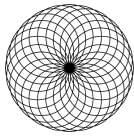


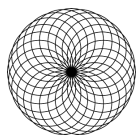
Rosetta

Standards & Interfaces

**Version 0.03
30 January 2025**



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Overview

This is to document the decisions as we go. The final document will be in a more completed form.

Cable Types

| Cable Use | Cable Type | |
|----------------|---------------------------|--|
| | Minium | Recommended |
| Stepper Motors | Ethernet, CAT-5 | 1. Shielded CAT-6 2. Use strain relief boot 3. <10 ft long |
| Limit Switches | Phone Cable (POTS) UTP | 1. Use strain relief boot 2. <10 ft long |

Cable Colours

Stepper Motors (CAT-5/CAT-6)

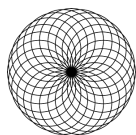
| Cable Colour | Used For |
|--------------|---------------------|
| Black | Spindle |
| White | Rosettes Drive |
| Blue | X Axis |
| Green | Z Axis |
| Red | Configurable Axis 1 |
| Yellow | Configurable Axis 2 |
| Pink | Configurable Axis 3 |
| Purple | Configurable Axis 4 |

Notes:

- These colours will also be used to colour code:
 - Surround for jacks on box panel
 - Filament colour used when printing the end caps for the stepper motors.
- The use of these colours is to make operation easier for the user.

Limit Switches (RJ-11)

No standard is established for this.



Cable Pinouts

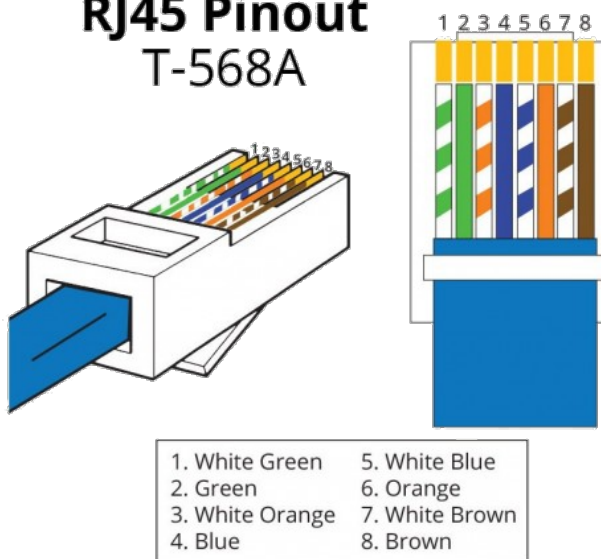
Stepper Motors (CAT-5/CAT-6)

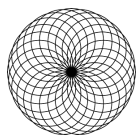
| Ethernet Cable | | Stepper Motor | | ELFOS | |
|----------------|--------------|----------------|----------------------------|--------------|--------|
| Wire | Wire Color | Used For | StepperOnline Wire Colours | GX-16/4 Pins | Wiring |
| 1 | White/Green | Limit Switch 1 | n/a | n/a | n/a |
| 2 | Green | A- | Green | 2 | Yellow |
| 3 | White/Orange | Limit Switch 2 | n/a | n/a | n/a |
| 4 | Blue | B- | Blue | 4 | White |
| 5 | White/Blue | Home Switch | n/a | n/a | n/a |
| 6 | Orange | B+ | Red | 3 | Red |
| 7 | White/Brown | GND | n/a | n/a | n/a |
| 8 | Brown | A+ | Black | 1 | Black |

Notes:

1. Cable colours are based on the EIA/TIA-568A standard.
2. Striped wires are backups for solid coloured wires if necessary, but a preferable approach is to use those for limit switch(es). If using this approach, the junction ends can tie the respective colours together (e.g., Blue with White/Blue).
3. Stepper motor wire colours for other vendors may use different colour schemes; consult the vendor's specifics to ensure the bipolar connection is correct.
4. Mapping to the ELFOS cabling standard is provided for legacy purposes.

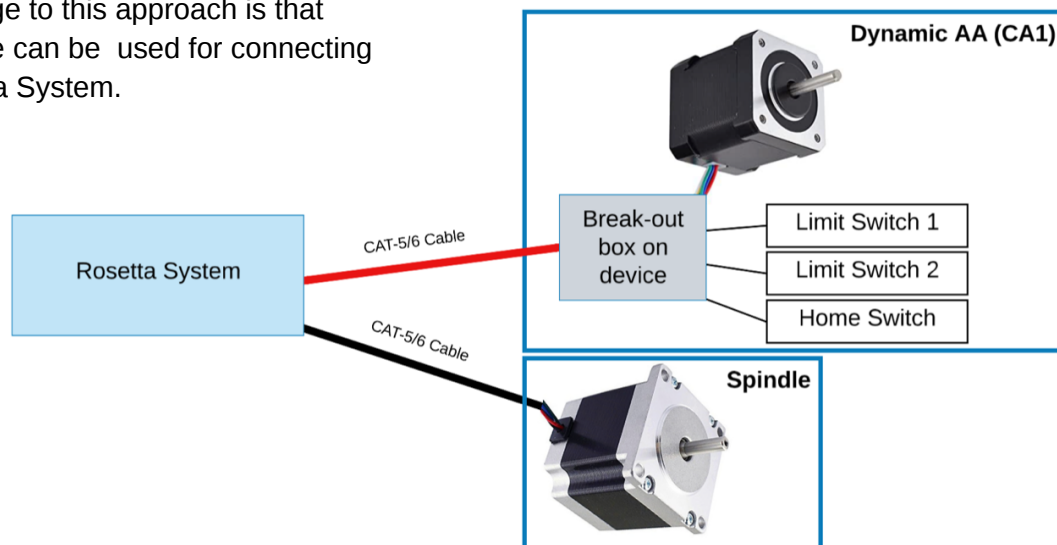
RJ45 Pinout T-568A





Wiring for Stepper Motor & Limit Switches Using a Break-Out Box

The advantage to this approach is that a single cable can be used for connecting to the Rosetta System.



Limit Switches (UTP phone cable {POTS})

| RJ-11 Cable | | Used For | Ethernet Cable | |
|-------------|-------------|----------------|----------------|--------------|
| Wire | Wire Colour | | Wire | Wire Colour |
| 1 | Black | GND | 7 | White/Brown |
| 2 | Red | Limit Switch 2 | 3 | White/Orange |
| 3 | Green | Limit Switch 1 | 1 | White/Green |
| 4 | Yellow | Home Switch | 5 | White/Blue |

Notes:

1. If using 8-wire Ethernet cables, the wires noted on the right are used.
2. If using an RJ-12 plug or jack, the RJ-12 pins 1 & 6 are not used. With that jack, the centre 4 pins are used (2-5).

