DEFINING SOCAPEX

Parenthetical Definition

Synonyms*: Soca*, *19-pin*, *multiconductor cable*, a large power connecting cable ranging from 25 to 500 feet.

Sentence Definition

Socapex, or *Soca*, is a large multiconductor power cable with 19-conductive prongs; it is often used in film, television, and stage lighting to connect lighting fixtures on stage to power distribution equipment off stage.

Expanded Definition

*What is Socapex?*

Socapex, also known as *Soca*, *19-pin* and *Multiconductor cable* for its characteristic multi prong connection design, is a large, multicore power cable containing 6 individual 20 A (Amp) circuits (see fig. 1) (Box 353; Cadena 67).

*Fig. 1* Close up of 19 pin configurations on the tail ends from: Box, Harry C. “Chapter 13: Distribution and Dimming Equipment.” *Set Lighting Technician's Handbook: Film Lighting Equipment, Practice, and Electrical Distribution*,p. 354, fig. 13.14.

*Where is it Used?*

This heavy-duty cable is often used in film, television, and stage lighting to connect lighting fixtures on a stage rig to the power distro off stage. There are two ratings this cable falls under #12 AWG (American Wire Gauge) for 20 A per circuit or #14 AWG for 15 A per circuit, which provides fulfills many power demands for a variety of fixture types (Box 356).

*How Do You Use it?*

**When breaking out circuits from *Soca*, there are various splays and adapters to choose from when converting the multicore cable into individual branch circuits (*see figures 2 and 3 (Cadena 68)*.

Figure 2

Figure 3

*Figure 2* True1 connection 6 circuit Socapex splay adapter from *Christie Lites,* [www.christielites.com/true1-splays/228w2w17w148w1013](http://www.christielites.com/true1-splays/228w2w17w148w1013). Accessed September 23, 2019. *Figure 3* Male Edison AC connection 6 circuit adapter from: *Christie Lites,* [www.christielites.com/5-15-12-3-edison-splays/228w2w17w85w1017](http://www.christielites.com/5-15-12-3-edison-splays/228w2w17w85w1017) Accessed September 23, 2019.

These 6 circuit breakouts can be adapted to a variety of connections such as Edison, a standard AC outlet; Powercon, a twist-lock connection, and a universal plug; True1, the newest standard plug that offers voltages from 120 to 208 volts (Monk).

*Precautions to Take?*

A principle to follow when balancing power across *Soca* circuits is the 80/20 rule. This principle asks you to never put more than 80% of the total available amps on one circuit. For example, a 20 A circuit should never have more than 16 A on it at a time, leaving 4 A to allow room for the heat energy produced not to affect the conductivity of the cable. This practice is called de-rating currant-carrying conductors based on the number of current-carrying conductors in contact with each other (Cadena 67).

Works Cited

Box, Harry C. *Set Lighting Technician's Handbook: Film Lighting Equipment, Practice, and Electrical Distribution*. Focal Press, 2010, [www-taylorfrancis-com.ezproxy.library.ubc.ca/books/9780080928081](https://www-taylorfrancis-com.ezproxy.library.ubc.ca/books/9780080928081).

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