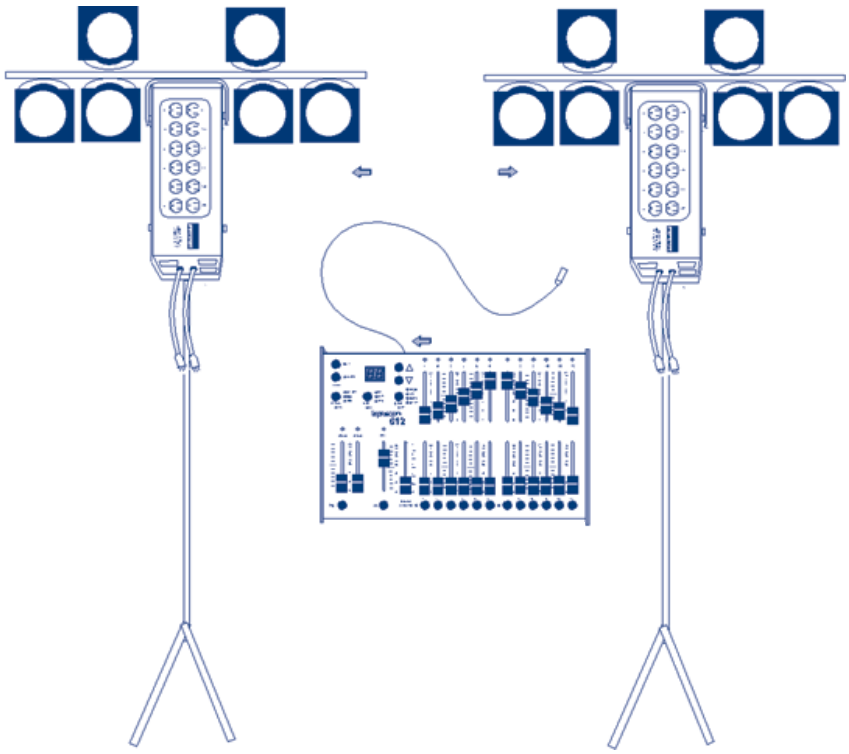
DIMMING AND CONTROL GUIDE

The following information is intended to provide you with some basic information about the three most common dimming and control configurations: portable systems, distributed dimming systems and permanent installations. The simple riser drawings show the basic components of each system. For more information on which system is right for your situation, please call us at 800-292-7490 and we'll be glad to help.

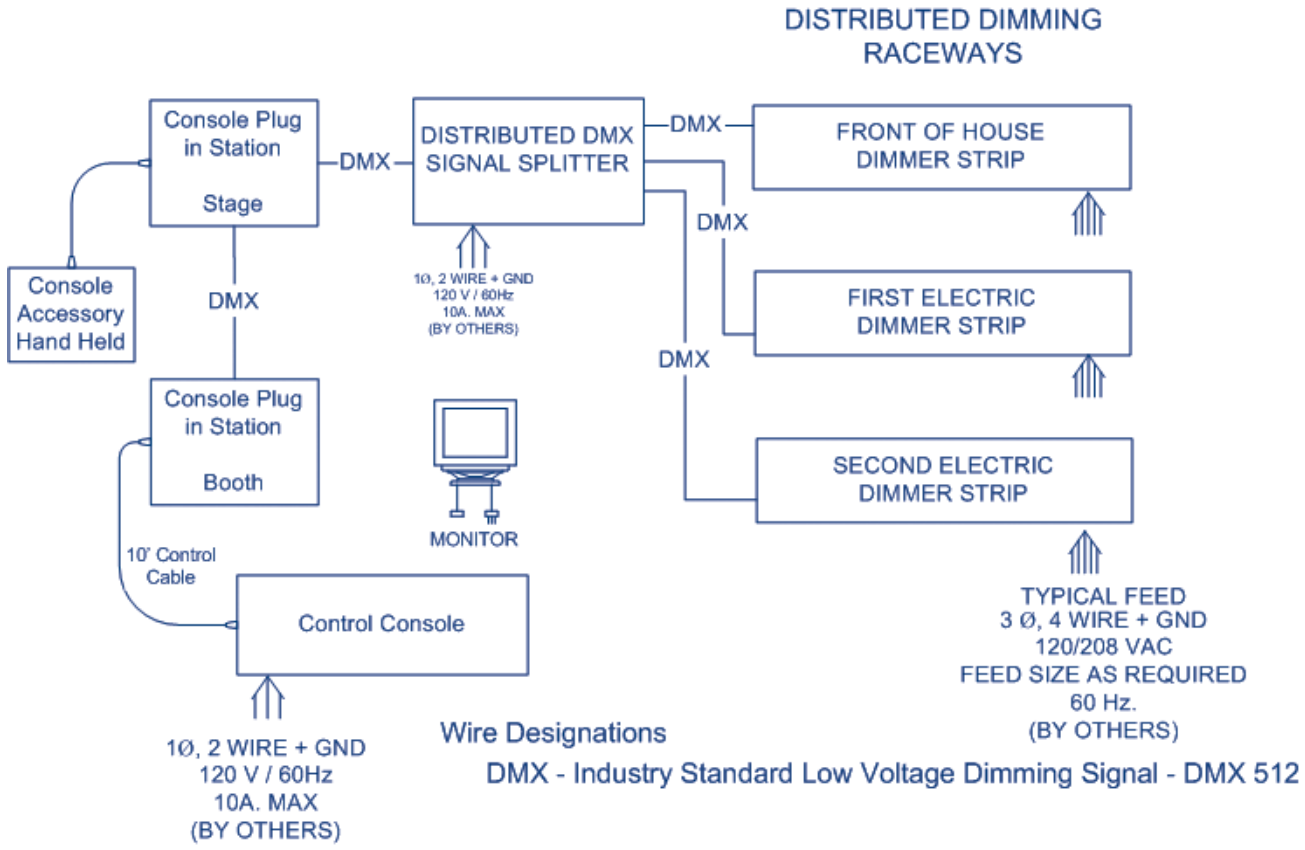
PORTABLE DIMMING AND CONTROL SYSTEM

A portable system is suitable when you need to transport the system to places where no lighting system exists. It can be transported easily and set up in 30 minutes. This type of system uses dimmer packs which plug into standard wall outlets. Typically a system will require 2-4 outlets, each with its own circuit breaker. The dimmer packs are controlled via analog and digital protocol.



DISTRIBUTED DIMMING AND CONTROL SYSTEM

The system shown below utilizes distributed dimming. It is suitable for both permanent installations or portable applications. In this system, the dimmer strips and dimmer boxes replace conventional connector strips and theatrical drop boxes. The strips and boxes can be mounted anywhere, via c-clamps, scaffold clamps or bolted to the wall. The dimmer strips also allow you to add circuits when needed where no additional power is available. The system can be controlled with DMX512.



DMX512

In 1986, the US Institute for Technical Theatre (USITT) published DMX512, a standard interface between dimmers and consoles, that allows virtually any console to work with virtually any dimmer. The DMX512 protocol is a method of connecting a single control source to multiple receivers. DMX stands for **D**igital **M**ultiple**X**ed. This standard was revised in 1990. Before DMX512 was adopted, dimmers were usually controlled by various proprietary digital or multiplexed analog signals. The manufacturers were reluctant to disclose how each system worked, because they did not want others to steal it. Prior to DMX512, it was impossible for the end-user to mix and match different manufacturers' devices. Moreover, new equipment did not communicate with older equipment. The lighting console sends the levels to the dimmers as a sequence of numbers. The information of the control channel is transmitted in digital form in a unique series of high and low signals over the cable. DMX512 data is transmitted at 250,000 bits per second via RS485, the Electronics Industry Association (EIA) transmission standard, which uses one twisted pair (TP) line - two wires twisted around themselves.

PERMANENT DIMMING AND CONTROL SYSTEM

This riser shows a conventional, permanently installed stage dimming system. This system allows for control of all performance stage circuits as well as dimmable house light circuits. One main power supply is provided to the dimmer rack. The dimmer rack is hard wired to fixed outlets such as connector strips, plug boxes, wall boxes and floor boxes. This hard wiring connects to dimmers to the various lighting fixtures to be dimmed. The control system consists of DMX control consoles and various remote control locations. In addition to the DMX control, an architectural system can be provided to control the auditorium houselights.

Modern dimmer racks are freestanding or wall mount enclosures available in standard rack sizes of 12, 24, 48 and 96 channel configurations. Dimmers are modular units installed in the rack enclosure. Typically, these dimmers are “dual” modules, meaning each module contains two 2.4kW dimmers. Other configurations are available.

Properly designed and installed permanent dimming systems represent a secure and versatile means of controlling your performance and architectural lighting.