

# LINGA

## Network Assessment

Contains requirements for internet and network lines, examples of setups with different equipment, and fully detailed diagrams.



# Network Requirements

## Wired Setup

- Linga requires a wired network for all our installations especially for table service locations.
- Each Linga POS device needs to have a Cat6 drop dedicated to it.
- Do not splice or use the Cat6 lines for phone or other purposes.
- Each Cat6 drop needs to go to a central switch.
- Do not use multiple switches instead of running cables directly to the device.
- If printers are ethernet based they also have to be on the same switch and have a dedicated cat6 drop for each of them.
- All of the Linga devices and printers has to be on the same IP range and Subnet
- Please note, Linga is not responsible for network issues and faulty network setup
- Linga requires a professional network setup which is setup by a professional
- Linga will not support customers who are solely on Wi-Fi setup. ( Wi-fi strength and quality can change by the amount of the people in the restaurant and the quality of the Wi-fi device.
- All of the local area wired printers has to be on static IP mode

# Network Requirements

## Wireless Setup

- Linga can be used wirelessly on iPad Mini and Linga Go Devices
- Linga device has to be dedicated to a certain person who is using mobile devices.
- Linga device should be on all the time while being used and not be put to sleep, including iPad mini or Linga Go devices. (Linga needs to be constantly downloading the check information from the other devices, putting to sleep will cause delay in downloads and might cause loss of data.
- Wi-Fi Hot Spot or Access Point has to be on the same IP range and subnet with the wired network. If they are not on the same network, you will have printing problems.
- Minimum internet bandwidth of 15 Mbps of download and 10 Mbps of upload speed is required, subject to devices connected on the network. Available bandwidth is affected by local network traffic and your Internet connection.
- For mobile terminals that are used in a location where multiple Wi-Fi Access Points are installed, there is a chance of wireless interference between devices. Here are some steps to minimize interference:
  - Connect devices to 5GHz band on your wireless network as possible.
  - Configure your wireless access point SSID of your network manually to channels on the 5GHz bands.
  - Setup static IP address on printers, EMV and other peripherals. Reserve this IP address on the Router.
  - Place your Wi-Fi router or access point in the middle of the room as possible or use Mesh Wi-Fi system setup for better coverage.
  - Avoid any electrical cable run together with the Ethernet cable (CAT5/6) on all wired devices.

# Network Requirements

- **How to access to your Wi-Fi Router and Do some configurations:**
  1. Open a web browser and type your default gateway like 192.168.1.1 you can find this on your Wi-Fi name setting under advance options. Then put your username and password. Default logins are usually, admin/password.
  2. Go to DHCP devices connected and reserve the static IP address you set before.
  3. Go to Firewall setting and select minimum security to make sure ports are open.
  4. Call your ISP router to verify port 443, 80, 8443 are open in the modem side.
- **Advance Setting Options for Larges Network**
  - Create a Hidden SSID just for POS.
  - Create a different subnet mask for the POS network.
  - Create a VLAN for the POS network if the router has the option.

# Network Requirements

## Recommended Speeds:

There are no issues with an unlimited number of QSR terminals operating via a wireless network. Here are some recommendations:

# of iPads	Download Speed Minimum	Upload Speed Minimum
1-5	25	10
5-10	50	10
10-20	75	20

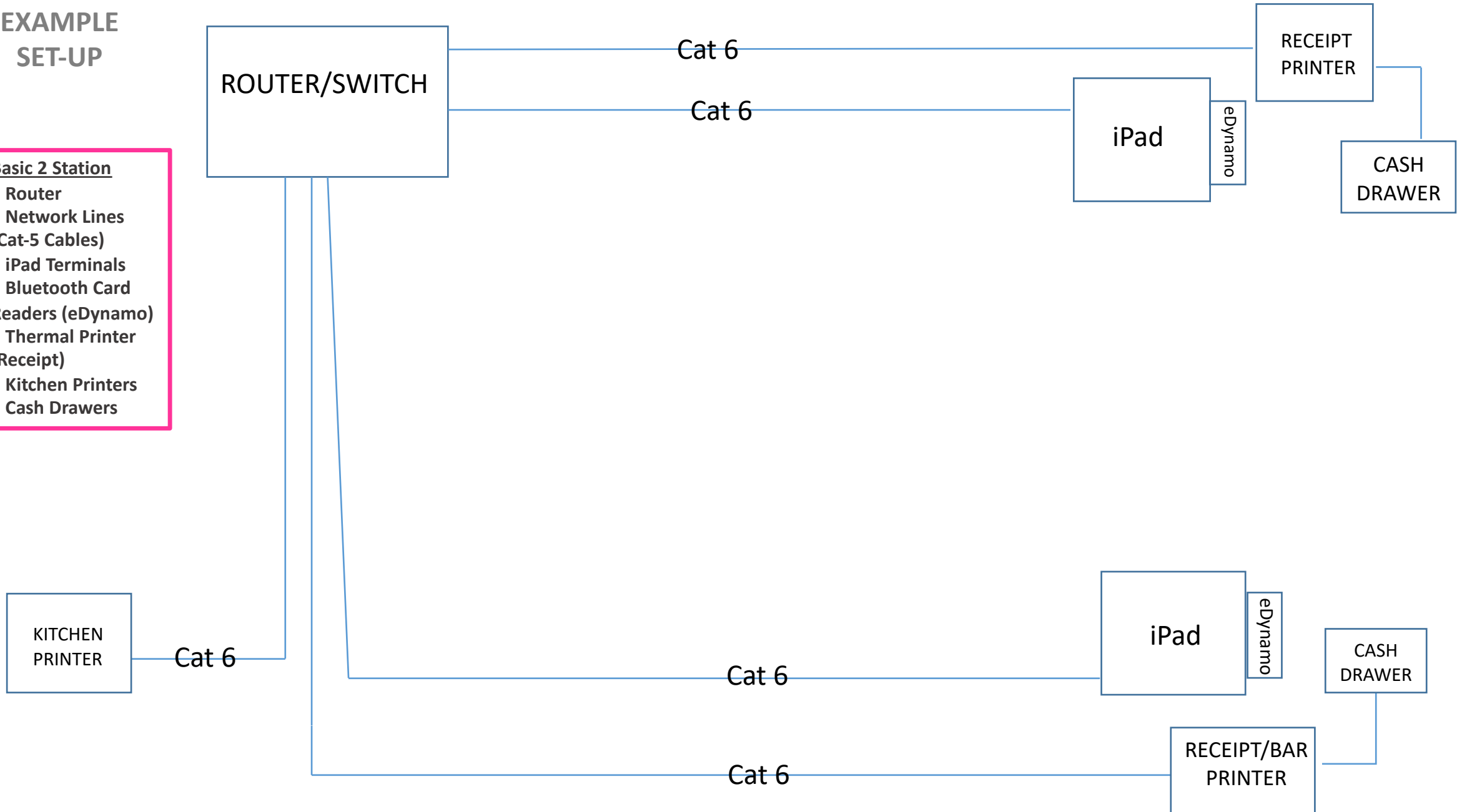
\*\*These are suggested requirements. Each network varies

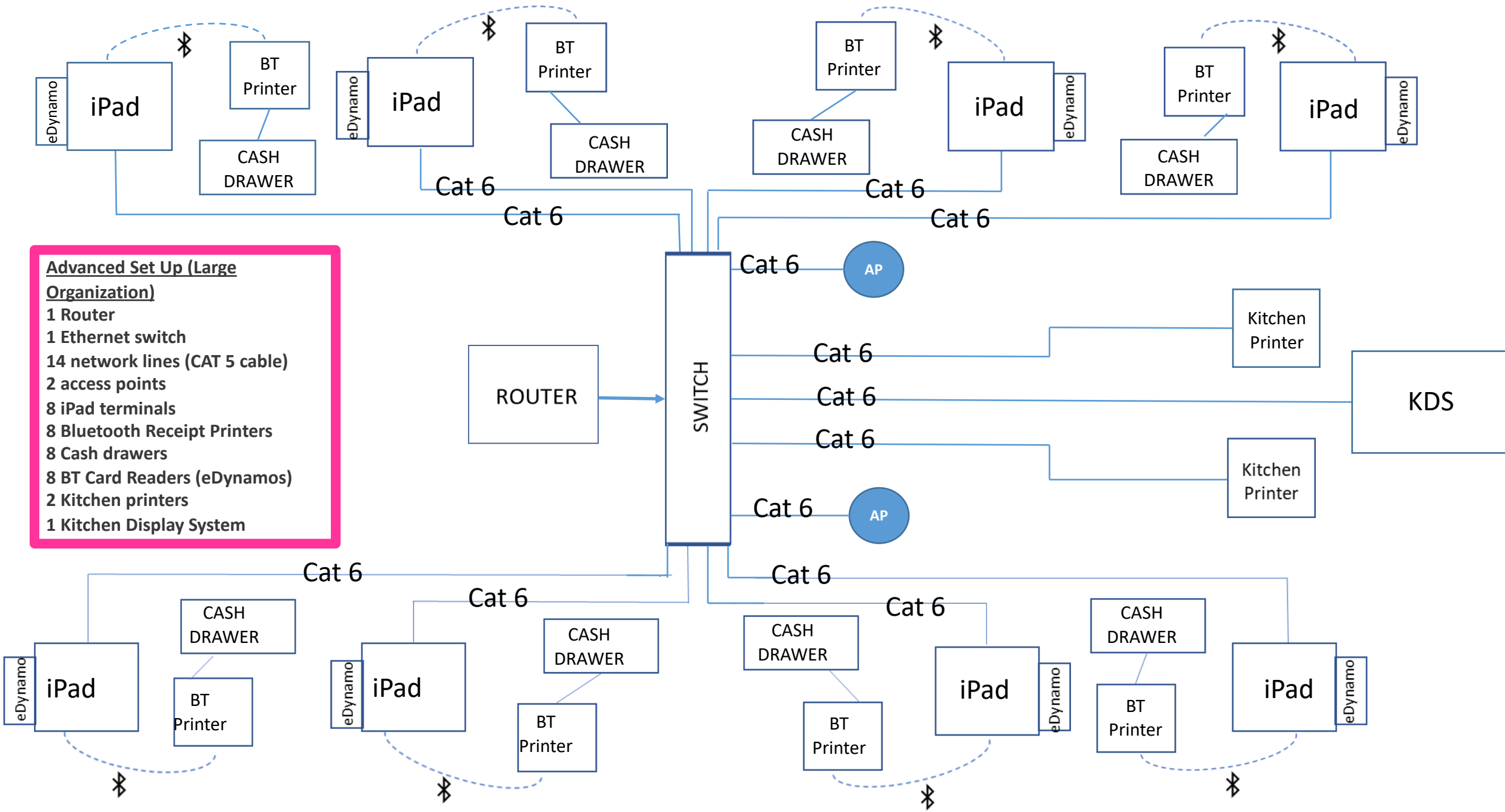
Speed Subject to how many non-POS devices you have on the network.

# EXAMPLE SET-UP

## Basic 2 Station

- 1 Router
- 5 Network Lines (Cat-5 Cables)
- 2 iPad Terminals
- 2 Bluetooth Card Readers (eDynamo)
- 1 Thermal Printer (Receipt)
- 2 Kitchen Printers
- 2 Cash Drawers





- Advanced Set Up (Large Organization)**
- 1 Router
  - 1 Ethernet switch
  - 14 network lines (CAT 5 cable)
  - 2 access points
  - 8 iPad terminals
  - 8 Bluetooth Receipt Printers
  - 8 Cash drawers
  - 8 BT Card Readers (eDynamos)
  - 2 Kitchen printers
  - 1 Kitchen Display System