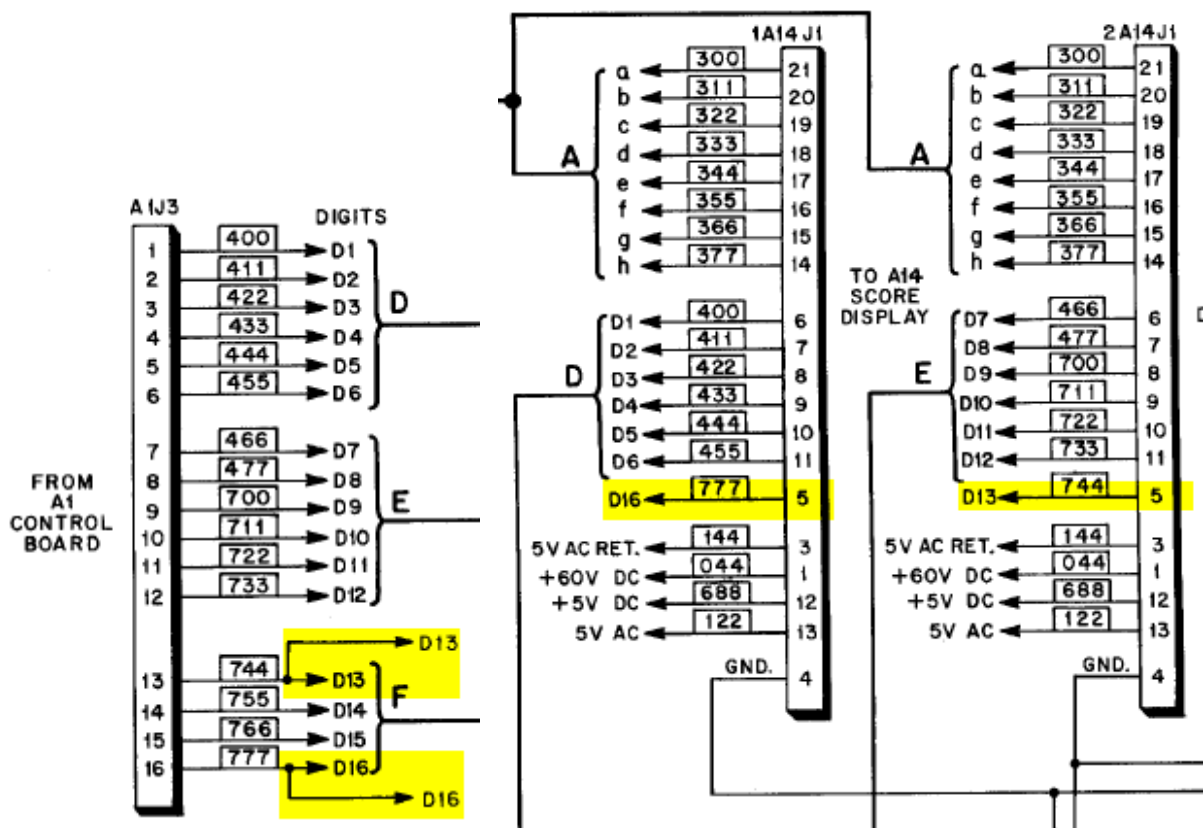
V0.1 15.09.2021

<https://lisy.dev/gottlieb.html>

For using my 6to7 digit displays in a game with 6digit displays four new wires need to be added to the backbox.

Background:

In order to be able to control the '7. digit' in later (System80A) games Gottlieb uses the digit lines D13 & D16.

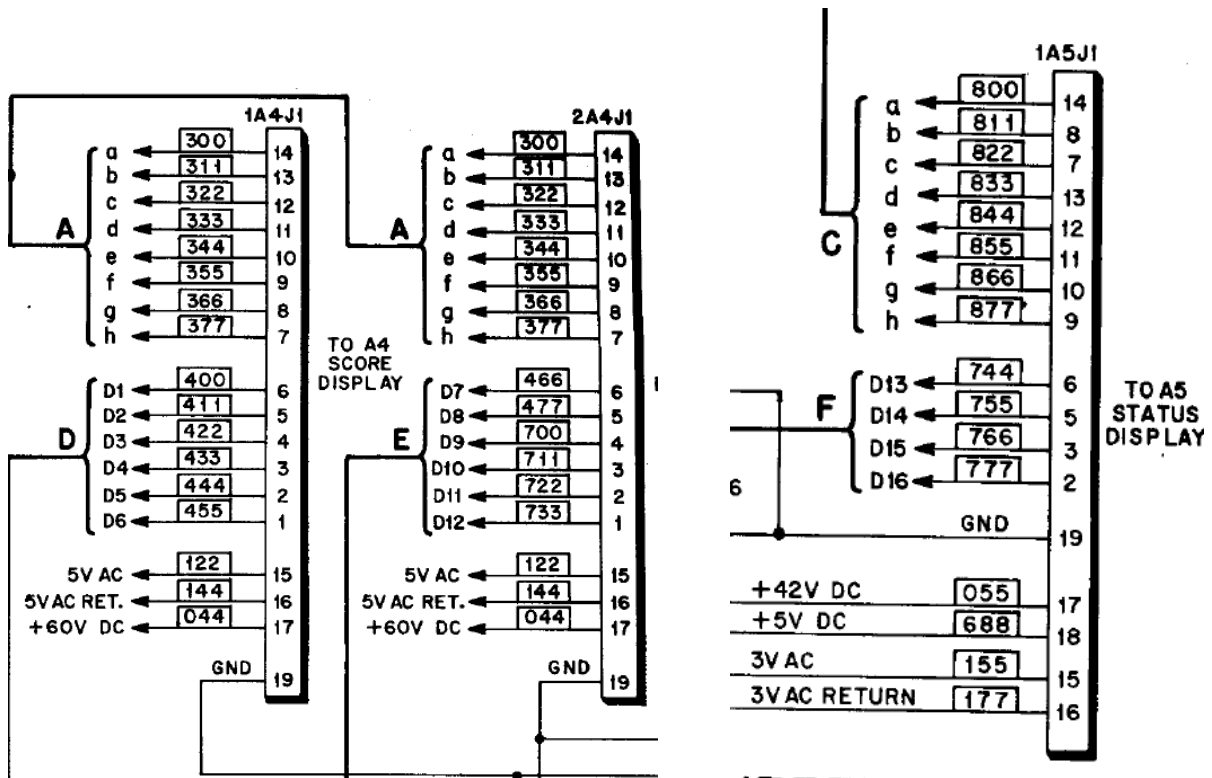


Picture 1: Display wiring in a Gottlieb System80a game (MPU & backbox)

GODISP80 is using the same control lines together with a special game rom.

In picture 1 you see that the digits 13 (or16) are connected to pin5 on the original 7digit display. As the pin layout on the 6digit displays is different and in order to not need to change display connectors GODISP80 is using pin 18 at the 6digit connector, which is not used in a Gottlieb system80 game.

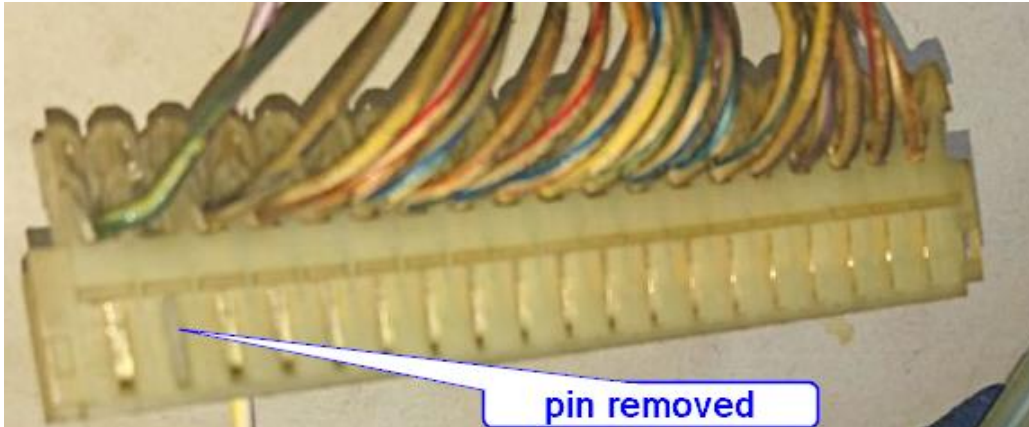
Digits D13 & D16 in a system80 game are used only for the status display (see picture 2)



Picture 2: BACKBOX Display wiring in a Gottlieb System80 game

Modifications:

For each display connector of the four player displays remove the original crimp at pin 18.



Picture 3: player connector modification

Note: If you do not want to add 'crimps' to the connector, GODISP80 PCB do provide a separate connection (K1)

For player 1&3 pin18 need to be connected to 'D16' (A1J3P16) and for player 2&4 pin18 need to be connected to 'D13' (A1J3P13).

I recommend to spend 6 new 'crimps' and do it the following way:

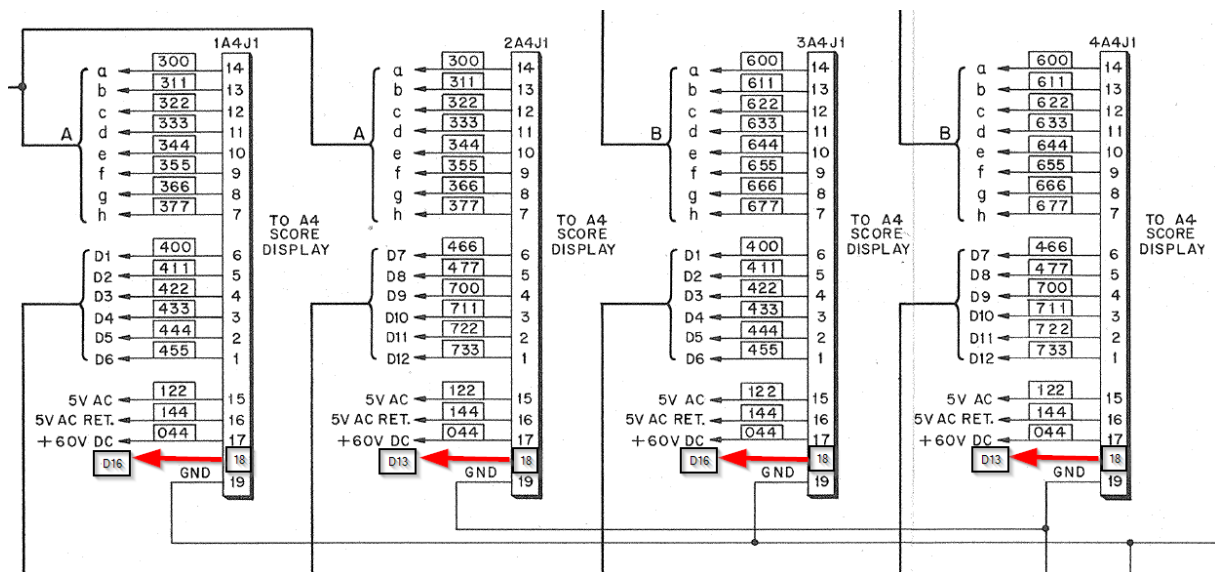
- 1) Add a wire together with a new crimp to 'D16' (A1J3P16) in the MPU connector, connect it to player1 display connector pin18 and from there to pin18 of player 3.
Connection will be: A1J3P16 -> 1A4J1P18 -> 3A4J1P18
- 2) Add a wire together with a new crimp to 'D13' (A1J3P13) in the MPU connector, connect it to player2 display connector pin18 and from there to pin18 of player 4.
Connection will be: A1J3P13 -> 2A4J1P18 -> 4A4J1P18

With this you will have two wires each at D13&D16 of the MPU connector, two wires at pin18 of player1 &2 (see picture4 below), and one wire at pin18 of player 3&4.



Picture 4: display connector with two wires at pin18

Your new backbox wiring will be this (new connections marked red):



Picture 5: backbox wiring after modification

Have fun!