# Required Components

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| *Picture of a Peppa Pig toy in its packaging. The Peppa Pig is wearing a red dress with a music note on it and is holding a microphone.*  **2**  **1**  0301CV-100W Pro Power, CABLE TIE, 100MM, PA66Cable with 3.5 mm jack on one end and two wires on the other end.  **3** | **BOM**   1. Peppa Pig Singing Plush Doll 2. 7” cable with 3.5 mm jack (female) end 3. Cable tie / zip tie (small – around 15 cm is good) |

# Required Tools

* Small Philips or flathead screwdriver
* Drill with 1/8” drill bit
* Flush cutters
* Wire strippers
* Soldering iron and solder

# Required Personal Protective Equipment (PPE)

* Safety glasses

# Assembly Instructions

## Step 1

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| Turn over the Peppa Pig and lift the dress to reveal a Velcro strip along the back.  Open up the inside compartment. | Back of a Peppa Pig. The red dress has been lifted to show where the opening is for the inside compartment. |

## Step 2

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| Remove the white speaker/battery compartment from inside the Peppa as shown in this picture.  Set aside the plush part of the Peppa Pig toy for now. | White circular plastic speaker compartment from inside of Peppa. This compartment also houses the batteries. |

## Step 3

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| Turn it around and unscrew the screw to the battery compartment, shown in red.  Remove the battery compartment lid.  **NOTE:** set aside screw in a safe place or leave in the lid. | Back of speaker compartment. Red circle shows location of screw to open battery compartment. |

## Step 4

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| Remove the batteries, circled in blue. Set aside.  Remove the two screws circled in red.  **NOTE:** You may need to use something to pry the batteries out, such as a small screwdriver or pliers.  **NOTE:** Set aside screws in a safe place. | Opened battery compartment from speaker part. There is a blue circle around 3 small round batteries. There are 2 red circles showing the locations of two screws. |

## Step 5

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| Separate the two halves of speaker compartment.  Remove the two springs, circled in red, and set aside in a safe place.  Remove the silicone button cover circled in yellow. You should be able to pull the silicone legs out of the small holes. Set aside. | Inside of speaker compartment. Red circles show two springs on posts. Yellow circle shows silicone button on a circuit board. |

## Step 6

Drill a hole in the location shown using a drill with a 1/8” drill bit.

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| Close up of speaker compartment, a red circle shows a hole drilled on the side. Side view.Close up of speaker compartment, a red circle shows a hole drilled on the side. Top view. |

## Step 7

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| Take the wire with the 3.5 mm jack end and cut it to be approximately 7 inches or 18 cm. | Cable with 3.5 mm jack. Red arrow labels the length of the wire as 7 inches.  **7 in** |

## Step 8

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| Strip approximately 2 cm of the outside wire, revealing the wires on the inside.  The ideal size for the wire strippers is 14 AWG, but if your wire strippers are smaller, just close them until you feel some give.  If any of the internal wires get cut, you can cut off this section of wire and try again. | Cable with 3.5 mm jack on one end. Other end has two smaller wires revealed. A red arrow shows that the length of these smaller wires is 2 cm.  **2 cm** |

## Step 9

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| Next, strip approximately 0.5 cm of the individual internal wires | Close up of wire strippers stripping the end of the smaller wire. |

## Step 10

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| If there are three internal wires (red, black, and exposed) like in the first picture, then **strip off more of the red insulation (1.5 cm**) and take the red wire and the exposed wire and twist them together like the second picture. Make sure the wires have good contact between them.  If there are only two internal wires, then skip this step. | A picture containing line chart  Description automatically generated Line chart  Description automatically generated |

## Step 11

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| Take the ends of the internal wires, and melt solder onto them.  This can be done by holding the solder iron against the wire and bringing the solder wire to it until it melts and flows onto the wire. | Cable with 3.5 mm jack on one end, the other end has two smaller wires, one red and one black. The ends of these smaller wires have been stripped to reveal exposed wire. |

## Step 12

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| With the silicon button removed, a zig zag shape and a small circle on the circuit board will be revealed, as shown circled in red. | Red circle shows location on circuit board where button was. |

## Step 13

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| On the small circle, shown circled in red, place a blob of solder.  This can be done by placing your solder iron on the circle, and then bringing the solder wire in contact with the circle. It should melt and flow onto the circle, leaving a blob as shown here. | Close up of circuit board inside speaker compartment. Red circle shows small solder blob. |

## Step 14

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| On the circle pad next to the letter “B” (shown circled in red) melt another blob of solder.  This can be done by placing your solder iron on the circle, and then bringing the solder wire in contact with the circle. It should melt and flow onto the circle, leaving a blob as shown here. | Close up of circuit board inside speaker compartment. Red circle shows small solder blob. |

## Step 15

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| Thread the cable through the drilled hole. | Inside of speaker compartment, showing the cable with the jack going in through a drilled hole. A red arrow points to where the cable enters the plastic compartment. |

## Step 16

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| Solder the two wires in the locations shown.  These locations are the solder blobs made in steps 13 and 14. | Close up of circuit board. Two red circles show the location where a red wire and a black wire have been soldered. |

## Step 17

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| Attach a zip tie to the cable, on the inside of the white case- as close as possible to where it enters.  Tighten the zip tie as much as you can.  This zip tie will serve as strain relieve, so that if the cable is pulled it won’t break the solder connections. | Inside of speaker compartment, showing a zip tie attached to the black cable on the inside of the plastic housing. |

## Step 18

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| Cut the excess portion of the zip tie with the flush cutters. | Inside of speaker compartment, a red circle shows the zip tie, where the excess has been cut off. |

## Step 19 – Stop and Test!

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| Test that your adaptation was successful by replacing the batteries and plugging in an assistive switch.  The assistive switch should replicate the button functions and Peppa should make noises.   * If Peppa makes no noises when switch is activated, check your connections, and make sure the batteries are all the way in. * If Peppa continues to make noises and will not stop, check your connections | An assistive switch (raindrop switch) plugged into the 3.5 mm jack on the cable that is now attached to the speaker compartment. The speaker compartment is still open, showing the electronics. |

## Step 20

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| If possible, replace the silicone cover over where you soldered, circled in yellow. This is so the original switch still works, but if it does not fit the switch adaption will still work.  Replace the springs back onto the posts, circled in red. | Inside of speaker compartment. Yellow circle shows the silicone cover has been replaced. Red circles show springs on posts. |

## Step 21

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| Fit the two halves back together and secure with screws, circled in red. | White speaker compartment, with a black cable coming out the top. The battery cover is off showing 3 small round batteries inside. There are two red circles showing the locations of two screws. |

## Step 22

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| Replace the battery compartment lid and secure with the screw, circled in red. | Back of white speaker compartment, red circle showing the location of a screw. |

## Step 23

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| Take the Peppa Pig plush toy and turn it over. Lift up the dress and open up the inside compartment as seen here. | Back of Peppa, with inside compartment open. To the left is the white speaker compartment with black cable coming out the top. |

## Step 24

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| Put the white speaker/battery compartment inside this opening, leaving the cable sticking out. | The white speaker compartment inside of the inside compartment of the Peppa pig. The black cable with the 3.5 mm jack is sticking out. |

## Step 25

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| Close this back compartment, make sure the tail and the cable with the mono jack are sticking out. | Back of the Peppa Pig, inside compartment closed with black cable sticking out. |

## Step 26

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| Pull the back of the dress back down, pulling the tail and the cable through the hole on the dress. | Back of the Peppa Pig, with dress down, the tail of the stuffed Peppa Pig and the black cable with the 3.5 mm jack are sticking out a hole in the back of the dress. |

## Step 27 - Test

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| **Test again** that your adaptation was successful by plugging in an assistive switch.  The assistive switch should replicate the button functions and Peppa should make noises.  If Peppa does not make noises or does not stop making noises, open the inside compartment again and check the connections.  If the assistive switch works as intended, then the switch adaption is finished! | Peppa Pig toy with 3.5 mm jack cable sticking out, with an assistive switch plugged into it. The assistive switch is the MMC60 switch, it is black with a red top. |