

THE NETWORK EFFECTS CONTROLLER (NEC)

USER GUIDE: PART 1 – AN OVERVIEW



**Presented by
Minleon
International**

**Your provider of cutting edge LED
lighting products**

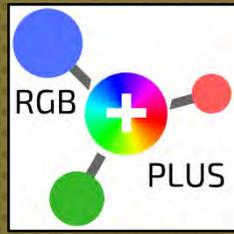


Videos on Facebook: [Minleon USA](#)

Updated June 2018



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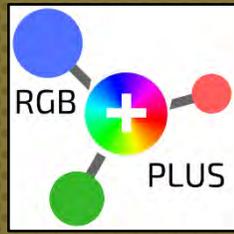


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Pebble Light grid displays "Expanding Circles" effect in the NEC.



THE NETWORK EFFECTS CONTROLLER SPECIFICATIONS



NEC – back view

Item #	RGB-NEC
# Individually Controllable RGB's	8000*
Output	Ethernet Network, DMX, ArtNet
Built-In Software	Yes
Protocol	Art-Net, DDP, DMX
Supply Voltage	7.5-12 VDC (included)
Max Current	5 Amps
Working Temperature	5 to 50 deg. C / 40 to 122 deg. F
IP Rating	IP 24, under cover
UL / cUL Listed	Yes
FCC Certified	Yes
Power Adapter	100 – 240VAC input 7.5-12VDC 1 amp output
Dimensions	3 1/2" L x 6 1/8" W x 1 1/2" H

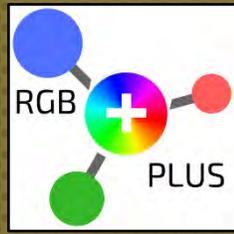


*at 4" pixel spacing

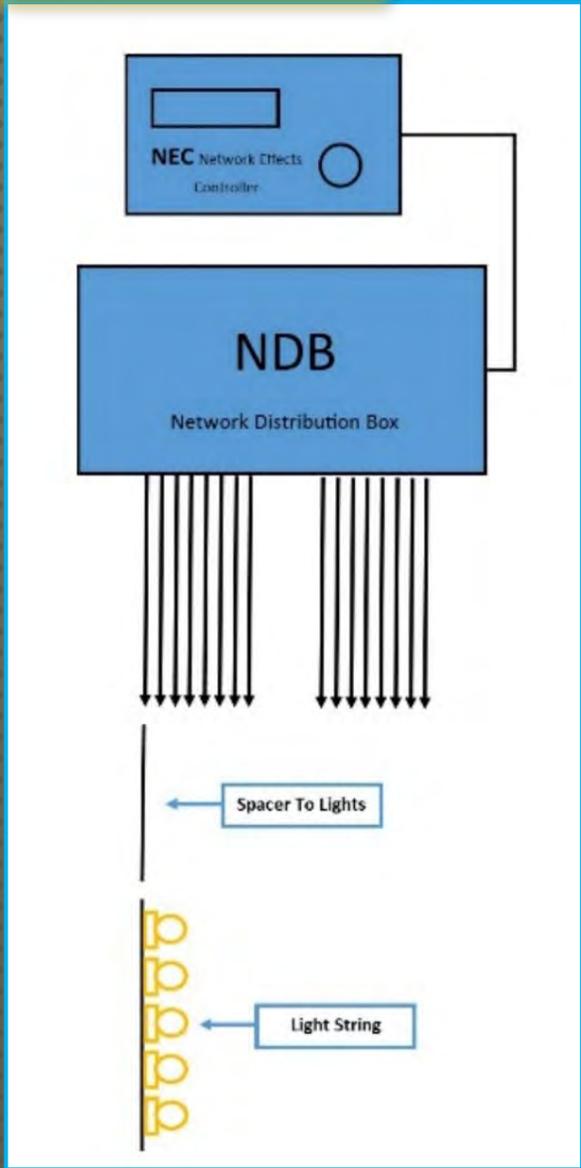
Specs are as of June 2018, and are subject to change.



THE NETWORK EFFECTS CONTROLLER SPECIFICATIONS, CONT.



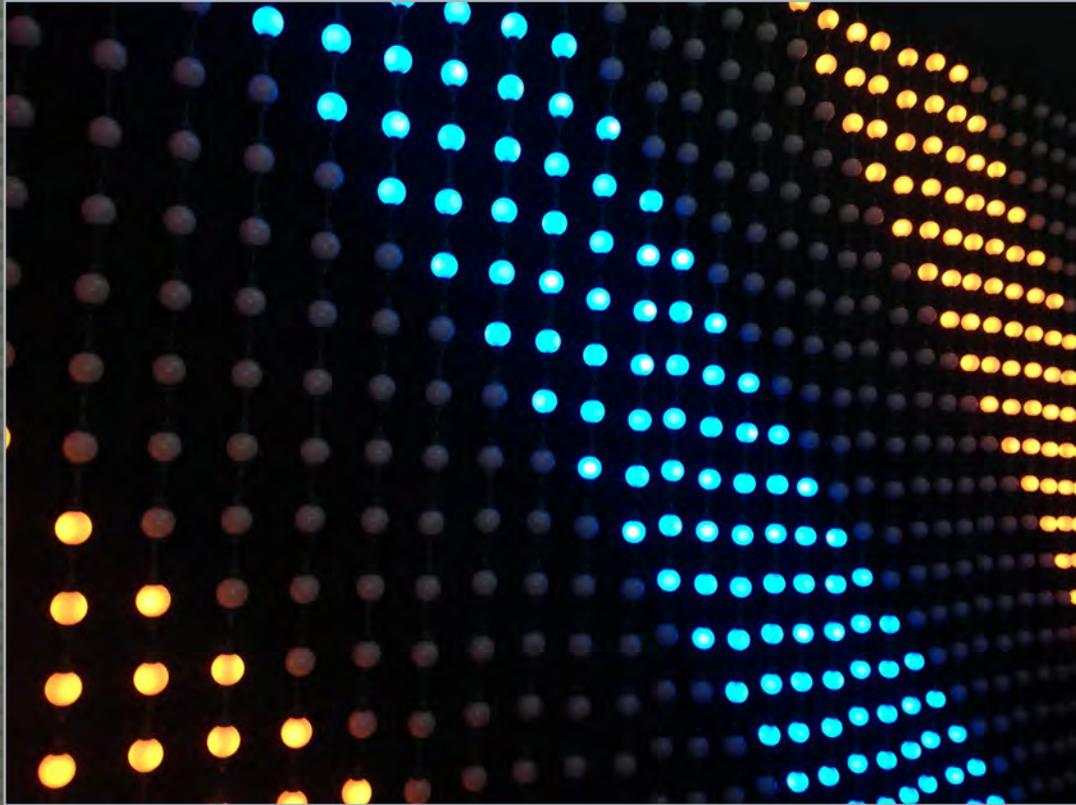
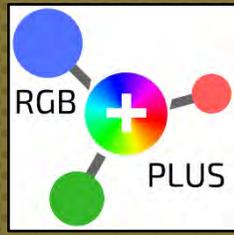
A basic diagram of how the NEC fits into the system



Light Outputs	None – runs via NDB
NDB Limit	up to 16 per NEC
Audio Player	Yes - .WAV support
SD/HC card slot / File Player	Yes – .BIN (sequence) & .WAV files support
Max SD Card File Size	4gb per file
Link Multiple Controllers	Yes - Master-Client, wirelessly
# Built-In Effects	23
Color Selection	Pallets (saturated/pastel/whites); individual colors on certain effects
Light Show Mode	Yes
# Favorites / Quick Reference	3
Speed Control	100 levels
Brightness/Intensity Control	100 levels
Minleon Compatible Accessories	NDB's, Smart T's, Data Boosters, Power Blockers



THE NETWORK EFFECTS CONTROLLER FEATURES



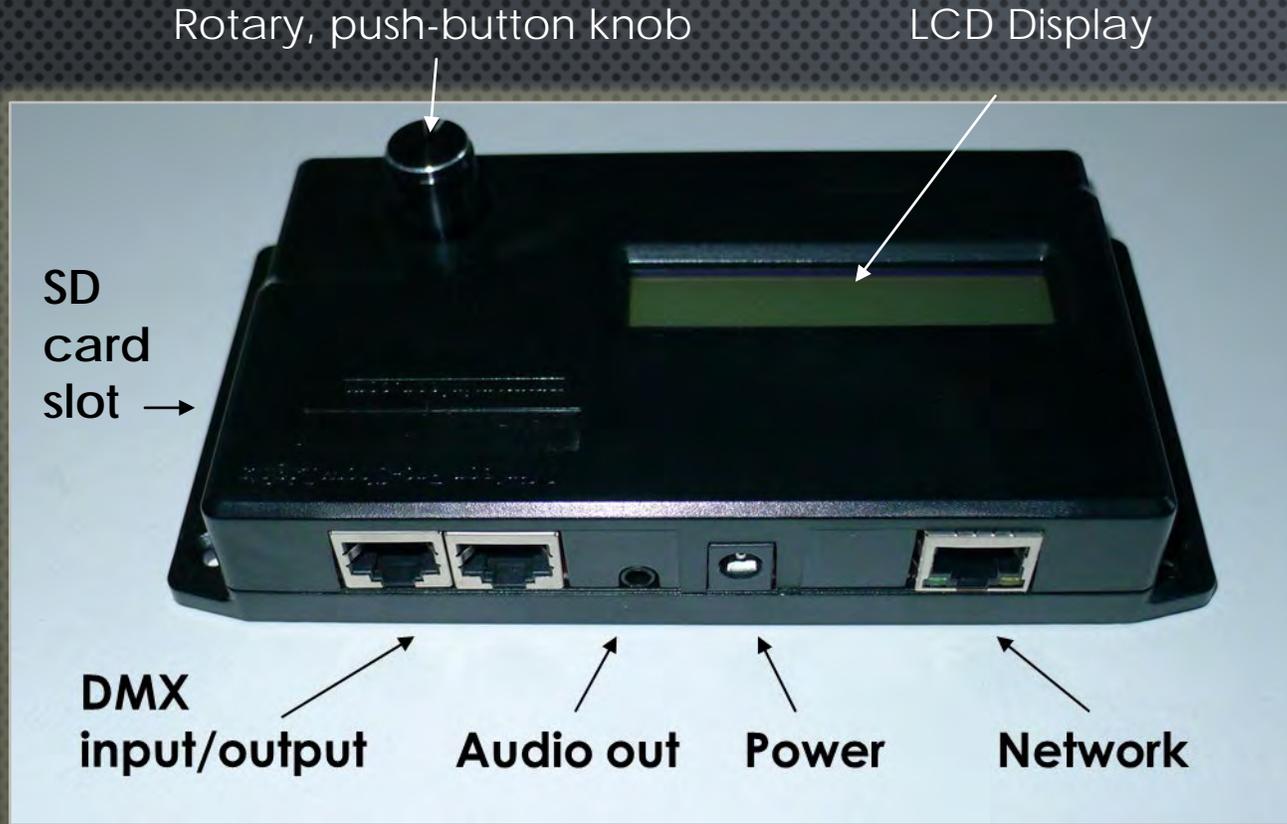
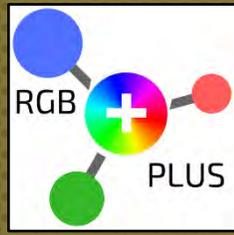
TrikiLit Grid displaying built-in, NEC "Cane" effect

- **23 BUILT-IN EFFECTS:** RUN & TAILOR FULLY SEQUENCED RGB LIGHT SHOWS
- TRIGGER EFFECTS LIVE VIA DMX (THOUGH IT WILL NOT RUN DMX)
- SENDS DATA TO LIGHTS VIA MINLEON NETWORK DATA BOXES (NDB'S)
- SCALABLE & FLEXIBLE
 - CAN ADDRESS 8000 RGB'S*
 - 16 NDB'S VIA NETWORK SWITCH
 - LINK MULTIPLE NEC'S VIA SLAVE MODE
- **CUSTOM EFFECTS:** RUN *X-LIGHTS* & *LIGHTSHOW PRO SEQUENCES* VIA *SD CARD*

* TESTED WITH LIGHTS AT 4-INCH SPACING. LARGER PITCHES MAY CONTROL FEWER LIGHTS.



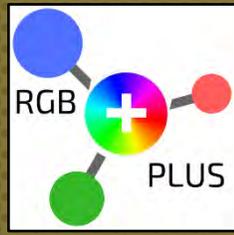
THE NETWORK EFFECTS CONTROLLER FEATURES



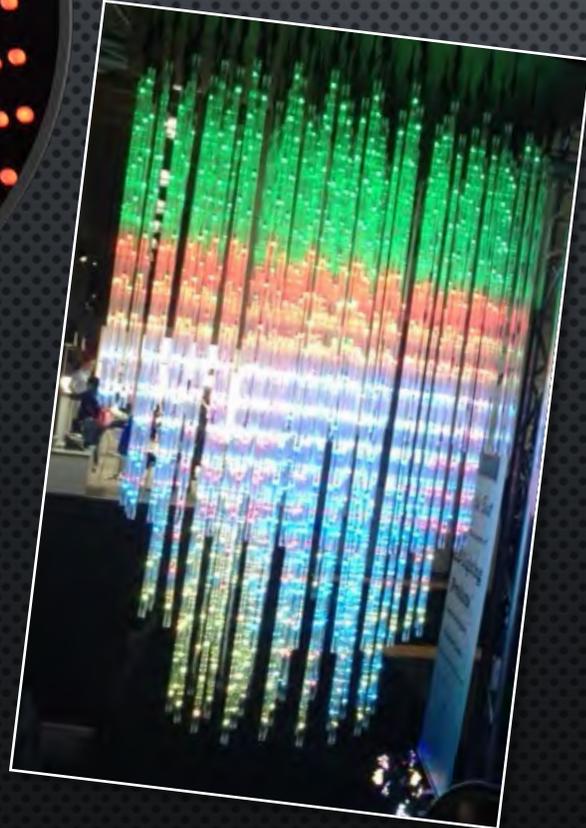
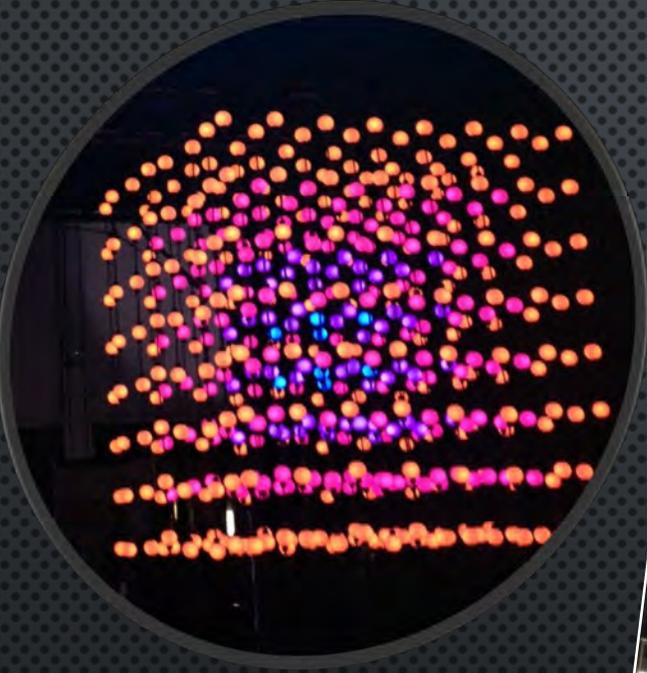
- LCD DISPLAY AND ROTARY PUSH-BUTTON KNOB FOR USER INTERFACE
- ONBOARD AUDIO WAV FILE PLAYER WITH OUTPUT JACK
- 2 OPTICALLY-ISOLATED INPUTS (ON RJ45 JACKS) FOR TRIGGERING EFFECTS LIVE VIA DMX BOARD SLIDERS
- TIME OF DAY CLOCK TO TURN ON/OFF AUTOMATICALLY



THE NETWORK EFFECTS CONTROLLER USES



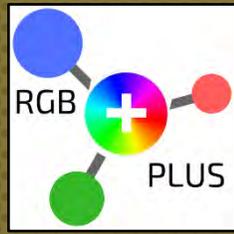
- HIGH-CHANNEL COUNT, NON-LINEAR LIGHT DESIGNS SUCH AS GRIDS, TOWER TREES, LIGHT TUNNELS & CHANDELIERS
- SYNCHRONIZING A LIGHT SHOW TO MUSIC (VIA X-LIGHTS & LSP)
- INCORPORATE DMX ELEMENTS & LIVE CONTROL



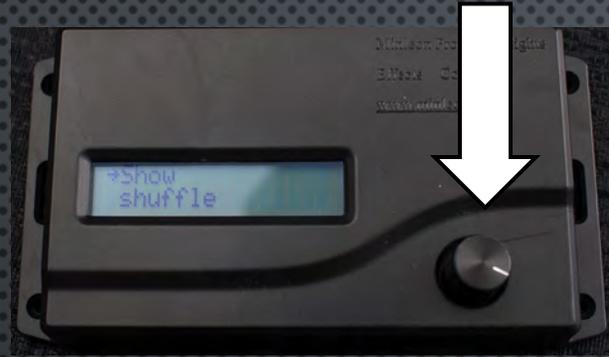
Frosted RGB tubes displaying "Qix" effect



THE NETWORK EFFECTS CONTROLLER MENU SELECTION



Rotate the selector knob clockwise or counter-clockwise to scroll through different display screens.

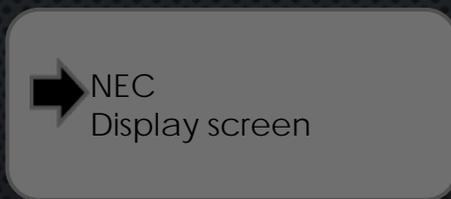


Press the selector knob down to select the current screen or advance to the next menu.

THE FACE OF THE NEC FEATURES A ROTATING KNOB & 2-LINE TEXT DISPLAY SCREEN.

THE ARROW ON THE LCD DISPLAY POINTS TO YOUR CURRENT POSITION.

- PRESS AND RELEASE KNOB TO MOVE TO THE DESIRED LINE
- ONCE AT DESIRED LINE, ROTATE KNOB TO SELECT DESIRED MENU OPTIONS

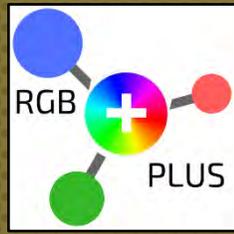


2-line text display screen

Alternatively: Minleon's **Show Controller** gives users wireless access to the Effects & File Player Menus. Please see the *Show Controller User Guide* tutorial for details.



THE NETWORK EFFECTS CONTROLLER THE MODES



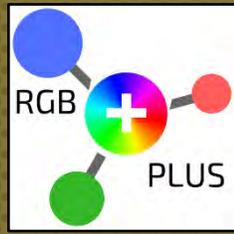
THE NEC CAN BE SET TO OPERATE IN THE FOLLOWING MODES:

1. **EFFECTS PLAYER**: GENERATES 23 BUILT-IN LIGHTING EFFECTS AND PLAYS THEM
 - EDIT VARIATIONS SUCH AS COLOR PALETTE, SPEED, TRAILS, ETC. WITHIN EACH EFFECT
 - CONTROL INTENSITY, TIME, SET TO MEMORY, SET TO DEFAULT
2. **LIGHT SHOW**: GENERATES LIGHT SHOW BASED ON "TIME IN SHOW" SETTINGS IN THE EFFECTS MENU
3. **FILE PLAYER**: PLAYS PREPROGRAMMED LIGHTING FILES FROM SD CARD
 - WILL PLAY .WAV FILES SIMULTANEOUSLY

NOTE: THESE MODES DO NOT REQUIRE AN ART-NET CONSOLE TO OPERATE.



THE NETWORK EFFECTS CONTROLLER AN OVERVIEW

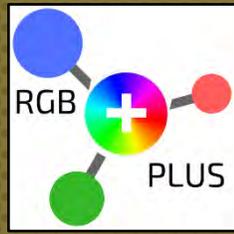


This custom-designed chandelier from 3 Way Labs, plays sequencing software via SD card in NEC 'File Player' mode.

6. ART-NET TO DMX GATEWAY: RECEIVES ART-NET PACKETS AND SENDS THEM OUT DMX PORT
7. DMX TO ARTNET GATEWAY: RECEIVES DMX PACKETS AND SENDS THEM OUT AS ARTNET PACKETS
8. UTILITY MODE
 - AUTO-CONFIGURE NDBS
 - PLAY A WAV FILE FROM SD CARD
 - RESET NEC TO FACTORY SETTINGS



THE NETWORK EFFECTS CONTROLLER FILE NAMES & TYPES



To date, custom sequence files from X-Lights & LightShow Pro can be exported to a .BIN file, and copied to an SD Card for playback on the NEC. Audio files in .WAV format can be triggered to synch with your sequence file.

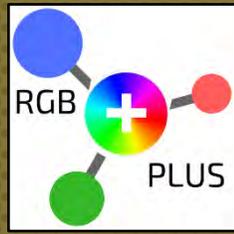
NEC SD Memory Card

1.Bin
1.Wav
13-snow.bin
20-2014.bin

- **FILE NAMES** MUST BE IN THE 8.3 CHARACTER LENGTH FORMAT
 - FILE NAMES MUST START WITH A NUMBER FROM 0-49
- THE **FILE NUMBER** DEFINES THE ORDER IN WHICH IT GETS PLAYED—FILE NUMBERS CAN BE SKIPPED
- AFTER THE FILE NUMBER YOU NEED A NON-NUMERIC CHARACTER, AND THAT CAN BE FOLLOWED BY ANY OTHER CHARACTERS
- EFFECTS FILES MUST HAVE THE EXTENSION **.BIN** AND AUDIO FILES MUST BE **.WAV** (EXAMPLE FILE NAMES ARE 1.BIN, 1.WAV, 13-SNOW.BIN, 20-2014.BIN.)
- **ALWAYS FORMAT YOUR SD CARD** BEFORE PLACING FILES ON IT



THE NETWORK EFFECTS CONTROLLER AUDIO FILES

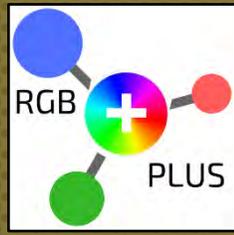


RGB Mega-tree
synched to
music via
two
Minleon
NEC's.

- AUDIO FILES MUST BE IN .WAV FORMAT, SAVED AS 16-BIT STEREO DATA AT SAMPLES RATES OF 32KHZ, 44.1KHZ OR 48KHZ
- CONVERT FORMATS SUCH AS MP3 TO WAV, WITH AUDACITY (AT AUDACITY.SOURCEFORGE.NET) OR SIMILAR AUDIO SOFTWARE
- DRAG & DROP THE AUDIO FILE INTO AUDACITY, PICK A NEW "PROJECT RATE" ON THE BOTTOM LEFT CORNER OF THE SCREEN (ONE OF 32KHZ, 44.1KHZ OR 48KHZ)
- WE RECOMMEND USING THE LOWEST RATE POSSIBLE UNLESS YOU HAVE SOUND QUALITY ISSUES
- THEN PICK "FILE", "EXPORT", SELECT THE NEW FILE NAME AND SET THE TYPE TO "WAV (MICROSOFT) SIGNED 16 BIT PCM"



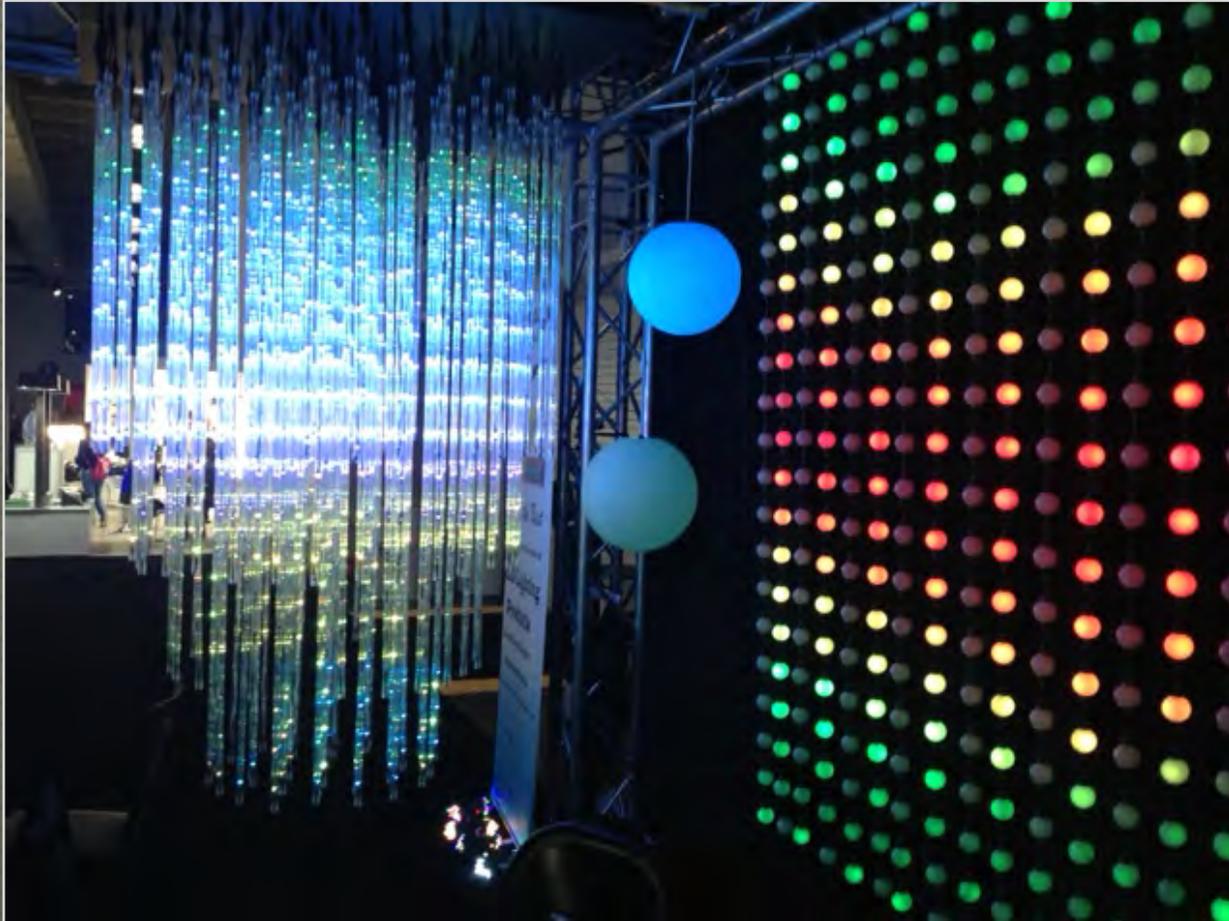
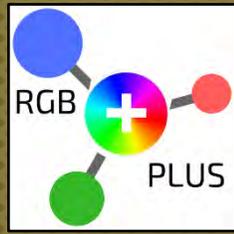
THE NETWORK EFFECTS CONTROLLER OUTDOOR INSTALLATION



- THE LCD DISPLAY ON THE NEC WILL GET SLOWER AS THE TEMPERATURE DROPS BELOW 40-DEGS F
- WEATHER PROOF BOXES ARE REQUIRED FOR OUTDOOR NEC & NDB INSTALLATIONS, AS THESE PRODUCTS ARE IP-24 RATED
- PLACING THE NEC WITH THE POWER SUPPLY & NDB (AS PICTURED TO THE LEFT) SHOULD GENERATE ENOUGH HEAT TO KEEP THE NEC FUNCTIONING PROPERLY



THE NETWORK EFFECTS CONTROLLER QUESTIONS & RESOURCES



PLEASE E-MAIL

REGGIE@MINLEONUSA.COM

& REFERENCE THIS PRESENTATION.

WE ENCOURAGE YOU TO VIEW THESE RELATED TUTORIALS:

- **NEC – EFFECTS PLAYER & LIGHT SHOW MODES**
- **NEC – NETWORK CONFIGURATION GUIDE**
 - **NDB+ USER GUIDE**
 - **DMX TRIGGERING THE NEC**
 - **POWER & DATA MANAGEMENT**

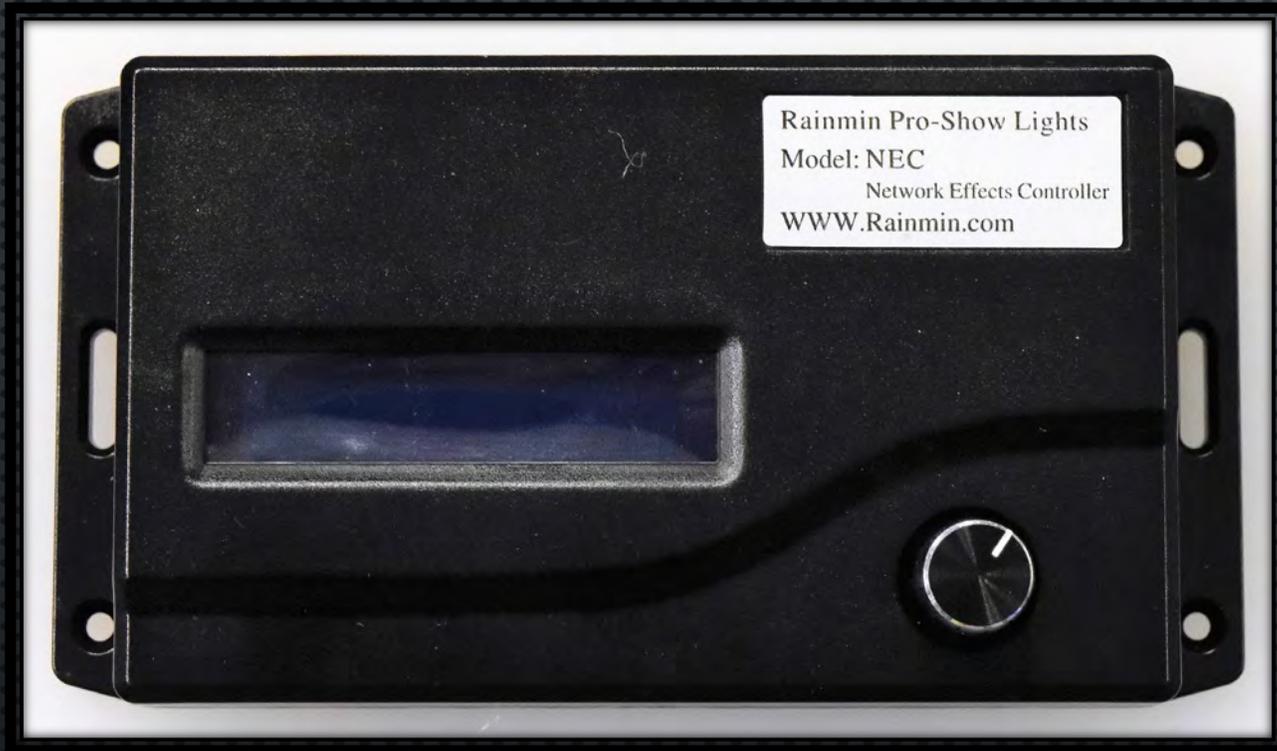
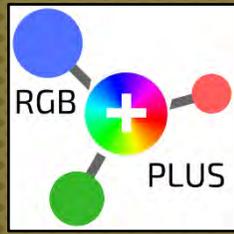
THANK YOU FOR YOUR INTEREST IN
MINLEON RGB's!



Videos on Facebook: [Minleon USA](https://www.facebook.com/MinleonUSA)



THE NETWORK EFFECTS CONTROLLER PLEASE REMEMBER



THIS IS A SUMMARIZED PRESENTATION ON THE OPERATION AND USE OF THE NETWORK EFFECTS CONTROLLER (NEC). BEFORE OPERATING, THE USER SHOULD READ THE 'NETWORK EFFECTS CONTROLLER SYSTEM INSTRUCTIONAL MANUAL', WHICH IS SHIPPED WITH THE DEVICE, FOR A THOROUGH UNDERSTANDING OF ITS OPERATION AND USE.



Minleon USA
MinleonUSA.com
Mechanicsburg, PA



Minleon-Rainmin Illumination
Rainmin.com
Dongguan City, China

