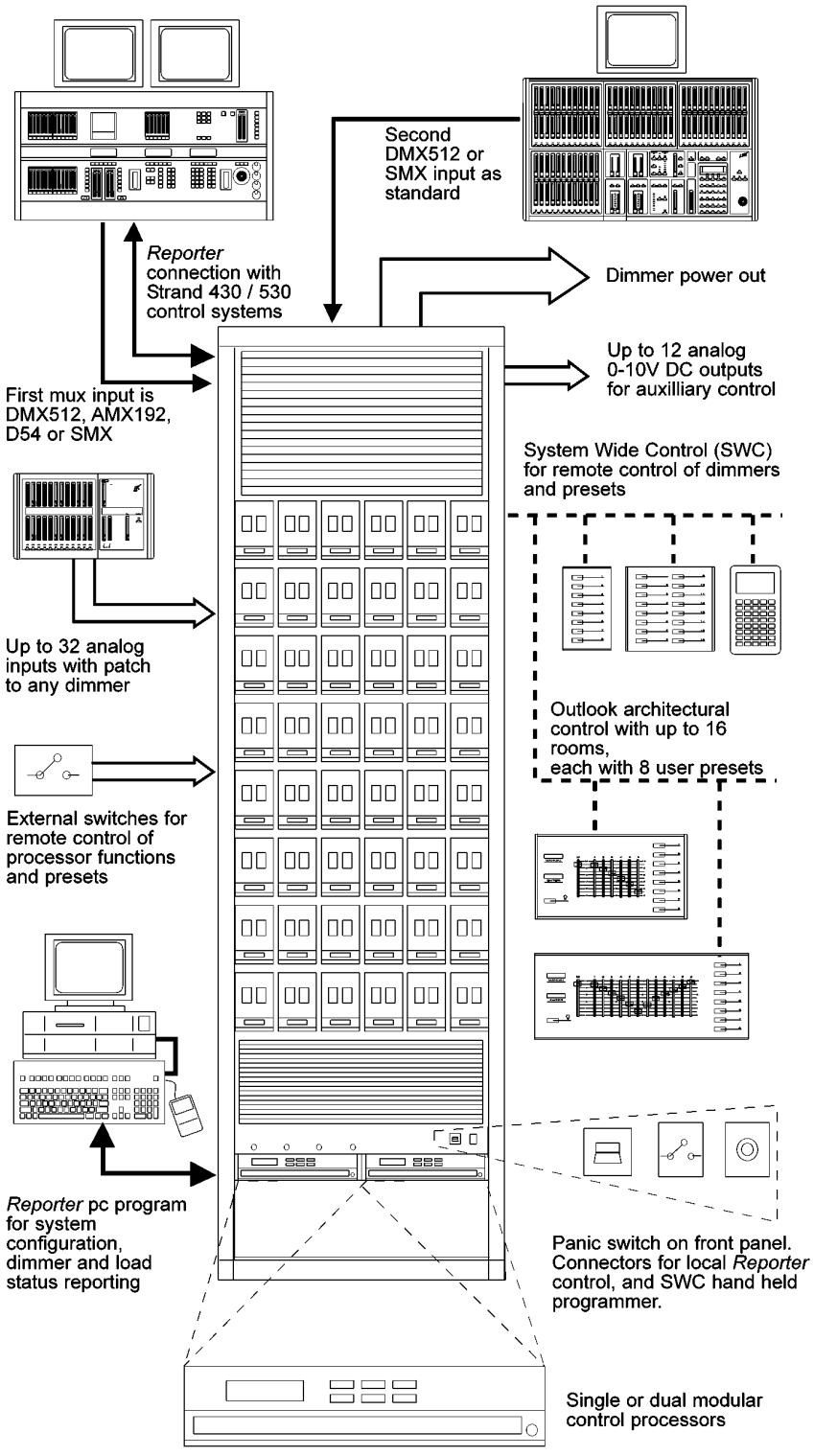
Dimmer Rack

Strand Dimming Systems

CD80 SUPERVISOR
Modular Dimmer Rack System



Features:

- ❑ Plug-in modular digital dimming system
- ❑ Up to 96 2.4kW or 48 6kW dimmers per rack
- ❑ Standard, high and very high filter choke rise times
- ❑ Hard firing SSR option to run transformer, cold cathode and low wattage loads
- ❑ Contactor module options to switch motors, HMI ballasts and other non-dimmable equipment
- ❑ System wide configuration and load reporting with Strand 430 or 530 consoles or PC using the Reporter™ Windows™ based software program
- ❑ All power modules available in standard format or with Reporter™ load status reporting
- ❑ Dual electronics processor option for full redundant tracking backup
- ❑ “Panic” function, to bring selected dimmers to full if processor fails, and can be actuated manually or automatically (eg. by a fire alarm system)
- ❑ Line and load voltage regulation to minimise light output changes when the input voltage fluctuates
- ❑ Extensive input control capabilities, ensuring system design flexibility and ability for future system additions and upgrades
- ❑ Opto-isolated Mux A and Mux B inputs provided with individual assignment patches
- ❑ Up to 32 analog 0 - 10V inputs per rack patchable to any dimmer circuit(s)
- ❑ 99 System Wide Control (SWC™) memories for additional preset and backup use, using simple “snapshot” recording
- ❑ 16 room (zone) by 8 preset Outlook™ architectural lighting presets for auditorium, front of house and other control
- ❑ Direct control of channels and presets by hand held remote programmer with specialised riggers functions
- ❑ Built-in library of fixed and custom dimmer curves, accessible per dimmer
- ❑ Smooth 16 bit digital fade processing
- ❑ 2.4kW, 6.0kW and 12.0kW dimmer modules

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Technical Information Racks

General

Two sizes; 48 and 24 modules

Both sizes either bottom or back bussed

Any module may be positioned in any slot at manufacture

Over temperature warning on rack, remote console or PC

Over temperature warning forces cooling fans on at full

Over temperature shut down at 5 degrees C above warning level

UL listed for USA and cUL listed for Canada

Mechanical

Racks designed for adjacent mounting

Racks can be bolted to floor

Racks are supplied with locking door as standard

Module removal without use of a tool

Max ambient temperature 40 degrees C

Convection cooled with fan assist

Three low noise fans

Variable or continuous fan speed control for minimum acoustic noise

Electrical

Rack power input

120V 3 phase, 4-wire+ground

120V 1 phase, 3-wire+ground

220V 3 phase, 4-wire+ground

220V 1 phase, 2-wire+ground

800 A per phase maximum

50Hz / 60Hz

Bussing allowed across adjacent racks

Standard load wire terminal size # 6 gauge with optional adaptor up to # 2 gauge

Fault current protection to 10,000 AIC

Provision for amp trap devices

Dimmers do not draw or supply DC supply current

Control Logic

All or individual dimmers may be programmed to conform to a selection of control logic rules - please refer to figure.

Control Electronics Specification

General

All control electronics on one plug-in module
Completely digital with no analog ramp
Real time date and time clock for status log reporting
6 button keypad to program all rack functions on processor module
2 line by 8 character back lit LCD display on processor module
6 status LEDs on processor module
- Mux input A ok
- Mux input B ok
- Electronics power ok
- Processor self test ok
- Dimmer module error
- Active processor (dual processor systems)

Languages:

English, Spanish, French, German
Connector on rack front for configuration, control and Operating Software upgrades
Local switch for single rack PANIC function

Control Inputs

Dimmer control

Mux A: DMX512 or AMX192 or D54 or SMX
Mux B: DMX512 or SMX
Analog:32 inputs, +/-10V (96 dimmer processor and dual electronics processor)

Remote control (system wide)

SWC™ for remote preset panels and hand held programmer unit
Outlook™ for integrated architectural control
Reporter™ for remote configuration and status reporting from Strand 430/530 console or PC

Local control (per rack)

Rack processor keypad and LCD display for full functionality
Switch for rack PANIC control
RS232 port for local PC control
- Rack configuration using the Reporter PC program
- Rack preset recording and playback
- Library and backup rack set-up storage on PC
- Operating software upgrades

External switch contacts

Select main or backup processor (dual processor systems)
Select Mux A or Mux B (with appropriate control logic mode)
Enable or disable PANIC
SWC preset 1 GO
Next SWC preset GO

Control Outputs

96 or 48 dimmer control signals
12 analog +10V output signals (96 dimmer and dual electronics processors only)
Variable or continuous fan speed control to minimise acoustic noise

Electrical

Signal wire termination at one easily accessible point
Signal wire termination on two-part plug-in connectors
Loop-out connectors for daisy chaining signals between racks
Status LEDs
- 5V opto isolation power ok, Auxiliary power supply ok, PANIC active, Rack overheat

Presets

99 user programmable SWC presets, plus preset 0 (blackout)
Snapshot recording of SWC presets from any remote preset station, hand held programmer or Reporter Program
Individual SWC preset crossfade time recording
One user assignable SWC backup preset on loss of both Mux inputs
16 rooms (independent zones), each with 8 Outlook presets, plus on/off, per room

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Control Electronics - Performance

Fast dimmer update rate, 16 ms (60 Hz) or 20 ms (50 Hz)

Response time to signal changes, 16 ms (60 Hz) or 20 ms (50 Hz)

Line regulation maintains dimmer output levels to within +/- 1V of set output within the range of the control electronics (100V to 240V nominal), providing that the set level is not higher than the power input voltage less the dimmer voltage loss.

Automatically compensates for frequency variations 45 Hz to 62 Hz.

Up to 8 point interpolation between DMX values to smooth console fade.

Line and load regulation acts on each individual dimmer and maintains dimmer curve parameters (set curve, max level and min level)

Control Electronics - Programmable Features

Patching

User programmable patches for Mux A and B inputs

User programmable rack start address with following dimmers automatically sequenced

Free format patching - any dimmer to any Mux input and address for total flexibility

User programmable 5-digit ID for sequential numbering of systems larger than 512 circuits

Patch any analog 10V input to any circuit(s)

"Room" to channel to dimmer patch for Outlook
architectural control

Dimmer Characteristics

Set max output voltage, 50V to 250V in 1V steps

Set min output level, 0 to 99%

Override dimmer level, 0 to full

Library curves
- Square
- S-curve
- Linear power output

User programmable curves
- Non Dim - trigger level 0 to 99%
- Fluorescent - electronic ballast
- Fluorescent - magnetic ballast
- 5 user defined curves via Reporter

Response time
- Fast (30 ms)
- Normal (100 ms)
- Slow (300 ms)

Dimmer status reporting enabled or disabled (Reporter modules only)

Security Features

Dual Electronics

Redundant tracking backup using an optional second plug-in processor

Backup processor activated by remote switching

Set-up data can be transferred between main and backup processors in case of replacement of either processor

Set-up Data Storage

Non-volatile storage of set-up data on removable memory pcb

Memory pcb can be moved on exchange of processors

Set-up data can be saved and stored using the Reporter program

Mux Fail Options

Hold forever (status quo)

User programmable "hold" period before fade to user assigned SWC backup preset

PANIC Function

Any of the 96 or 48 dimmer and 12 analog outputs (96 dimmer processor) may be user selected to go fully ON on activation of the rack PANIC switch or an external switch

Activation is by hardware only

Optional PANIC power supply for automatic PANIC ON upon removal of processor module

Thermal Control

All power components convection cooled with fan assist

High capacity heat sink in each module

3 fans for redundancy in case of one fan failure

Over temperature warning on rack, remote console or PC

Over temperature warning forces cooling fans on at full

Over temperature shut down at 5 degrees C above warning level

PANIC operation forces cooling fans on at full

Opto-Isolation

All digital inputs are opto-isolated to 2,500V RMS
- Mux A and Mux B - DMX512, SMX
- SWC input
- Outlook input
- Reporter input
- External switch inputs

Reporter - Configuration

System, rack and dimmer configuration

Systemdefine or upload

Dimmer type / slot assignment

Mux and analog control input patching

Outlook room/channel/dimmer assignments

Dimmer ID configuration

User definable dimmer alphanumeric description

Max voltage and min level per dimmer

Dimmer response time

Dimmer curve

SWC preset recording

Outlook preset recording

Standard Reporting

Load per dimmer (W)

Memorised load per dimmer

Warning if load deviates from memorised value

No load

Dimmer fault

No response from dimmer

No control of dimmer

Excess DC voltage output

Overheat per dimmer

Overload current per dimmer

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Ordering Information

CD80 Supervisor Racks and Processor Modules

Cat No.	Description
743XX	CD80 SV, 48 Module Rack
743XX	CD80 SV, 24 Module Rack
74384	Processor Module, (48 Module)

Peripherals and accessories

Cat No.	Description
76102	System Wide Control Hand Held Programmer with 6 Ft. cable and A6M connector
62520	SWC Receptacle Station - 1 gang
62951	SWC 8 Pushbutton Station - 1 gang
62952	SWC 16 Pushbutton Station - 2 gang
63030	SWC Display Station - 4 gang
77001	Reporter PC Software Kit
76104	Personal Desktop Computer W/Operating System

Weights and dimensions

	width	depth	height	weight (full)	weight (empty)
48 module rack	24.5” (622mm)	19.5” (495mm)	80.0” (2,032mm)	1185 lbs (538kg)	400 lbs (180ig)
24 module rack	24.5” (622mm)	19.5” (495mm)	57.0” (1,488mm)	700 lbs (318kg)	300 lbs (136kg)

Reporter Function

The Reporter program is available to run on the Strand 500 series controls systems. It will also run on an IBM compatible desktop or laptop PC.

Function	Minimum Specification
Processor	Intel Pentium™ Processor
Memory	64MB RAM
Monitor	SVGA 800 x 600 Color
Operating System	Windows™ 98 or later

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