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SERVER ISSUES KEEPING YOU UP?

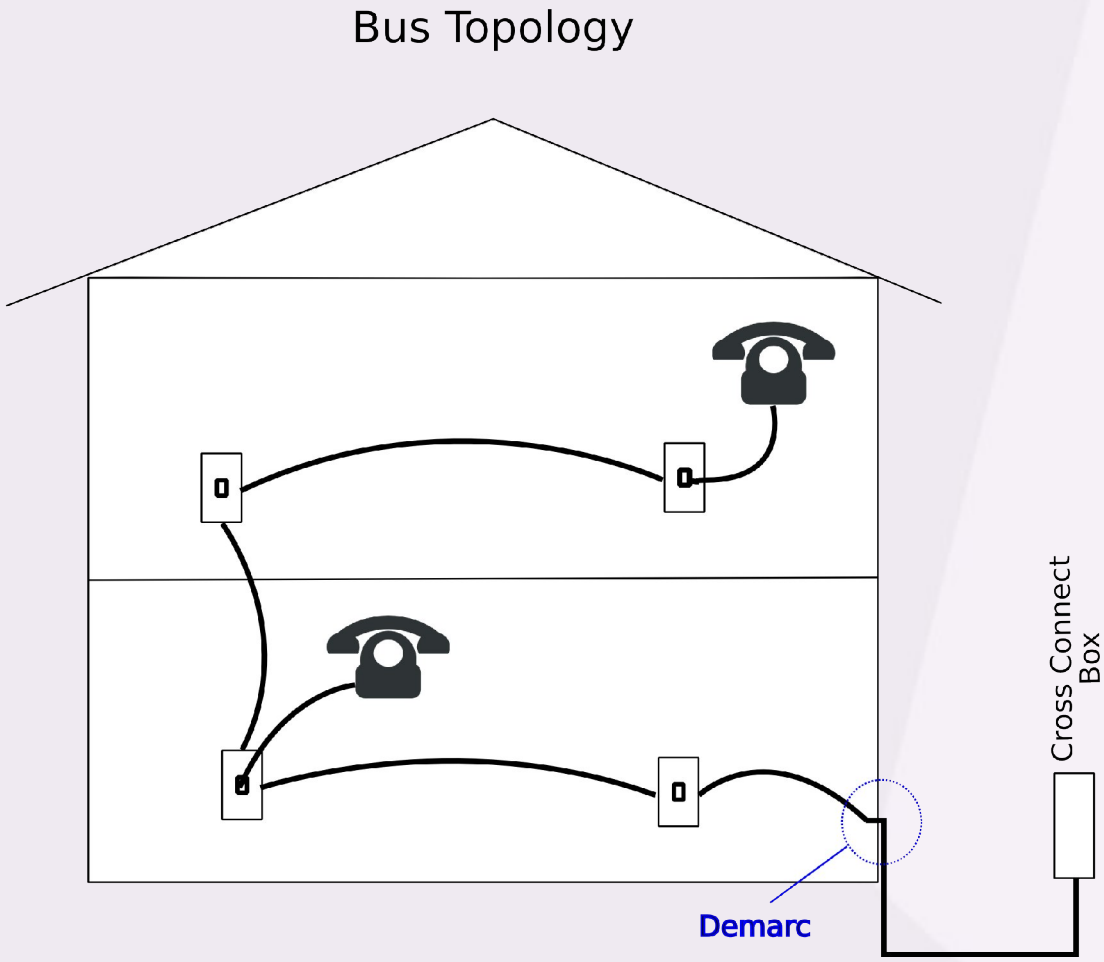
CHOOSE NET DIRECT

Hacking Home Wiring

How to hack your home phone wiring for DSL

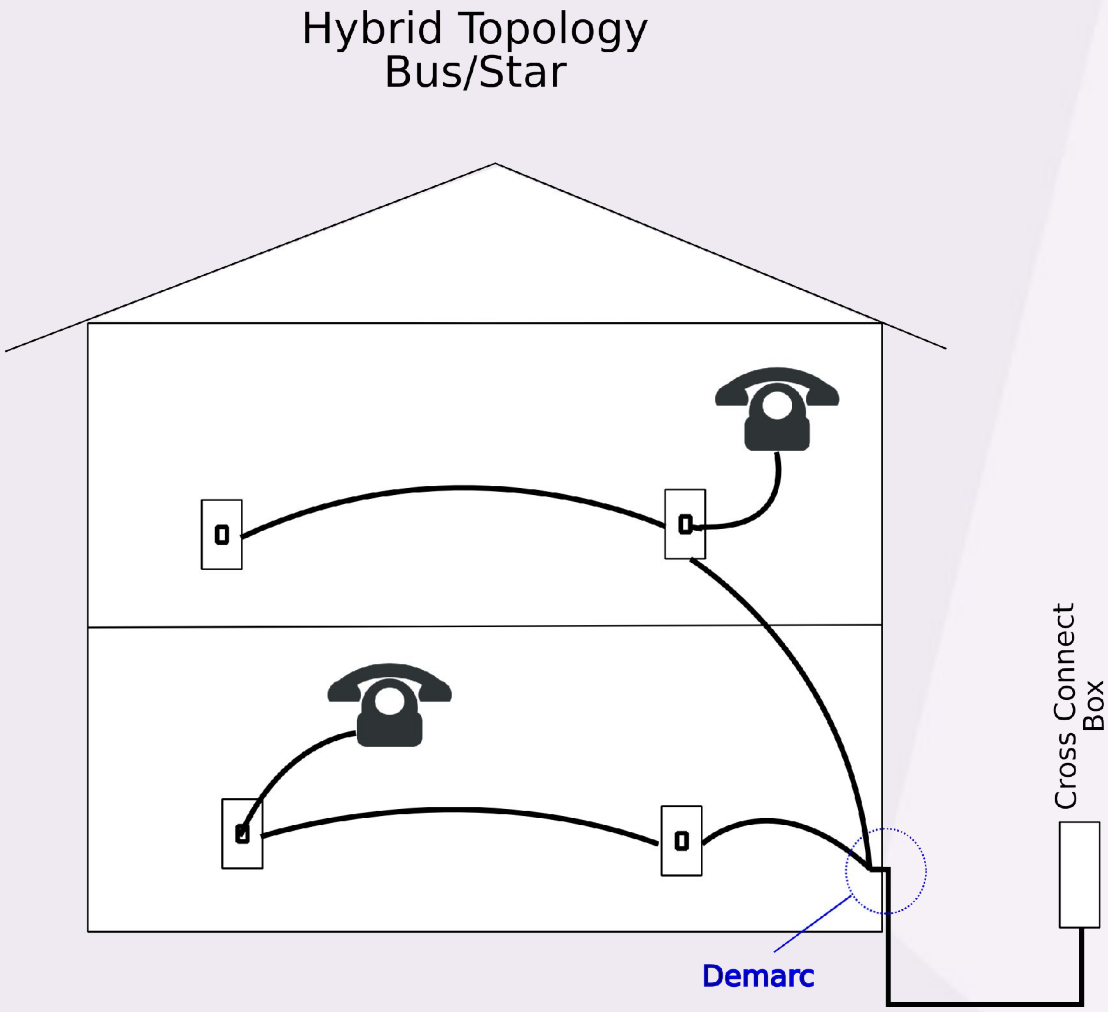
Bus Topology

- Very common
- All wall jacks are daisy-chained
- Often the least cabling required
- One pair of “inside” wires on your demarc



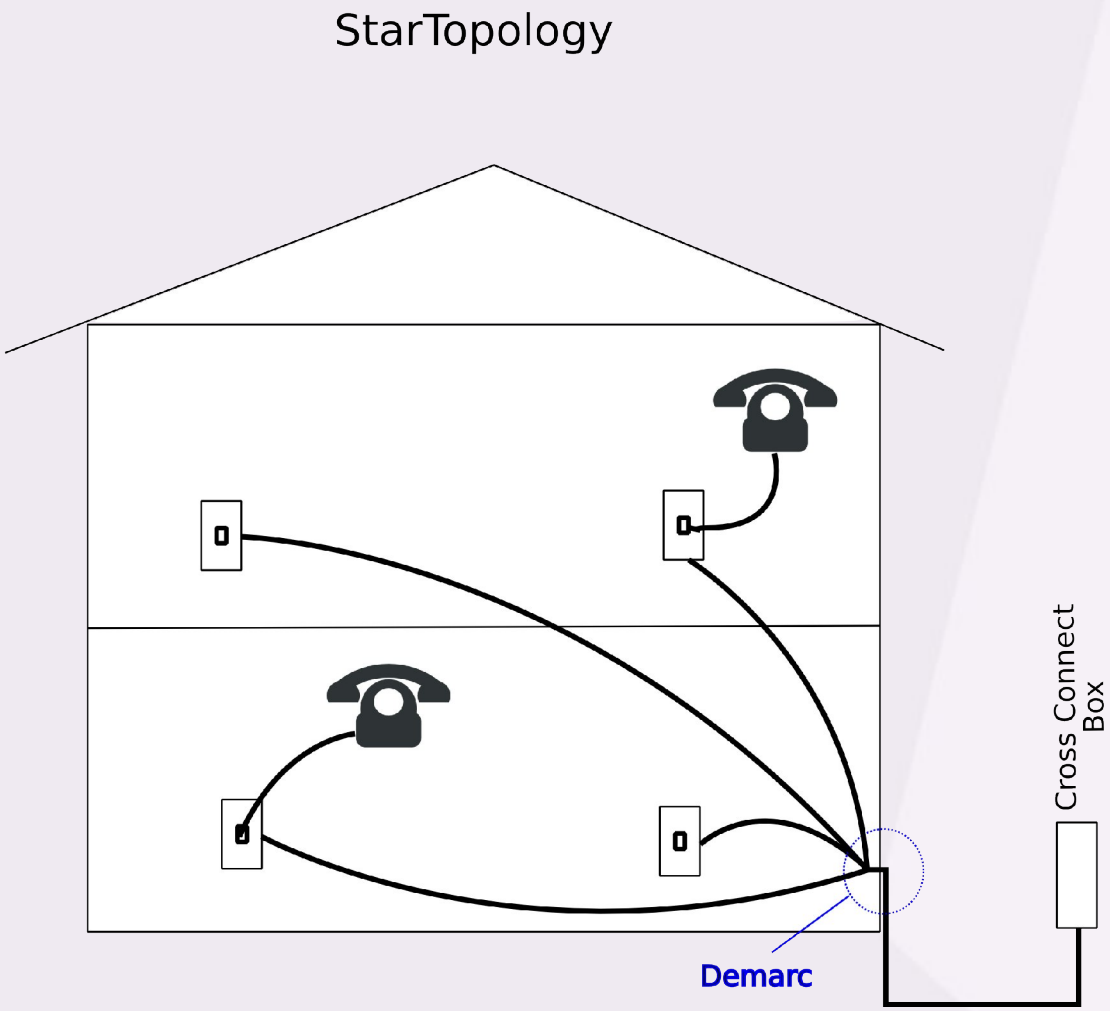
Hybrid Topology

- Also common
- Two or more busses lead from demarcation point
- Probably done to minimize cabling in larger homes
- Multiple internal pairs of wires on your demarc



Star Topology

- Least common
- Each wall jack is wired separately
- This is ideal, but uses more copper and more cross-connect hardware
- One pair of internal wires on the demarc for each wall jack

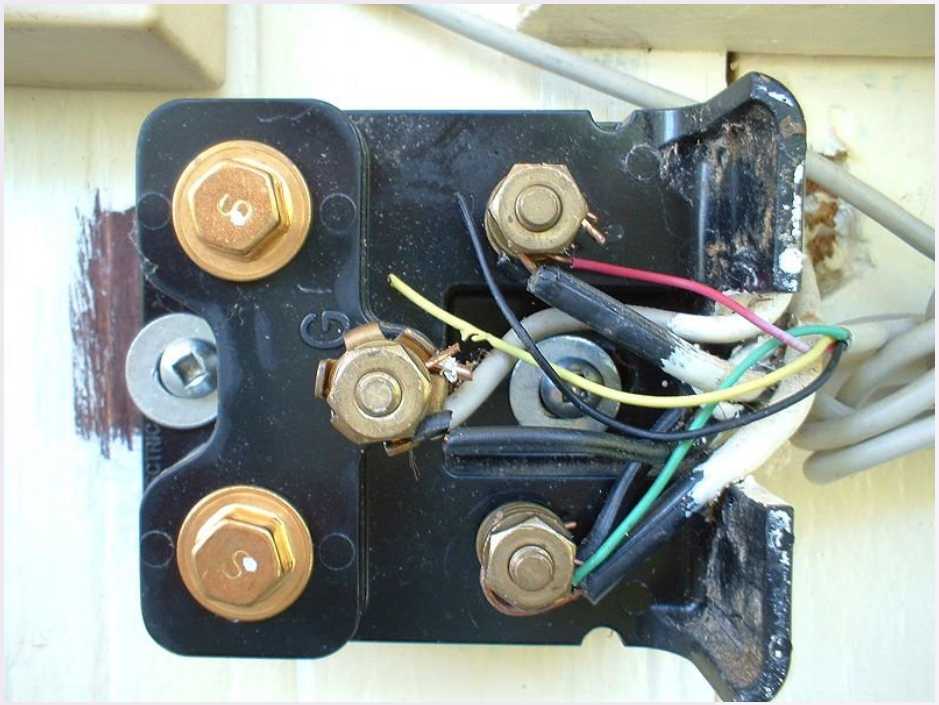


Which do you have?

- Count the wall jacks
- Count the pairs of wires on your demarc.
- Get a mental picture of how the wires actually lay out
- Disconnect a pair and see what phones it affects
- Use a tone generator/inductive amp to find where wires go
- Label them.

Very Old Bell Demarc

- Circa 1970s or older
- Bolted to a floor joist or plywood panel inside the house or the garage
- Can be two terminal, four or more
- Built in lightning protection, be careful



Old 66 block

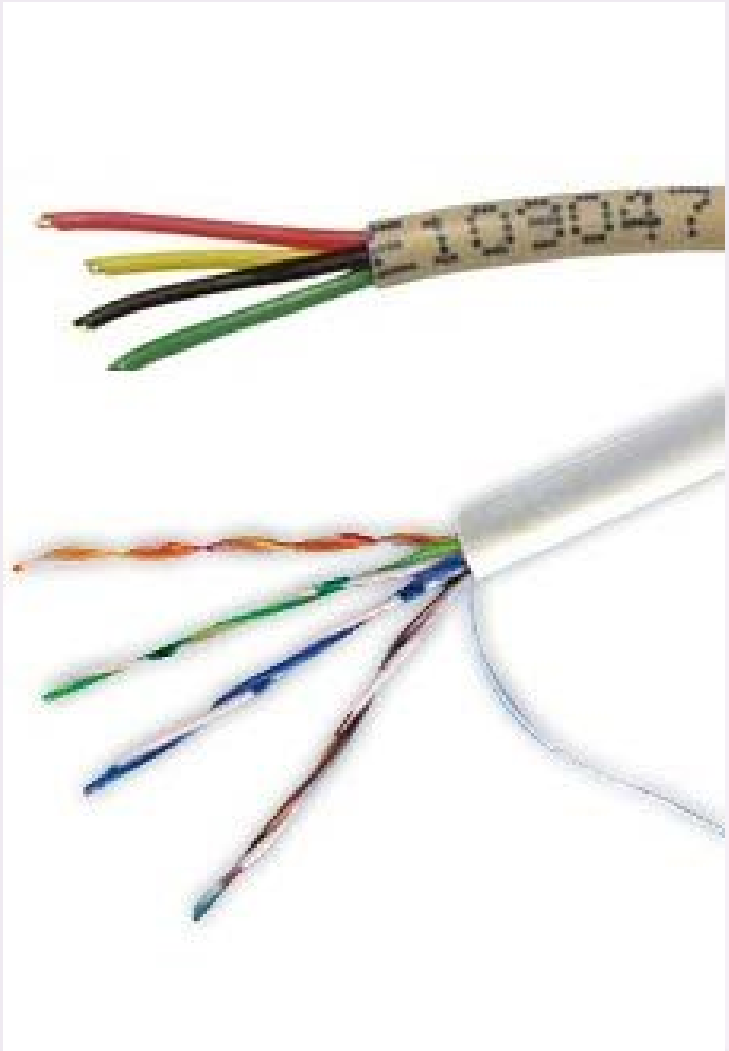
- Circa 1980s
- May not be a demarc, used for distribution and just as handy
- Rows are all connected
- Use a 66 punch tool, but can be done by hand

Outside demarc

- Circa 1990s and forward
- Has small area that you can access.
- It's best to find an inside point to work with.

Telephone Wiring Basics

- Often two pairs of wires: red/green and yellow/black
- Could be CAT3 or CAT 5 which is four pairs: blue, orange, green, and brown.
- Solid copper



Wire colour code

- Tip and Ring refer to the plug connectors
- Standard wire colour codes based on type of wire
- Wire consistently

Wire Type	Tip (ground)	Ring (-48v)
Phone cable	Green	Red
	Black	Yellow
CAT 3, 5, or 6	White w/stripe	Blue, Orange, Green, Brown
Old phone cable	White	Blue
	Red	Orange

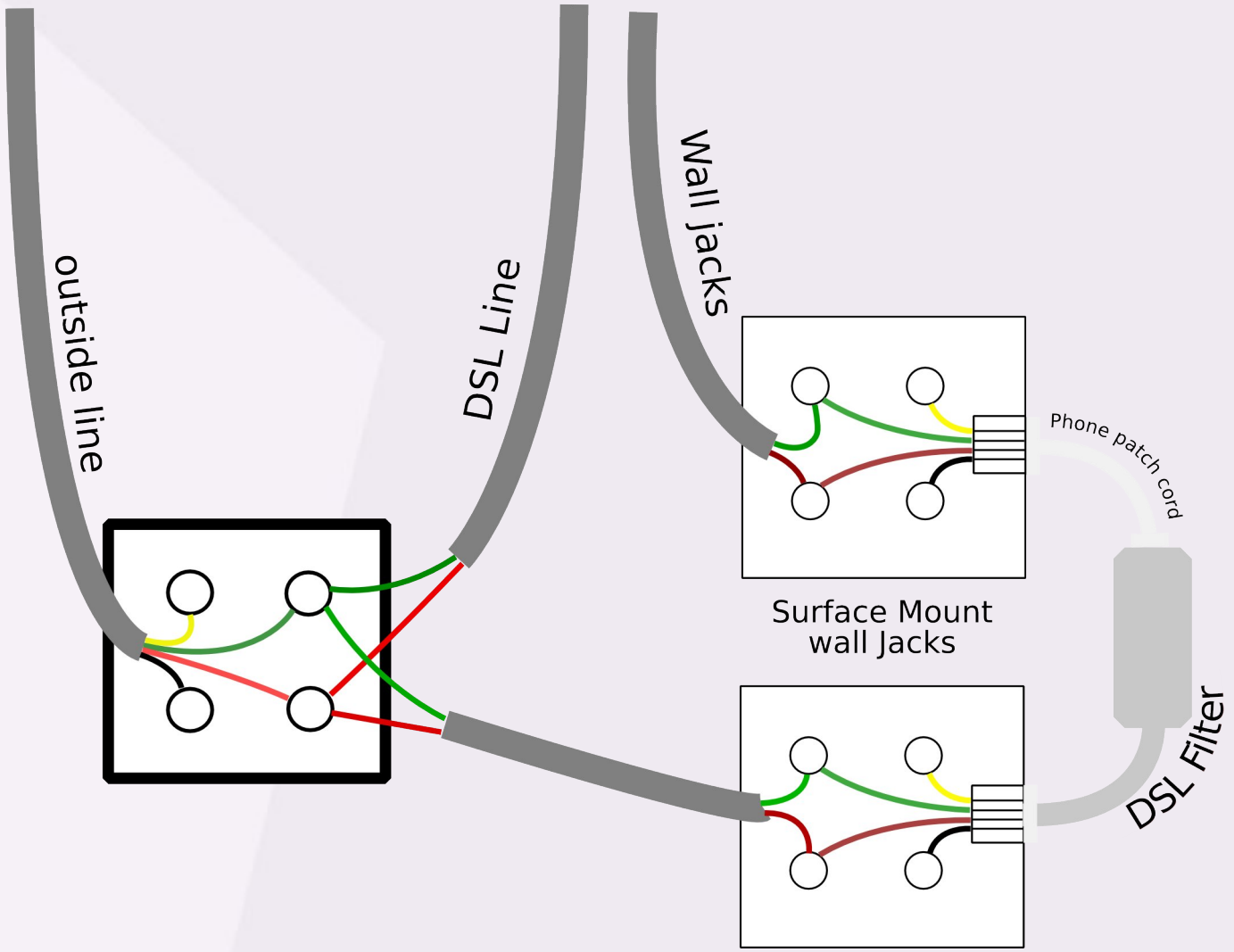
Installing a Common DSL Filter

- Step 1: See what you are working with
  - Locate your demarc, or the distribution block
  - Identify the outside pair(s) of wires, they may be labeled CO
  - Identify the inside pairs
  - Do you have one incoming phone line or two?
  - If so which has DSL?
  - Take photos, and/or write things down in case you need to back out

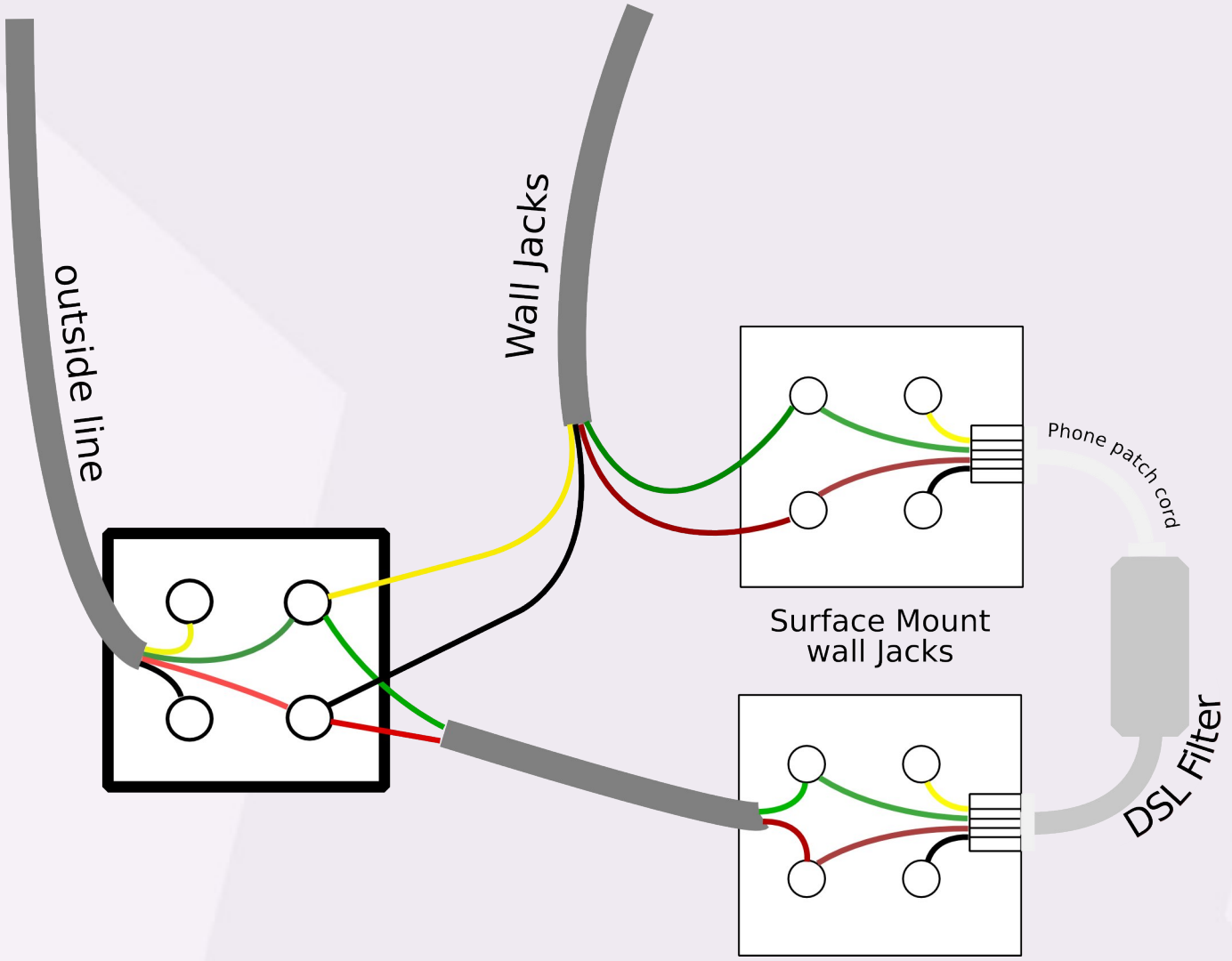
How to centralize

- Devote a pair of wires to the DSL modem
  - Locate it at the demarc (inside)
  - Dedicate a single bus to it
  - e.g. a jack at the demarc for the modem
  - not the best idea, unless there's only one jack on the pair
- Use the second pair to run DSL
  - Alter one jack for DSL (not recomended)
  - Double up a jack for the second line
  - Alter a phone cord/create converter

Dedicated pair of wires



Use Second Pair

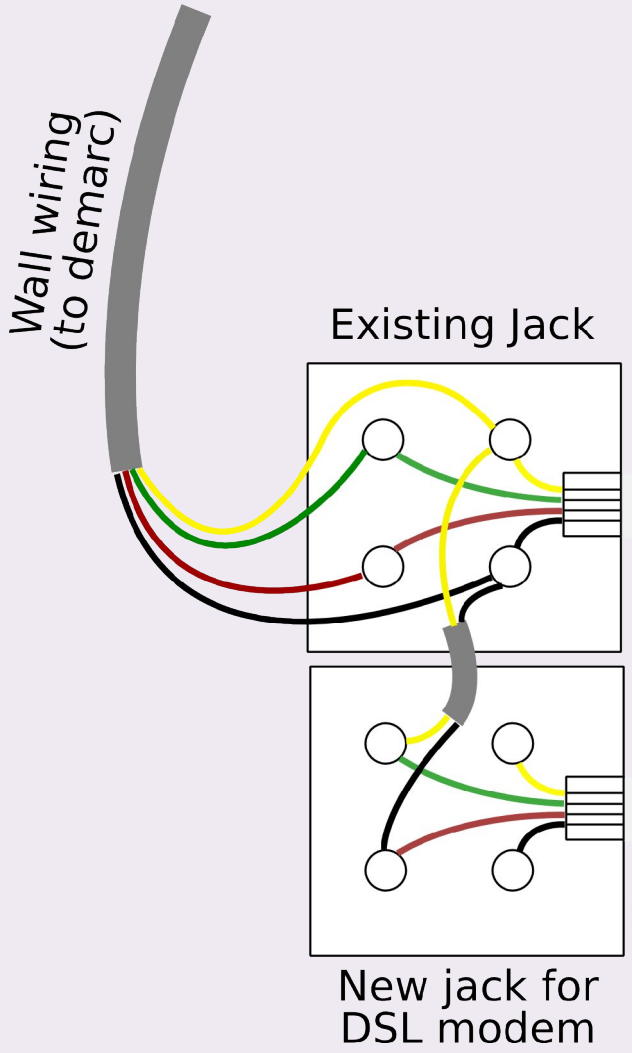


Connecting DSL to the second pair

- If using the 2nd pair for DSL you need to connect to the modem to the 2nd pair by:
  - Altering the wall jack where the DSL modem is
    - Swap green/red with yellow/black (bad idea)
  - Adding another wall jack in the same location
    - X connect the yellow/black with the green/red on the new jack (better idea)
  - Creating an adapter cable
    - Swap greed/red with yellow/black on the cable (requires crimpers, good idea)
    - Use a wall mount jack to create an adapter using a spare phone cord. (good idea)

Adding a jack for 2nd pair

- Jumper the yellow/black from one wall jack to the green/red of the new jack.
- Mark the second jack as “line two”
- Look for dual-jack wall mount boxes and flush mount plates

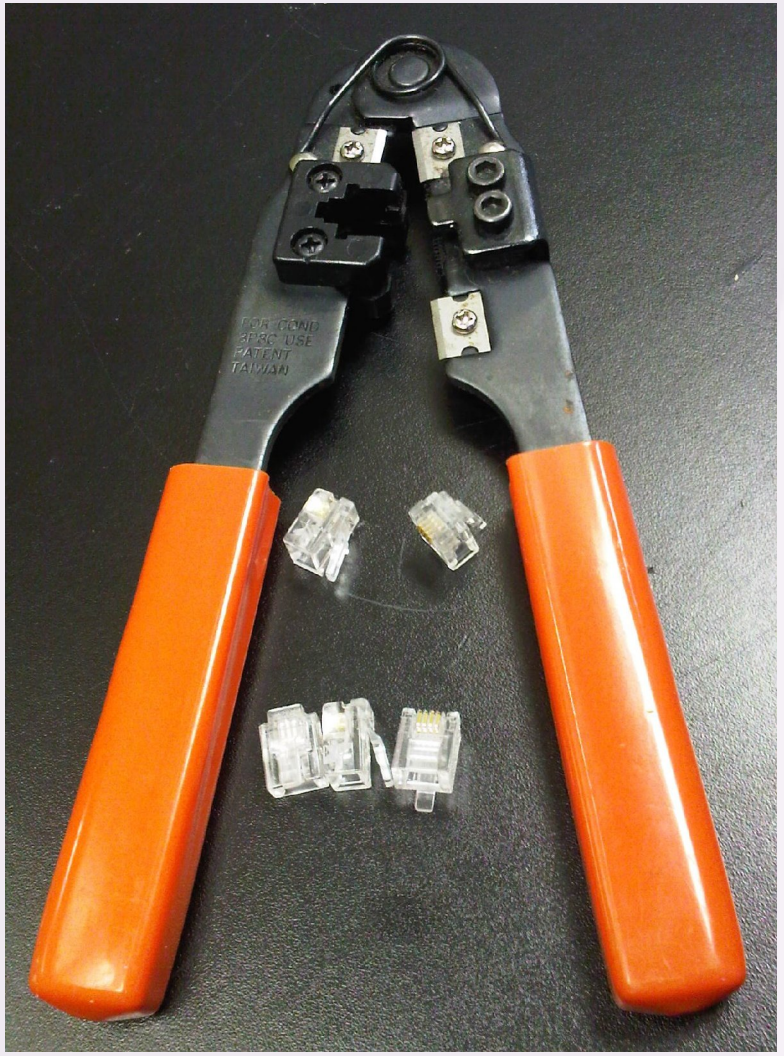


Handy Tools

- Punch tools
  - Red is 66/100 punch
  - 66 blade works with
- Beige is Bix punch
- Available at Home Depot
- $30 to $70
- An old credit card works too

Crimp Tool

- Used for crimping phone wires.
- Make custom lengths
- Swap Green/Red with Yellow/Black
- Available at Home Depot $50



Butt Set

- Essentially a phone, but with alligator clips
- Available at Home Depot

Tone generator

- Tone generator and inductive amplifier
- Attach the tone generator to a pair
- Use the inductive amp to locate the other end of the pair.

Contact Information

- http://www.netdirect.ca
- 866-883-1172
- info@netdirect.ca
- Questions??