Type 1 cable

The parts list:

<table>
<thead>
<tr>
<th>Item</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>7406</td>
<td>1</td>
</tr>
<tr>
<td>74LS86</td>
<td>1</td>
</tr>
<tr>
<td>2-wire cable</td>
<td>0,5 m</td>
</tr>
<tr>
<td>4-wire cable</td>
<td>1 m</td>
</tr>
<tr>
<td>6-pin male DIN connector</td>
<td>1</td>
</tr>
<tr>
<td>DB25 male connector</td>
<td>1</td>
</tr>
<tr>
<td>DB25 connector shell</td>
<td>1</td>
</tr>
<tr>
<td>DB15 male connector</td>
<td>1</td>
</tr>
<tr>
<td>DB15 connector shell</td>
<td>1</td>
</tr>
</tbody>
</table>

The schematic:
Shorten all pins of 7406 and all pins except 7, 11 and 14 of 74LS86 so that the shortened pins don't touch each other when 74LS86 is placed on top of 7406. Glue the ICs together.

Construct the electrical circuit as is shown in the schematic. The whole thing should comfortably fit into the DB25 connector shell. Don't forget to connect GND and +5 volts to the corresponding pins of the ICs.

If you want to use the PC joystick port for a joystick, you can get the +5 V supply voltage from an USB connector.

Here are the pinouts of 7406 and 74LS86.

7406
Hex open-collector high-voltage inverters.

+-----+++
1A 1 1 +++++ 14 VCC | A /Y | /Y = A
/1Y 2 13| 6A ++++++++|
2A 3 12| /6Y | 0 | Z |
/2Y 4 7406 11| 5A | 1 | 0 |
3A 5 10| /5Y ++++++++|
/3Y 6 9 | 4A
74LS86
Quad 2-input XOR gates.

\[
\begin{array}{cccc|c}
1A & 1 & +---- & 14 & VCC \\
1B & 2 & 13 & 4B \\
1Y & 3 & 74 & 12 & 4A \\
2A & 4 & LS & 11 & 4Y \\
2B & 5 & 86 & 10 & 3B \\
2Y & 6 & 9 & 3A \\
GND & 7 & 8 & 3Y \\
\end{array}
\]

The complete device might look something like this:

With case open: