L86

installation rack

USER MANUAL

The L86 Installation Rack is a modular dimming system that consists of electronics and dimmer modules in a fan-cooled, steel housing. A rack consists of one or more bays, which, in turn, consist of either one or two chassis. Each chassis consists of three columns of modules. The top two slots in each column are for electronics modules. The slots below the electronics modules contain dimmer modules.

Note: The top right slot is used only to store spare modules; control signal is not routed through it.

Electronics modules

Depending on the configuration of your system, each chassis contains some of the module types described below. Refer to your System Manual for more specific configuration information.

EMRF Typically installed in top center slot, the EMRF receives DMX512 and sends it to the EM64s without processing. It is used in systems where all dimmers are the same type and are sequentially numbered, and when there is only one source of DMX512 signal.

EMR An alternative to an EMRF, the EMR is also installed in top center slot. It receives either one or two DMX512 signals. It also maps input data to specified modules. EMRs are used in the following situations:

- Multiple size dimmers in the chassis
- First dimmer in the chassis is not a multiple of 48
- Merging two DMX512 signals
- Chassis contains 12kW dimmers
- Dimmers in the rack are not numbered sequentially

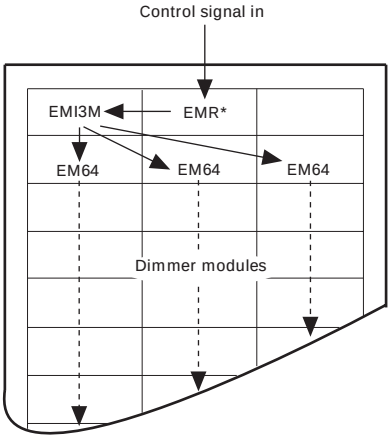
EMAR The EMAR is functionally equivalent to the EMR, but can also be configured to accept D192 control signal on either input or to accept AMX192 control signal on the first input.

EMI3M The EMI3M is installed in the top left slot. It provides optical isolation between the EM64s and between EM64s and the electronics control modules. Optical isolation helps prevent damage to control electronics that can be caused by high voltage potential in the event of a dimmer failure. If it is not needed, an EMRF is installed in its place.

EM64 Receives DMX512 control signal from the EMRF, EMR or EMAR and splits the low voltage serial control data into single low voltage signals for individual dimmer modules. An EM64 must be installed in the second slot from the top in each column of dimmer modules.

EM64T A thumbwheel switch on the EM64T makes it easier to enter starting addresses by eliminating the need to set internal jumpers. Because of the flexibility they provide, EM64Ts are normally used on L86 Touring Racks, whereas EM64s are normally used on L86 Installation Racks.

The arrows in the diagram below illustrate the flow of control signal in a typically configured L86 Installation Rack.



*Electronics module in this location may be an EMR, EMAR or EMRF.

Electronic Theatre Controls, Inc.
3030 Laura Lane, Middleton, WI 53562
608/831-4116 FAX 608/836-1736

Architectural electronics modules

In a system that incorporates architectural lighting, the EMAP is the component of the dimming system that processes level-setting data from architectural lighting control stations. The EMAP is mounted either in an ARR (Architectural Receiver Rack-mount) unit or in an ARW (Architectural Receiver Wall-mount).

On smaller systems, DMX512 data from the control console is routed to the EMAP, the dimmer levels for the architectural lights are added, and then data is sent to the dimmer chassis.

On larger systems, the DMX512 data from the control console is routed directly to the dimmer chassis and merged with the DMX512 data from the EMAP by an EMR or an EMAR.

Removing electronics modules (except EMAPs)

In certain situations, you may need to remove electronics modules. You do not need to disconnect power to the rack prior to removing modules.

To remove a module, unscrew the brass retaining screw in the center of the module face panel until you are able to slide out the module. To reinsert the module, press gently and steadily on the face panel of the module while you tighten the retaining screw. Tighten the screw with a screwdriver, but be careful not to strip the threads on the screw!

Dimmer modules

Each chassis consists of three columns. Each column contains two electronics modules and either 16 standard-height dimmer modules (eight on a C24 chassis), or eight double-height modules (four on a C24 chassis). Each column in a chassis corresponds to a phase…the left column corresponds to phase A, the middle to phase B and the right to phase C.

Removing dimmer modules

In certain situations, you may need to remove a dimmer module(s). Before removing dimmer modules, be sure to turn off the circuit breakers on the module face panel. To remove the dimmer module, place your left and right index fingers in the two holes in the metal ridge that extends from the face panel. Press together to release the latch mechanism. Then slide the dimmer module out. (You may have to press in gently first.) To replace the module, insert the dimmer firmly until you feel it seat and latch in the connector block. Be sure to turn off the circuit breakers on the front of the module before replacing it.

Cooling fans

Each column of dimmer modules is individually cooled by a squirrel-cage fan located at the bottom of the column. All fans in a column run when any of the EM64s in the chassis are receiving non-zero DMX512 data. They continue to run for two minutes after the DMX512 data is interrupted or reverts to zero levels.

Each fan is protected by a two amp, panel-mount fuse (type ABC-2) located behind the fan. Always disconnect power to the rack before you change a fuse.

Each fan set has its own intake which is covered with a filter. All fan filters should be replaced or cleaned once a year. (Clean filters in clean water.) To remove fan filters remove the four screws that secure the fan bezel, then gently remove the filter. To order replacement filter elements, call ETC at 608/831-4116.