

» Company Profile

Name STAYER Holdings Inc.
 Foundation Oct.23.2000
 Establishment Dec.11.2014
 Capital 670000 USD
 President Seichiro Murayama
 Address 6F, TR building, 3-2-2 Yotsuya, Shinjuku-ku, Tokyo, JAPAN 160-0004
 Number of Employees 18 in Tokyo office, 3 in shenzhen,China As of March 2017
 Group Company Shenzhen prim future Electronic Co., Ltd. Hong Kong prim future Electronic Co., Ltd.
 Warehouse Mizue warehouse (Edogawa-ku, Tokyo)
 Yachimata warehouse (Yachimata, Chiba Prefecture)

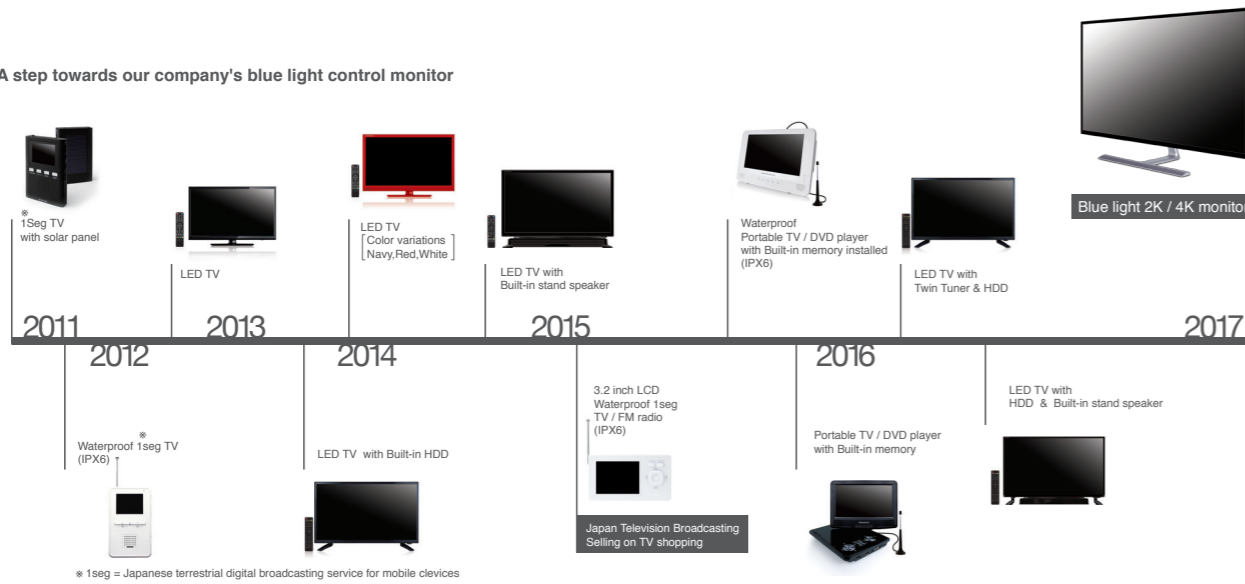
» Manufacture and sales of

Digital audio equipment
 Audio accessories
 Mobile accessories
 Home appliances and other Consumer electronics
 Automotive products
 Miscellaneous goods
 OEM
 ODM

» Main Customer

Yamda Denki Co.,LTD.
 Bic Camera Inc.
 SoftBank Commerce & Service Corp .
 Daiwabo Information System Co., Ltd.
 Daiwamusendenki Co.,Ltd.
 Nippon Television Network Corporation
 Yomiuri Giants Baseball Club,Ltd.
 Hanshin Tigers Baseball Club,Ltd.
 Sony Corporation
 AppBank Inc.
 Wonder Corporation
 Yumemitsuketai Co.,Ltd.
 etc

» A step towards our company's blue light control monitor



BLUE LIGHT CONTROL 2K/4K MONITOR

PCT/JP2017/10051



JAPAN

URUSHI BLUE LIGHT CONTROL 4K MONITOR

STAYER X SINCE 1590. URUSHI AIZU

About Urushi Lacquer

Urushi lacquer is the sap drawn from the Urushi tree (Rhus verniciflua) and among all the variety of natural lacquer, urushi has the highest level of quality. Compared with chemical lacquer, Urushi lacquer has higher properties of tolerance against water, heat, septic, acid, salt, and alcohol. Urushi lacquer is widely used in traditional crafts and fine arts in Japan for its elegant and enriched gloss finish.

Urushi finish on our premium model is applied by a craftsman from Aizu. Urushi industry of Aizu has begun its history in 1590. Now, it has become one of the biggest production areas of Urushi products in Japan. Please take a good look of the harmony of tradition and new technology.



STAYER

<http://stayer.co.jp/blc/>



World's 1st system to control Blue light emission.

With our original back light panel system (International Patented PCT/JP2017/10051), user can have the total control of blue light emission.

Our innovative blue light control system that can be adopted to any LED products.

1st Collaboration of 4K Monitor and Japanese traditional craft "Urushi".

#1 Manage to control full frequency of Blue light

#1 Blue light cut rate 100%

Measuring method is based on Japanese Industrial Standard (JIS T 7333: 2005)



Protection from Blue light

Most of the LCD (Liquid Crystal Display) in these days, adopt LED back panels, for its energy efficiency and durability. However, researchers are starting to call attention to the fact that longer you stare at LED displays, risk on your eyesight will grow because the light from LED display contains more blue light than any other light.

Considering such information, manufacturers of LCD are now adopting functions on their smartphone and PC monitors, to reduce blue light as standard norm.

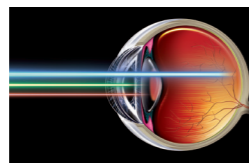
Similar movement can be seen in the accessory market.

Many products are being sold in the name of "Blue light cut," for example, PC glasses and protective film for LCD.

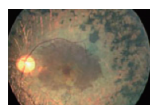
Characteristics of Blue light

Blue light generally is defined as visible light ranging from 380 to 500 nm.

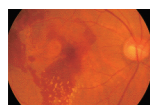
High-energy blue-violet light in the narrow 415-455nm band is particularly damaging to eyes, in particular the lens and retina. The blue band of the light spectrum yields more energy, and can pass straight through your eye-resulting in myopia and macular degeneration.



Possible symptoms are following:



Retinitis pigmentosa(Blue light may relate to its progress)
Degenerative eye disease that causes severe vision impairment due to the progressive degeneration of the rod photoreceptor cells in the retina



Age-related macular degeneration
Medical condition which may result in blurred or no vision in the center of the visual field.

1.Damage to Eyes

Exposing eyes to blue light by staring at LED display for a long time, may lead to eye strain, pain and poor circulation.

Research of Ministry of Health, Labor and Welfare in Japan, indicates too much exposure to blue light relates to the risk of age-related macular degeneration which is the leading cause of blindness in U.S.

2.Influence on Biological clock

Researches indicate that blue light exposure at nighttime suppresses the secretion of melatonin, a hormone that influences circadian rhythms, more powerfully than any other light.

The disturbance of circadian rhythm may cause insomnia, or you may still feel tired even after a sufficient amount of sleep.

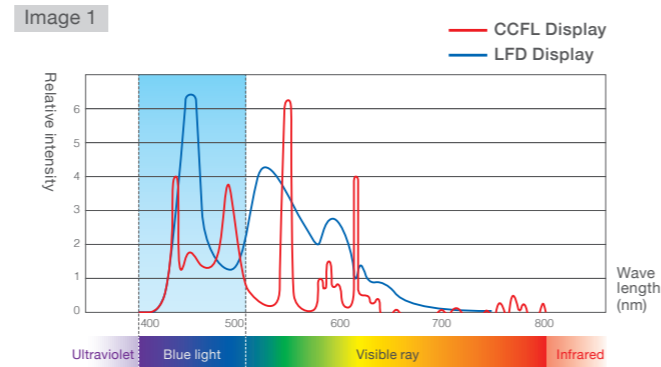
3.Others

Since LED is still a new technology, the long-term researches are still under the process. However, there are researches indicating that blue light does have adverse health effect on human body which can lead to serious illness.

For instance, WHO (World Health Organization) has commented that the disturbance of circadian rhythms may cause cancer.

Northwestern University reported that exposure to blue light will increase people's appetite that may lead to obesity.

Why is Blue light a problem?



In previous LCD, Cold Cathode Fluorescent Lamp(CCFL) was used for the back panel. Although the amount of blue light emitted from CCFL is, by far, less amount than LED, LED back panel has taken over its position due to the longer life-span, and electrical efficiency.

In comparison of CCFL and LED, LED emits much more blue light(See image 1).

With the advancement of technology, we have more opportunity to work on larger and higher-resolution monitors.

However, the amount of blue light emission is proportional to the size and the resolution density of the monitor.

For example, user of 32inch 4K LED monitor will be 4.5times more exposed to blue light than user of 14inch monitor.

Image 2

Single-chip Method

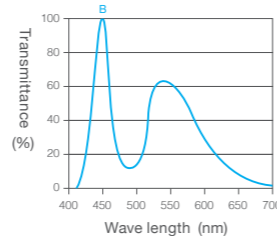
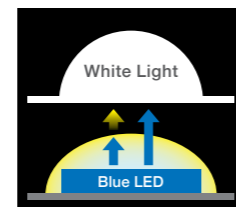
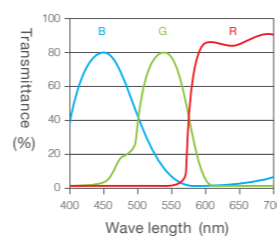
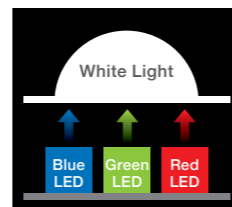


Image 3

Multi-chip Method



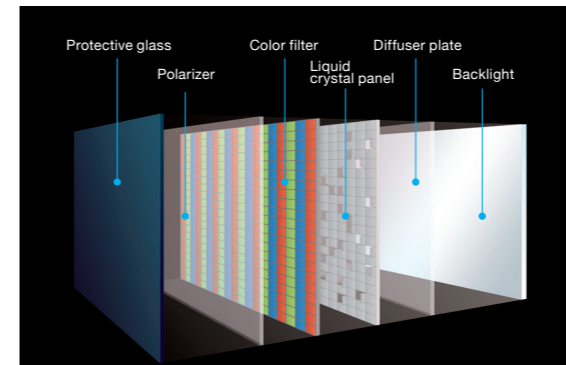
In ordinary LED monitor, single-chip method is used for creating White color by applying Blue LED on Yellowish fluorescent substance.(See Image 2)

Yet, this method requires to use large amount of Blue LED, resulting the monitor to emit a lot of blue light.

On the other hand, our LED adopted multi-chip method which uses Blue, Red, and Green LED to create White color.(See Image 3)

Unlike single-chip method, with multi-chip method, user can control each LED individually, and this is how we suppress the amount of blue light emitted from the monitor.

The most effective way to cut off Blue light



With ordinary LED monitor, the level of Blue LED is lowered at LCD panel in order to reduce the amount of blue light emission. Since ordinary LED only uses Blue LED to display, this will lower the brightness of the monitor, and the color appearance will also be affected to become close to orange.

Besides, this method can only reduce the amount of blue light emission partially.

With our multi-chip method, user can control the amount of blue light emission by controlling Blue LED directly.

Therefore, it is the most effective way to cut-off the blue light.

Also, with our multi-chip method, user can control Red and Green LED as well. This enables users to make WHITE COLOR adjustment as they desire.



Blue light controller

Comparison of Blue light Prevention products

| | STAYER BLC MONITOR | Monitor with Blue light cut | Ordinary PC monitor [Color setting] | Software | Operating System setting | Computer Glasses | LCD Protective Film |
|--|--------------------|-----------------------------|-------------------------------------|----------|--------------------------|------------------|---------------------|
| ON/OFF (Blue Light Cut) | ○ | ○ | ○ | ○ | ○ | ○ | △ |
| Automated Timer* | ○ | × | × | ○ | ○ | - | - |
| 0% Blue Light | 100% | 55% | 30% | 40% | 40% | 55% | 33% |
| Adjustment of Blue light emission at backlight | ○ | △ | △ | △ | △ | - | - |
| Range of Corresponding frequency | ○ | △ | △ | △ | △ | △ | △ |
| Adjustment of White Balance | ○ | × | × | × | × | - | - |
| Flicker Free | ○ | ○ | × | × | × | - | - |
| Low Blue light (Default setting) | ○ | △ | × | × | × | - | - |
| Less discoloration | ○ | △ | × | × | × | - | - |

*Automated Timer

With one simple push of a button, automated timer will lower the amount of blue light gradually in 4hours.

For more information about OEM,ODM,PLA (Patent License Agreement) of our products, please contact us:

blic@stayer.co.jp

Specifications

| | 40inch | 32inch |
|------------------------------|-------------------------------------|--|
| Panel type | VA | |
| Backlight | DLED | ELED |
| Luminance | 190cd/m ² | 180cd/m ² |
| Contrast | 5000 | 1000 |
| Resolution | 3840x2160 (4K) | |
| Viewing angle | Horizontal178 Vertical178 | |
| Display color | Approximately 1 billion 7374 colors | Approximately 1 billion 7374 colors (True) |
| Display color response speed | 8ms | 16ms |
| Aspect ratio | 16:09 | |
| Flicker | Flicker free | |
| Blue light controller | ○ | |
| Speaker output | 3w×2 | |
| Input terminal | DVI,HDMI,DisplayPort | |
| HDMI version | 2.0 | |
| HDCP version | 2.2 | |
| Rated voltage | 12V | |
| Power consumption | 66w | 60w |
| Accessories | AC Adapter,Remote controller | |

Measuring method is based on Japanese Industrial Standard (JIS T 7333: 2005)

