RE82
RACK MOUNT DIMMER
8 X 2400 Watts

OWNER'S MANUAL

Revision 2.5
02/17/2022

www.lightronics.com
Lightronics Inc 509 Central Drive, Virginia Beach, VA 23454 TEL 757 486 3588

DESCRIPTION

The RE82 is an 8 channel dimmer with a maximum capacity of 2,400 watts per channel giving a total of 19,200 watts. The RE82 is controlled by a lighting console. The unit can be supplied to use either the DMX-512 control protocol or the LMX-128 control protocol. Channels A - D and/or channels E - H may be switched to operate in "relay" mode. In relay mode, channels are either full on or full off (non-dim) depending on console fader position. The unit is overcurrent and overtemperature protected. A fan is used to ensure proper cooling. The dimming channel starting address may be reassigned in multiples of 4 channels via switches in the front panel.

POWER REQUIREMENTS

Each RE82 requires BOTH PHASES of a SINGLE PHASE 50/60 Hz, 120/240 VOLT AC service or TWO PHASES of a THREE PHASE 50/60 Hz, 120/208 VOLT AC service. The neutral conductor is shared by two hots, so it is important the two hots used are of different phases. EACH PHASE must be capable of providing 80 AMPS. One or more RE82 dimmers are to be installed into a standard 19" equipment rack with provisions for connection to an appropriate electrical service in accordance with the National Electrical Code.

LIGHTING LOAD CAPACITY

Each RE82 channel has a 2400 Watt MAXIMUM rating and is protected by a fast acting 20 Amp circuit breaker. 20 Amps equates to 2400 Watts at 120VAC. If you operate a channel at 2400 watts then you are very close to tripping the breaker. This will occur if AC line voltages are high or you have power surges. Other conditions which may cause the breaker to trip include turning on a cold lamp, or raising the fader quickly to full intensity. A maximum practical load of 2000 Watts per channel will allow for some overhead and help prevent breaker tripping.

INSTALLATION

PLACEMENT

The RE82 is designed to be mounted in a standard 19" equipment rack using four mounting holes in the face plate. If the dimming system will be used for touring shows, it is recommended you provide additional support for the rear of the unit. The dimmer is fan cooled and requires no space between units when multiple dimmers are used together in a rack. Air enters the dimmer through slots on the side and exits through holes in the bottom of the face plate. Make certain these ventilation holes are not obstructed. Do not place the RE82 where it will be exposed to moisture or excessive heat.

POWER CONNECTIONS

WARNING

MAKE CERTAIN POWER IS REMOVED FROM THE FEED CIRCUITS BEFORE YOU BEGIN INSTALLATION.

Power enters the RE82 through the rear of the unit via a knockout sized for 1" conduit. Inside the RE82 is a terminal block with three lugs. The "H1" and "H2" terminals are the line connections or "hots". The center connection labeled "N" is the neutral. There is an additional ground lug labeled "G" located near the terminal block. This lug is for connecting the chassis to earth ground.

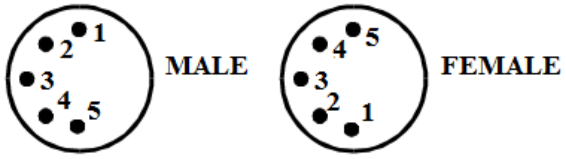
Consult your local electrical codes to determine the proper wire type and wiring methods for your installation. Connect a ground wire to the ground lug "G" first. Next connect the neutral to the center lug "N" on the terminal block, then connect one hot to the lug of the terminal block marked "H1" and the other hot to the "H2" lug of the terminal block .

CONTROL SIGNALS

The RE82 is supplied to use one of two types of control signal. Either DMX-512 control or LMX-128 control is supplied when ordered. The front panel is marked to show which protocol can be used.

DMX CONTROL

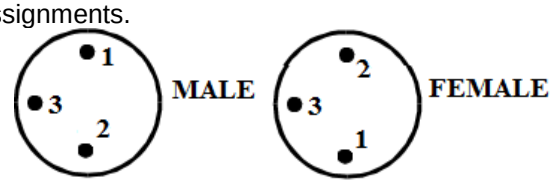
The DMX-512 control signal enters the RE82 through a **5 pin male XLR** connector on the rear of the unit. The **5 pin female XLR** connector is used to continue DMX out to other equipment in the system. Normally the male connector is used for the DMX input and the female connector is used as a DMX output. These connectors are wired in parallel so either connector may be used as input or output. The table below shows the control signal connector pin assignments.



Connector Pin #	Signal Name
1	DMX Common
2	DMX Data -
3	DMX Data +
4	Not Used
5	Not Used

LMX CONTROL

The LMX-128 control signal enters the RE82 through a **3 pin male XLR** connector on the rear of the unit. The **3 pin female XLR** is used to continue this control signal out to other dimmers in the system. Normally the male connector is used for the incoming control signal and the female connector is used to loop out to other dimmers. These connectors are wired in parallel so either connector may be used as input or output. The table below shows the control signal connector pin assignments.



Connector Pin #	Signal Name
1	LMX Common
2	Console Power (+15VDC)
3	LMX Signal

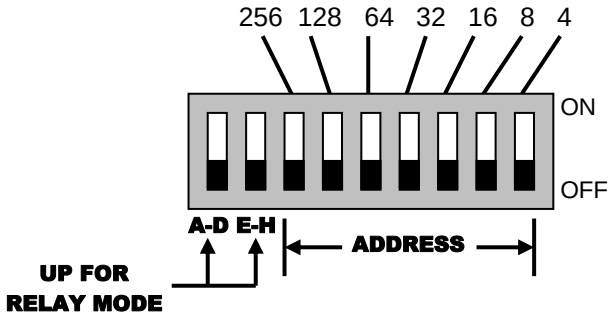
OUTPUT CHANNEL CONNECTIONS

The RE82 is supplied with one of several rear panel output options. Channel output connections are according to the the rear panel selected. Channel connections generally proceed from left to right (if you are facing the rear of the unit). Channel "A" will be on the left end. Connections for load Neutrals are provided. There is also a ground lug terminal to be used for your load circuits grounds. See page 6 for rear panel examples.

OPERATION

CHANNEL ASSIGNMENT

The starting channel of each RE82 is selected using the DIP switches on the front panel. The diagram below indicates the actual value of each DIP switch position. A chart at the end of this manual "CHANNEL ASSIGNMENT SWITCH SETTINGS" provides further information for setting the starting address DIP switches.



Any switch in the up position ADDS the associated value to the starting channel number. All switches down = starting channel number 1.

For example: to set the starting channel to 13, move the second switch from the right (value 8) and the first switch from the right (value 4) to the up position. For a starting channel of 21, move the third switch from the right (value 16) and the rightmost switch (value 4) to the up position.

MANUAL CONTROL

Dimmer channels can be activated manually by pressing corresponding button switches located on the front panel. This will latch the associated channel to full on. Push the button again to turn the channel off. The associated LED will light when the channel is activated.

NORMAL OPERATION

LEDs located on the front panel of the RE82 indicate channel levels as you operate faders on your console. The "VALID SIGNAL" LED will light whenever the dimmer is receiving a control signal within the range of channels the dimmer is assigned to. The "Phase A" and "Phase B" LEDs will indicate t power sources are applied to the dimmer. The fan will run continuously whenever power is applied to the RE82. An over-temperature sensor will shut down all channel output if the dimmer temperature rises above safe limits (≈175°F exit air temperature). This can also be indicated by a flashing "Valid Signal" indicator.

RELAY MODE

The two leftmost switches control the "relay" mode. When either switch is in the up position, the channels associated with that switch operate in non-dim mode. These channels will be either full on or full off depending on the level of the faders controlling them.

MAINTENANCE AND REPAIR

FRONT PANEL BREAKERS AND FUSES

The RE82 has two fuses. The left fuse is 1 Amp. The right fuse is 1/4 Amp. Both are 250V, 1.25 x .25 inch, fast acting fuses. These fuses provide protection for the internal electronic control circuitry and the fan. They may be replaced ONLY by fuses of identical type and size.

Each channel of the RE82 is protected by a 20 Amp, fast acting, magnetic circuit breaker located on the front panel of the unit. If the total load for a channel is greater than 2400 Watts the channel circuit breaker will trip.

TROUBLESHOOTING

VERIFY ALL POWER IS REMOVED FROM THE DIMMER BEFORE HANDLING THE UNIT.

- Verify the unit channel addresses are correctly set.
- Check the console is powered and the console channels are correctly patched or set.
- Check the control cable between the dimmer and console.
- Verify the loads and their connections.

OWNER MAINTENANCE

There are no user serviceable parts inside the unit.

The best way to prolong the life of your unit is to keep it cool, clean, and dry. It is important that the cooling intake and exit vent holes are clean and unobstructed.

Service by other than Lightronics authorized agents may void your warranty.

OPERATING AND MAINTENANCE ASSISTANCE

If service is required, contact the dealer from whom you purchased the equipment or contact Lightronics, Service Department, 509 Central Drive, Virginia Beach, VA 23454 TEL 757 486 3588. All items returned for service must include a description of the problem along with your name, address and phone number.

Lightronics recommends you record the serial number of your unit for future reference.

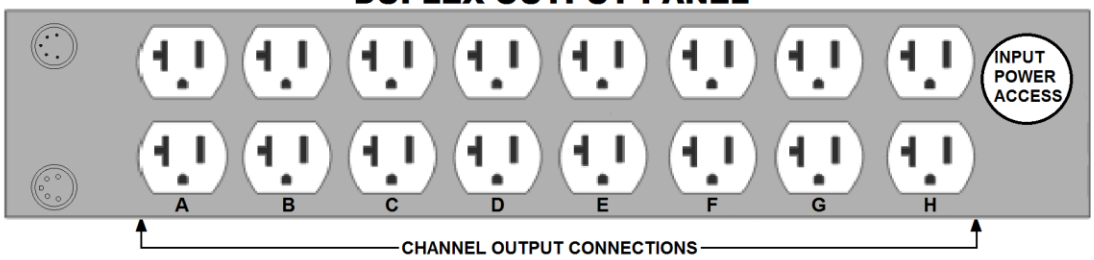
SERIAL NUMBER _____

WARRANTY INFORMATION AND REGISTRATION – CLICK LINK BELOW

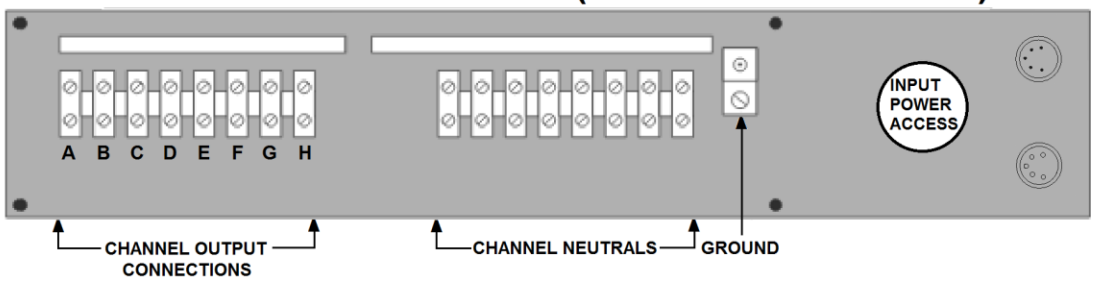
www.lightronics.com/warranty.html

REAR PANEL EXAMPLES

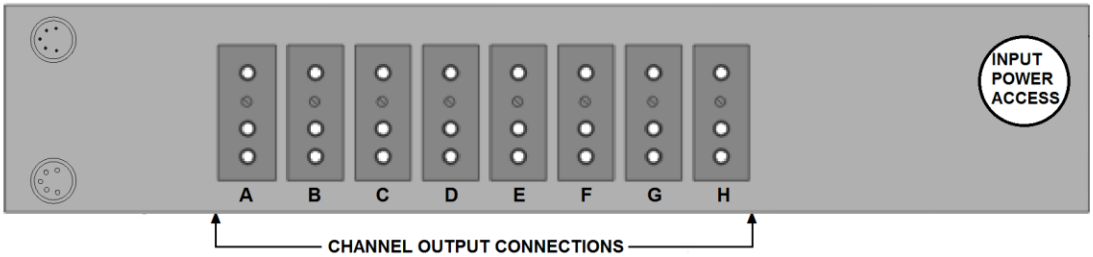
DUPLEX OUTPUT PANEL



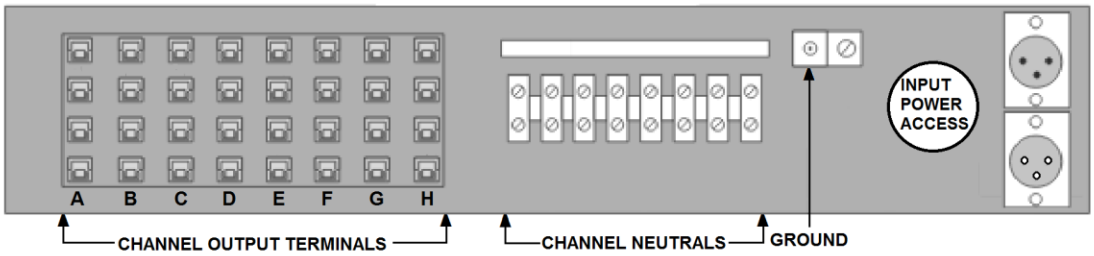
EXTERNAL TERMINAL STRIP (includes knockout cover)



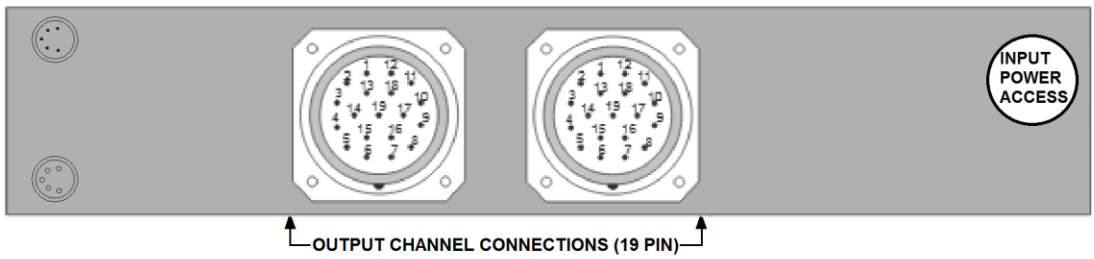
STAGE PIN PANEL



PATCH BAY PANEL



SOCAPEX PANEL



CHANNEL ASSIGNMENT SWITCH SETTINGS

The DIP Switch Setting column shows the positions of the DIP switches on the dimmer. The Start Channel column shows the resulting channel assignment for the first channel of the dimmer All Lightronics products using DIP switches for address assignments conform to this table. Some dimmers cannot be set to all 512 channels and will have fewer switches than are shown in the table. If this is the case then match the right end switches in the table to your dimmer switches.

NOTE: Some control consoles can be programmed or "patched" to alter their channel order. You may get unexpected results if you are not aware of the console patch condition when you assign channels at a dimmer.

EXAMPLE: If a dimmer's DIP switches are set to ⇩⇧⇩⇧⇩⇧⇧ then the first channel of the dimmer will respond to console channel 173. The remaining dimmer channels will respond to console channels 174, 175, 176 …etc.

DIP Switch Setting	Start Channel	DIP Switch Setting	Start Channel	DIP Switch Setting	Start Channel	DIP Switch Setting	Start Channel
⇩⇩⇩⇩⇩⇩⇩	1	⇩⇧⇩⇩⇩⇩⇩	129	⇧⇩⇩⇩⇩⇩⇩	257	⇧⇧⇩⇩⇩⇩⇩	385
⇩⇩⇩⇩⇩⇩⇧	5	⇩⇧⇩⇩⇩⇩⇧	133	⇧⇩⇩⇩⇩⇩⇧	261	⇧⇧⇩⇩⇩⇩⇧	389
⇩⇩⇩⇩⇩⇧⇩	9	⇩⇧⇩⇩⇩⇧⇩	137	⇧⇩⇩⇩⇩⇧⇩	265	⇧⇧⇩⇩⇩⇧⇩	393
⇩⇩⇩⇩⇩⇧⇧	13	⇩⇧⇩⇩⇩⇧⇧	141	⇧⇩⇩⇩⇩⇧⇧	269	⇧⇧⇩⇩⇩⇧⇧	397
⇩⇩⇩⇩⇧⇩⇩	17	⇩⇧⇩⇩⇧⇩⇩	145	⇧⇩⇩⇩⇧⇩⇩	273	⇧⇧⇩⇩⇧⇩⇩	401
⇩⇩⇩⇩⇧⇩⇧	21	⇩⇧⇩⇩⇧⇩⇧	149	⇧⇩⇩⇩⇧⇩⇧	277	⇧⇧⇩⇩⇧⇩⇧	405
⇩⇩⇩⇩⇧⇧⇩	25	⇩⇧⇩⇩⇧⇧⇩	153	⇧⇩⇩⇩⇧⇧⇩	281	⇧⇧⇩⇩⇧⇧⇩	409
⇩⇩⇩⇩⇧⇧⇧	29	⇩⇧⇩⇩⇧⇧⇧	157	⇧⇩⇩⇩⇧⇧⇧	285	⇧⇧⇩⇩⇧⇧⇧	413
⇩⇩⇩⇧⇩⇩⇩	33	⇩⇧⇩⇧⇩⇩⇩	161	⇧⇩⇩⇧⇩⇩⇩	289	⇧⇧⇩⇧⇩⇩⇩	417
⇩⇩⇩⇧⇩⇩⇧	37	⇩⇧⇩⇧⇩⇩⇧	165	⇧⇩⇩⇧⇩⇩⇧	293	⇧⇧⇩⇧⇩⇩⇧	421
⇩⇩⇩⇧⇩⇧⇩	41	⇩⇧⇩⇧⇩⇧⇩	169	⇧⇩⇩⇧⇩⇧⇩	297	⇧⇧⇩⇧⇩⇧⇩	425
⇩⇩⇩⇧⇩⇧⇧	45	⇩⇧⇩⇧⇩⇧⇧	173	⇧⇩⇩⇧⇩⇧⇧	301	⇧⇧⇩⇧⇩⇧⇧	429
⇩⇩⇩⇧⇧⇩⇩	49	⇩⇧⇩⇧⇧⇩⇩	177	⇧⇩⇩⇧⇧⇩⇩	305	⇧⇧⇩⇧⇧⇩⇩	433
⇩⇩⇩⇧⇧⇩⇧	53	⇩⇧⇩⇧⇧⇩⇧	181	⇧⇩⇩⇧⇧⇩⇧	309	⇧⇧⇩⇧⇧⇩⇧	437
⇩⇩⇩⇧⇧⇧⇩	57	⇩⇧⇩⇧⇧⇧⇩	185	⇧⇩⇩⇧⇧⇧⇩	313	⇧⇧⇩⇧⇧⇧⇩	441
⇩⇩⇩⇧⇧⇧⇧	61	⇩⇧⇩⇧⇧⇧⇧	189	⇧⇩⇩⇧⇧⇧⇧	317	⇧⇧⇩⇧⇧⇧⇧	445
⇩⇩⇧⇩⇩⇩⇩	65	⇩⇧⇧⇩⇩⇩⇩	193	⇧⇩⇧⇩⇩⇩⇩	321	⇧⇧⇧⇩⇩⇩⇩	449
⇩⇩⇧⇩⇩⇩⇧	69	⇩⇧⇧⇩⇩⇩⇧	197	⇧⇩⇧⇩⇩⇩⇧	325	⇧⇧⇧⇩⇩⇩⇧	453
⇩⇩⇧⇩⇩⇧⇩	73	⇩⇧⇧⇩⇩⇧⇩	201	⇧⇩⇧⇩⇩⇧⇩	329	⇧⇧⇧⇩⇩⇧⇩	457
⇩⇩⇧⇩⇩⇧⇧	77	⇩⇧⇧⇩⇩⇧⇧	205	⇧⇩⇧⇩⇩⇧⇧	333	⇧⇧⇧⇩⇩⇧⇧	461
⇩⇩⇧⇩⇧⇩⇩	81	⇩⇧⇧⇩⇧⇩⇩	209	⇧⇩⇧⇩⇧⇩⇩	337	⇧⇧⇧⇩⇧⇩⇩	465
⇩⇩⇧⇩⇧⇩⇧	85	⇩⇧⇧⇩⇧⇩⇧	213	⇧⇩⇧⇩⇧⇩⇧	341	⇧⇧⇧⇩⇧⇩⇧	469
⇩⇩⇧⇩⇧⇧⇩	89	⇩⇧⇧⇩⇧⇧⇩	217	⇧⇩⇧⇩⇧⇧⇩	345	⇧⇧⇧⇩⇧⇧⇩	473
⇩⇩⇧⇩⇧⇧⇧	93	⇩⇧⇧⇩⇧⇧⇧	221	⇧⇩⇧⇩⇧⇧⇧	349	⇧⇧⇧⇩⇧⇧⇧	477
⇩⇩⇧⇧⇩⇩⇩	97	⇩⇧⇧⇧⇩⇩⇩	225	⇧⇩⇧⇧⇩⇩⇩	353	⇧⇧⇧⇧⇩⇩⇩	481
⇩⇩⇧⇧⇩⇩⇧	101	⇩⇧⇧⇧⇩⇩⇧	229	⇧⇩⇧⇧⇩⇩⇧	357	⇧⇧⇧⇧⇩⇩⇧	485
⇩⇩⇧⇧⇩⇧⇩	105	⇩⇧⇧⇧⇩⇧⇩	233	⇧⇩⇧⇧⇩⇧⇩	361	⇧⇧⇧⇧⇩⇧⇩	489
⇩⇩⇧⇧⇩⇧⇧	109	⇩⇧⇧⇧⇩⇧⇧	237	⇧⇩⇧⇧⇩⇧⇧	365	⇧⇧⇧⇧⇩⇧⇧	493
⇩⇩⇧⇧⇧⇩⇩	113	⇩⇧⇧⇧⇧⇩⇩	241	⇧⇩⇧⇧⇧⇩⇩	369	⇧⇧⇧⇧⇧⇩⇩	497
⇩⇩⇧⇧⇧⇩⇧	117	⇩⇧⇧⇧⇧⇩⇧	245	⇧⇩⇧⇧⇧⇩⇧	373	⇧⇧⇧⇧⇧⇩⇧	501
⇩⇩⇧⇧⇧⇧⇩	121	⇩⇧⇧⇧⇧⇧⇩	249	⇧⇩⇧⇧⇧⇧⇩	377	⇧⇧⇧⇧⇧⇧⇩	505
⇩⇩⇧⇧⇧⇧⇧	125	⇩⇧⇧⇧⇧⇧⇧	253	⇧⇩⇧⇧⇧⇧⇧	381	⇧⇧⇧⇧⇧⇧⇧	509