



# Electrical Addendum

USD Effective April 2017

*Updated October 14, 2020*

**SWIFTSPACE**

[www.swiftspaceinc.com](http://www.swiftspaceinc.com)

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# Overview

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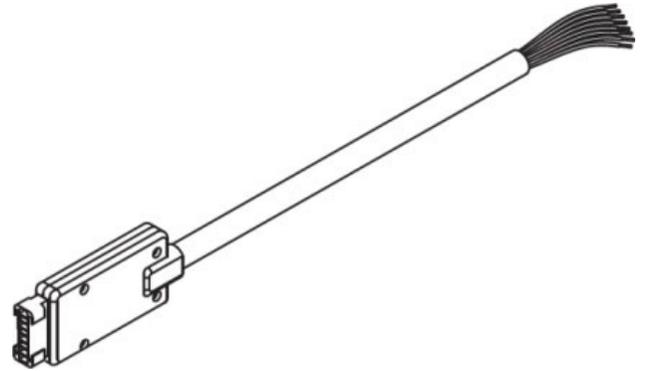
- **Each Base feed (Whip) contains 4 circuits.**
  - Each circuit is available with 20 amps of power giving a total of 80 amps of power per Whip.
  
- **Each circuit can have thirteen duplex receptacles.**
  - The duplex receptacles can be ordered as Circuit 1,2,3, or 4.
  
- **Plug and Play system**
  - Jumpers, Powerboxes and Receptacles can be connected and disconnected with snap-in fasteners allowing for quick reconfiguration without tools.
  - Receptacles can be changed in and out of the Powerboxes without tools. This means loading on circuits can be changed without the services of an electrician.

# Glossary

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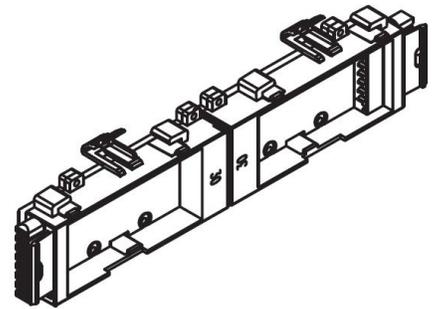
- **Base feed (Whip)**

- Wired to the building's power source by a qualified electrician. Brings the 8 wires to the first station.
- Waterproof to protect exposed areas from spills and damage.
- Can be specified in different lengths.



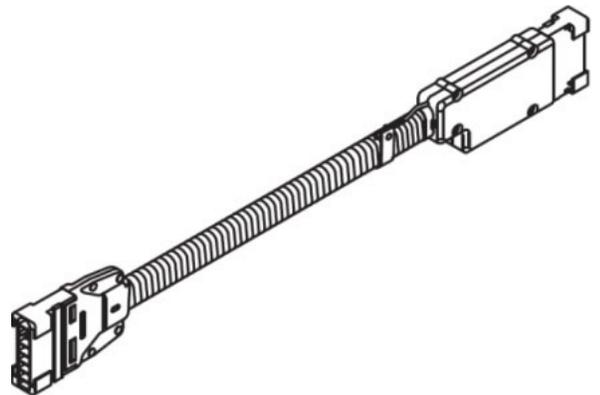
- **Powerbox (Box)**

- Can connect either a Whip or Jumper to it.
- Receptacles are snapped in and out with no tools.
- Available in double duplex receptacle.



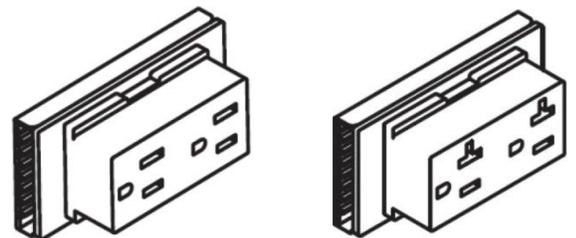
- **Jumper**

- Used to connect Powerboxes together in a run.
- Connect to Powerboxes with snap-in fasteners no tools required.
- Metallic covering for cable protection.
- Can be specified in different lengths.



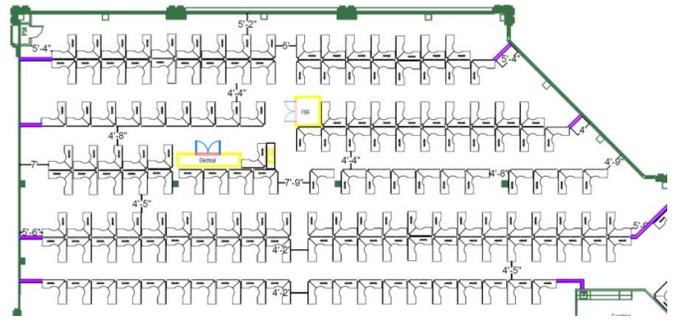
- **Receptacles**

- Are ordered either as Circuit 1,2,3, or 4.
- Can be ordered in black or orange if special identification required.



# How to Spec Hard Wired Power

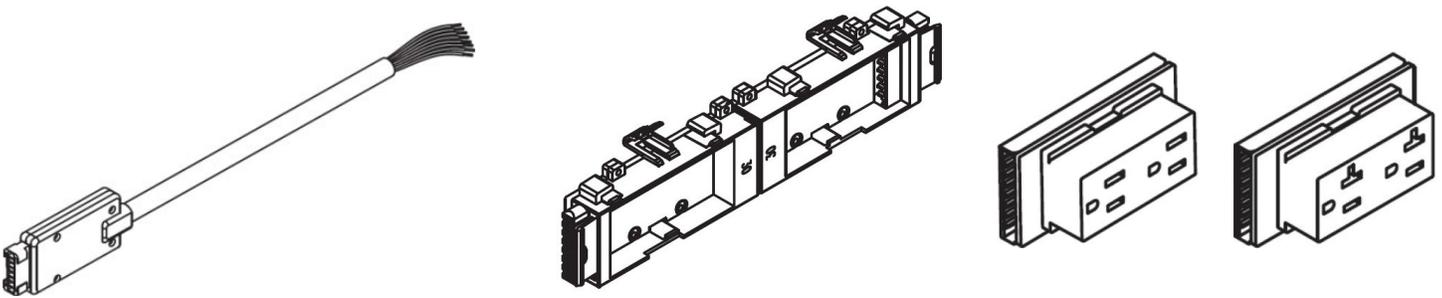
- **Power is designed for straight runs when total draw exceeds 15 amps which typical of long runs of stations**
- **For less than 15 amps daisy chain of stations may be an option**
- **Power and data is run in Aluminum power trough with easy access hinged doors**
  - Solo has power/data trough in base rail
  - Foresight has power/data trough in middle spine
  - Shape can use Solo power/data trough
- **Jumpers can go around corners however no Powerbox can be inserted on the corner.**



# How We Offer Components

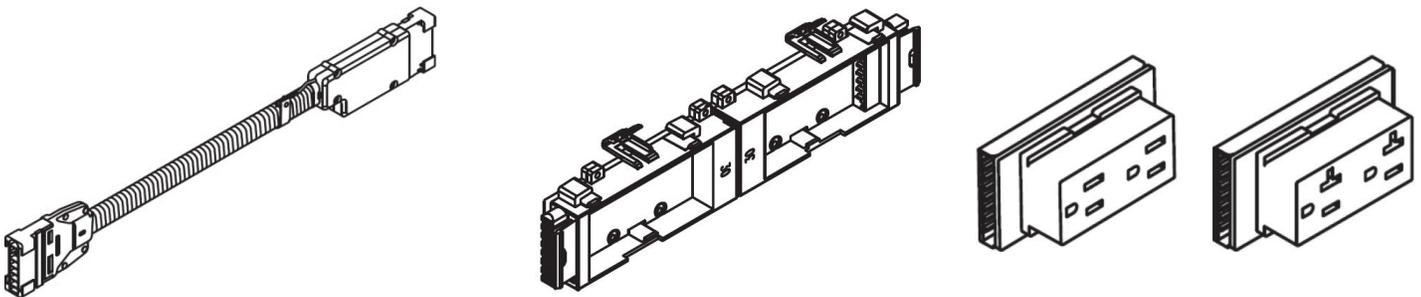
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- **Starter Kit** - one required at the beginning of each run.
  - This includes the Whip, double Powerbox, and receptacle(s)



- List price with double powerbox and two duplex receptacles \$ 210

- **Add On** - one is required for every station in the run.
  - This Includes a jumper, double powerbox, and receptacle(s)

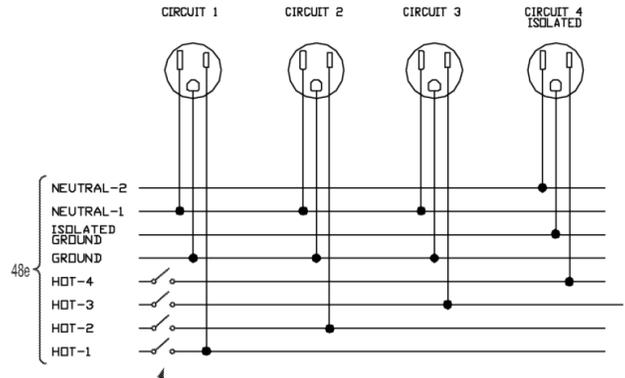


- List price with double powerbox and two duplex receptacles \$ 210

# How the 8 Wire System Works

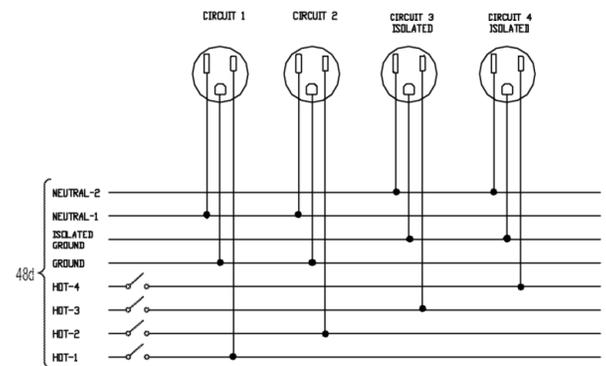
- **Most Common Layout is 3+1 (Dedicated)**

- 3x Shared 20 amp circuits
  - Shared Neutral
  - Shared Ground
- 1x Isolated 20 amp circuit
  - Isolated Neutral
  - Isolated Ground



- **Alternate Layout is 2+2**

- 2x Shared 20 amp circuits
  - Shared Neutral
  - Shared Ground
- 2x Isolated 20 amp circuit
  - Isolated Neutral
  - Isolated Ground



- Isolated Ground The Swiftspace 8-Trac is rated for 20amps per circuit allowing the use of 4 circuits with 4 line conductors, 2 neutrals and 2 grounds. Under NEC Requirements, up to 13 receptacles may be used per circuit, with a total of 52 available if all circuits are used, per single power entry.
- The line conductors are 12AWG, and share a 12 AWG ground and 10 AWG Neutral.
- The fourth circuit is isolated and dedicated, and is serviced by its own line conductor, neutral and isolated ground. Alternate circuit diagrams are available.
- The 8-Trac system can be wire in 240/120 configurations.

# What is a Dedicated Circuit For?

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- **A dedicated circuit line can be used for UPS (Uninterruptable Power Supply) or Generator backups. Important to remember that you can't have more than 20amps of total draw on any line. If additional amperage required than the 2+2 layout above will be required.**
  - The dedicated circuit line is used to power critical equipment that cannot tolerate a power interruption. Examples are life support machines, critical servers etc.
- **The dedicated circuit can also be used to meet Title 24 requirements. Title 24 requires certain electrical devices to be put on one circuit making it easy to turn off all power to them.**
  - Examples are items like space heaters, fans, task lights and other non important electrical devices can all be turned off together after hours to reduce electrical costs.

# Common Questions for Circuits

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- **Can you still switch each circuit off individually?**
  - Yes
- **Which wiring system should I choose?**
  - Unless the client wants 2 shared backup power lines and the backup system can share a neutral and ground then always choose standard 3+1.
- **How do I determine power load on a run?**
  - Depends on local electrical code but generally you cannot use more than 13 duplex receptacles on each circuit. (54 per powerfeed)
  - For planning purposes each station should be allocated 5 amps.
  - If a dedicated circuit is required for a using backup then you only have 60 amps of power per feed on three circuits.
- **Can the dedicated circuit be used as a regular circuit instead?**
  - Yes

# How Does the Power Attach?

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- **Base feed (Whip), Jumpers and Powerboxes are designed to fit inside the trough.**
- **Electrical codes will specify if the powerboxes need to be mechanically fastened**
  - Examples are items like space heaters, fans, task lights and other If required, the powerboxes can be hard mounted to the bottom power rail using a mounting clip.
  - This may require an Electrician or installer to install depending on codes.
  - Video Showing Attachment click [here](#)
- **The angle of the corner cover can be adjusted to cover gaps on straight runs of solo stations.**



## Common Questions for Attachment

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- **Do I have to fasten boxes?**
  - We cannot answer that question. That is up to local electrical codes so you must consult an electrician for more info.
- **Do I have to fasten stations together?**
  - Some codes require that not only the powerboxes be fastened but also the stations must be connected.
  - If this is a requirement we can provide joining plates that will lock the stations in place so they can't be moved. These can only be removed with a special tool.

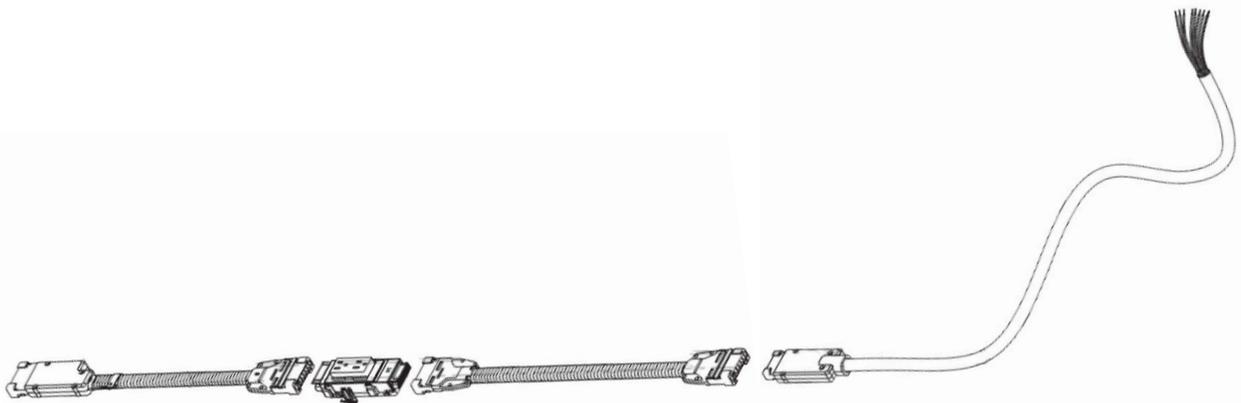
# Time to Install a Typical Power System

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- **Typical install time per station including electrical takes about 10 -15 minutes and involves:**
  - Placing the station as per layout.
  - Putting up the worksurfaces.
  - Opening of the doors on the powertroughs.
  - Insertion of the data lines. Individual data lines must be run for each station. 40 lines can be put in per run.
  - Insertion of the power lines and connecting the powerboxes.
  - Installing the duplex receptacles into the powerboxes.
  - Closing the powertroughs.
  - Locking the casters and putting up the end gables.
- **Additional Timing may be required for more complicated installs or additional electrical code requirements**
- **Whips take 1-2 hours for a qualified electrician to wire into the building power**
- **Important Note - Always ensure the power is turned off prior to connecting, or disconnecting any stations that have hardwired power installed**

## Sample Layout

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- **How Long Can the Base feed (Whip) be?**
  - Custom lengths up to 100ft are available. Typically we order longer and then electrician cuts to size when installing
- **How long are Jumpers?**
  - Swiftspace specs the jumpers for station connections based on layout and station size
- **How many outlets can I have?**
  - Currently each station can have a duplex receptacle with 2 plugs on one of the 4 circuits
  - Dual runs of back to back stations can utilize the same power line which reduce cost
- **How much power do I need?**
  - Will be client determined we can get involved to help with the layout and requirements. Electrical code also might specify
- **How can I access power at the surface?**
  - Any of our standard power bars can be plugged into the system to easily bring power up to surface level
- **Is there a place to run power and data**
  - The Solo power trough has a metallicity separated trough internally to run data lines. Forty data lines can be inserted into the trough
- **How are the receptacles attached?**
  - The power boxes can be held in place by the bottom rail power trough or can be secured using screws depending on electrical code requirements.
  - The duplex receptacles slide into the powerbox and lock in place.
- **What If I need power in the middle of a run or if there is a walkway between the building powersource and the start of the run?**
  - The whip can be run through an on top of or in-carpet aluminum track (ie. Connectrac), via a core drilled conduit, or dropped from ceiling via power poles. We would look at the application and determine the best option.
- **Is the system UL Listed?**
  - The 8-Trac system used in the Swiftspace Power System is UL recognized as an Office Furniture Accessory (UL1286), and is UL Listed as a Manufactured Wiring System (UL183) in full compliance with electrical specifications found in the National Electrical Code (NEC).

# Checklist for Quoting

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- Do you require an isolated circuit?
  - If so does every station need access?
- How much power does a typical user need?
- How many stations are in your run?
- How far are the stations from the wall?
- How often are you planning on reconfiguring?
- Are there any special electrical code requirements?
- How is the building power accessed?
- Will you be running data cables?

# Technical Information

- The SwiftSpace 8-Trac is rated for 20amps allowing the use of 4 circuits with 4 line conductors, 2 neutrals and 2 grounds. Under NEC Requirements, up to 13 receptacles may be used per circuit, with a total of 52 available if all circuits are used, per single power entry.
- The line conductors are 12AWG, and share a 12 AWG ground and 10 AWG Neutral.
- The fourth circuit is isolated and dedicated, and is serviced by its own line conductor, neutral and isolated ground. Alternate circuit diagrams are available.
- The 8-Trac system can be wire in 240/120 configurations.
- A 3 hot 3 neutral 2 ground system is also available.

## 3+D Wiring Diagram 208/120V

(3+D Keying is designated as -3- in part numbers)

