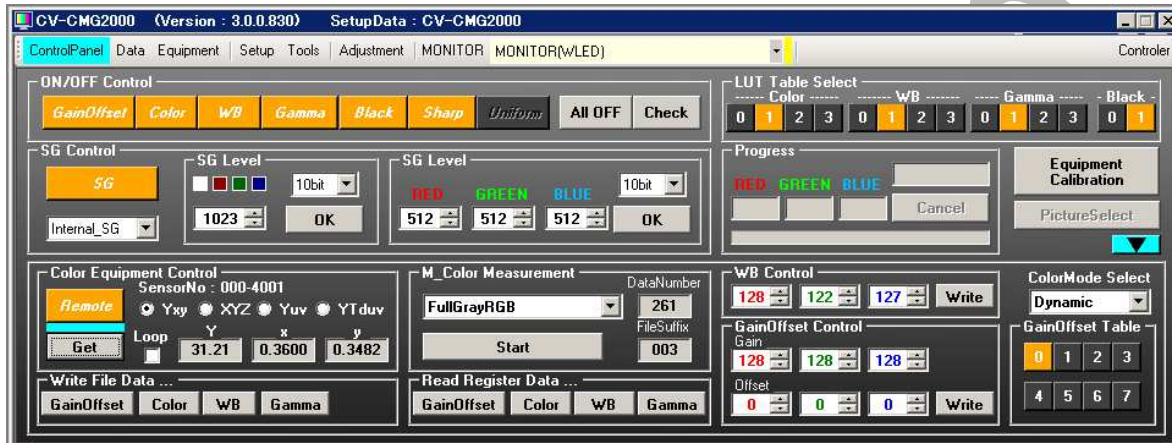# *Color Management Software*

Model name：CV-CMG2000

This software (CV-CMG2000) is for the color meter made by Konica-Minolta.

It can execute not only measuring luminance and chromaticity but also adjusting various items of picture quality automatically by controlling the color meter.

Measurement Function (Using as Color Meter)

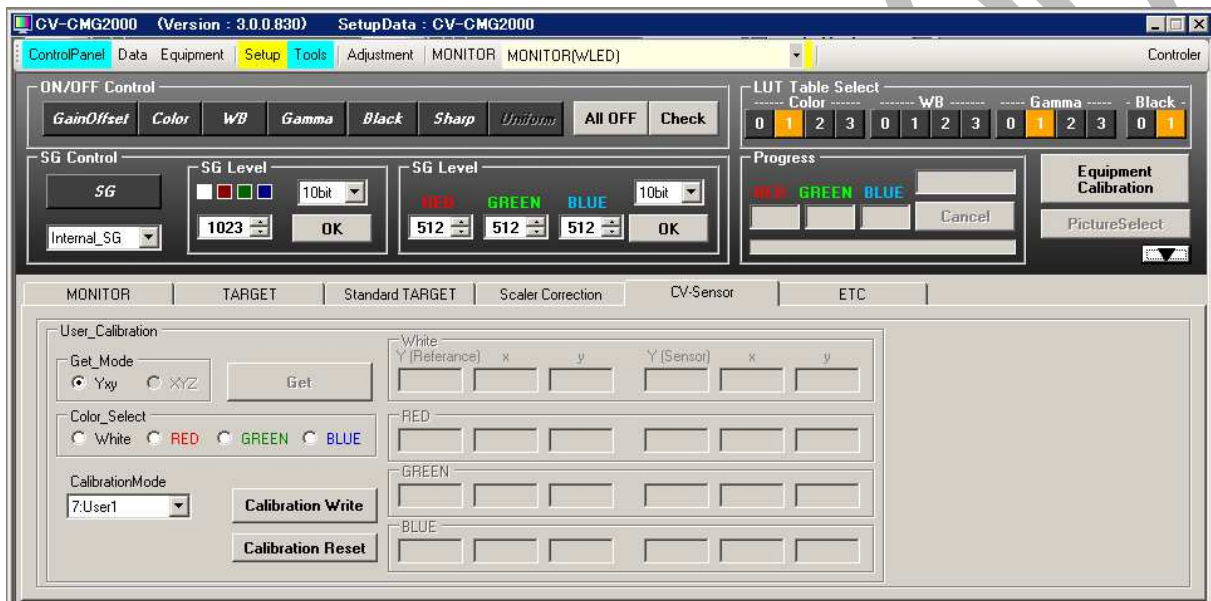CV-CMG2000 can display the measured value on the interface like above.

Measurement items:　It depends on the specification of color meter.

Calibration with the Standard Color Meter in your company

If user already has own standard color meter, CV-CMG2000 has a function which can correspond(calibrate) the measurement value between the standard color meter and other color meters.
It is easy to calibrate by measuring only 4 colors(RGBW) by the standard color meter and the calibrated color meter.

And please use the high-accuracy color meter for your own standard meter. (for example CS-1000 or CS-2000 (made by Konica-Minolta) or SR-3 (made by TOPCON).
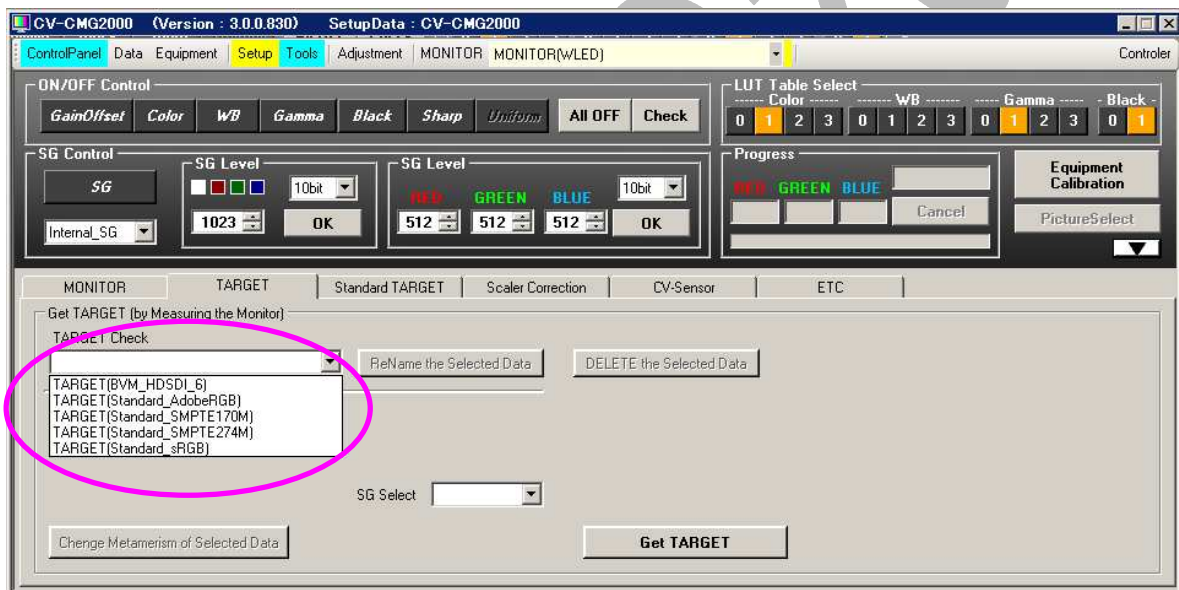
Function with Color Enhance IC

If "color enhance IC" is being mounted in the electric circuit of the display, CV-CMG2000 can be used as not only simple Color Meter but also as Automatic Color Adjustment System for the display.
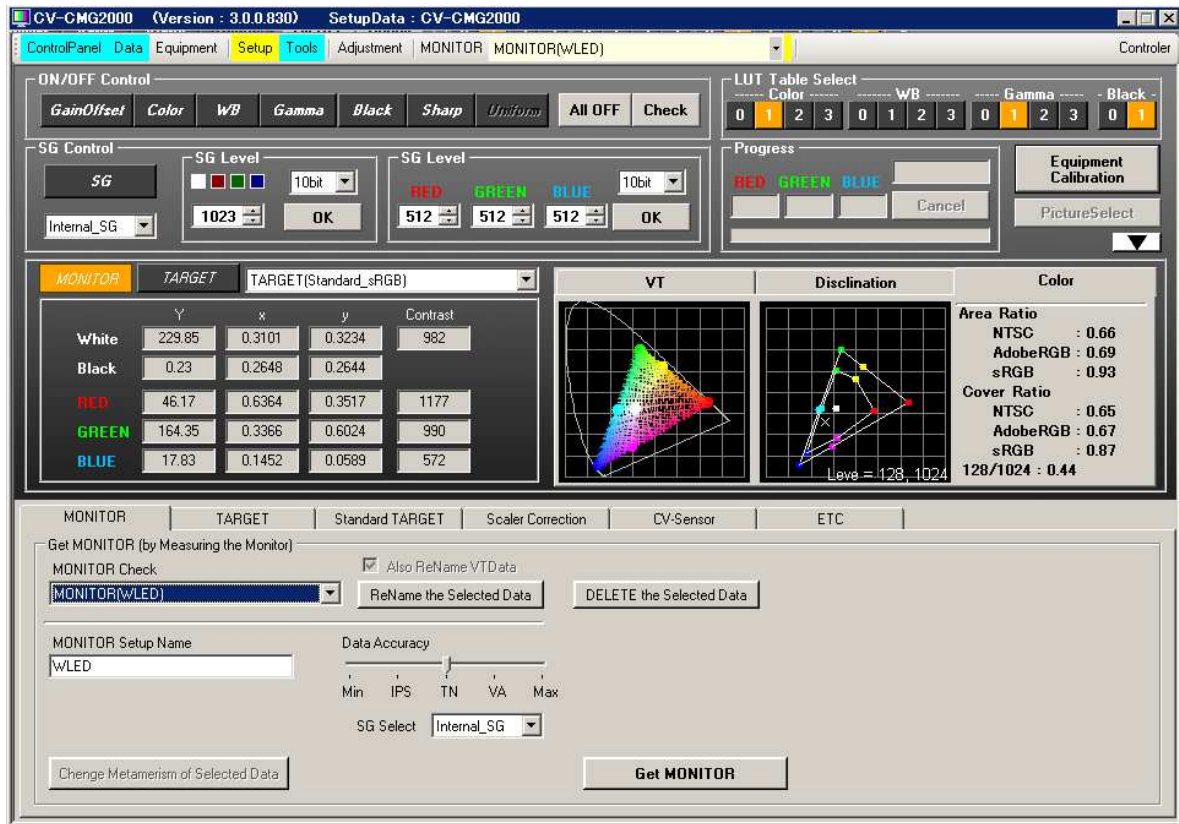
The features with "color enhance IC"

1. Automatic adjustment for specified Target Color Space

The color condition can be adjusted correctly to the official standard color spaces which are provided (specified) as SRGB, AdobeRGB, DCI only by selecting on GUI interface. Even though LCD panel is changed, the same color will be reproduced because the adjustment is carried out to the same color space.

2. Automatic evaluation of Monitor and LCDTV

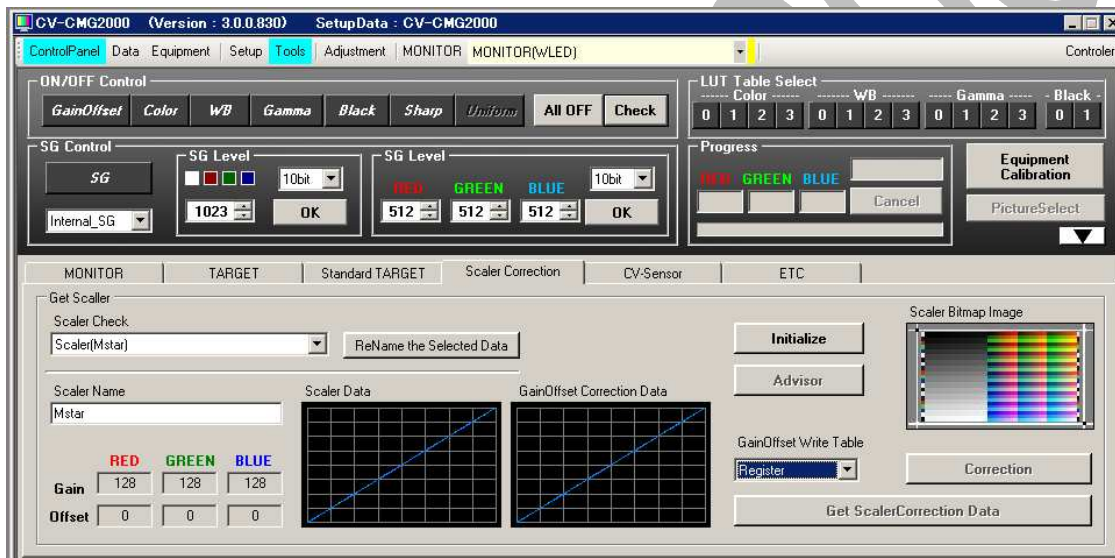The optical characteristic of LCD panel is evaluated precisely and automatically.

Evaluated items

- ・ Luminance, Chromaticity, and contrast of RGB, White and Black
- ・ VT curve
- ・ Area Ratio of Chromaticity (comparing NTSC, AbobeRGB etc.)
- ・ Cover Ratio of Chromaticity area (comparing NTSC, AbobeRGB etc.)

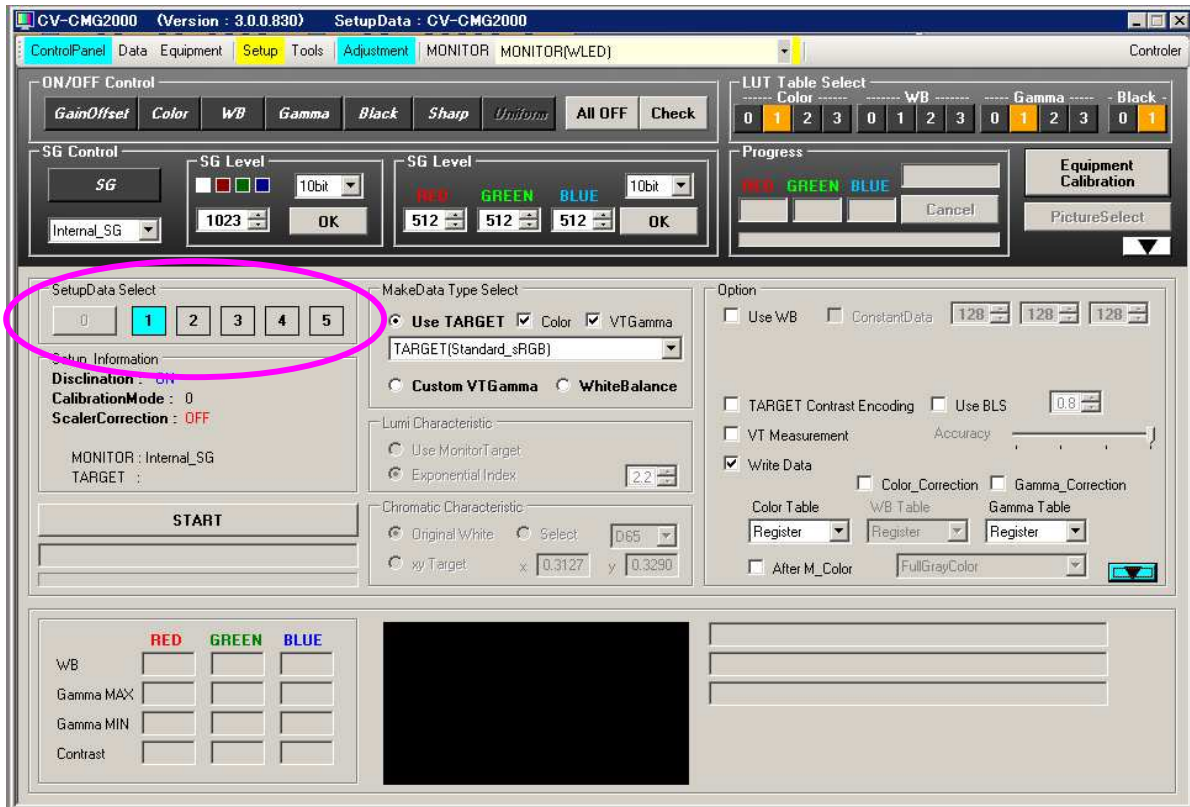## 3. Functions for evaluation and compensation of Scaler

There are a lot of cases that the various scalers are built in LCD monitor and LCDTV recently. Normally, if the input is digital specification like DVI or HDMI, the output must be same even on every scaler. But actually, outputted color from the scaler is sometimes different when the scaler is changed. It will be caused by calculation error in the scaler. This problem must be improved.

This function can measure such a calculation error in scaler by displaying specified measuring pattern on the display from external DVI or HMDI source. (CremoVision specifies this pattern.) Moreover it can generate the compensated Gamma LUT, Color LUT based on this measurement. Therefor if there are the calculation error in scaler or miss-setting of Color Space in the scaler, the adjustment for same color can be realized by using this system. It will take about 10 minutes to measure the error of scaler.

4. Automatic color adjustment for mass-production

CV-CMG2000 can be used not only for development but also for mass-production system. It is necessary to measure and adjust each LCD panel in mass-production for keeping high-quality (precise) performance. CV-CMG2000 can specify 5 types of Target Color Space maximum and generate 5 types of Gamma LUT, Color LUT maximum by once measurement and then transfer data to color enhance IC.
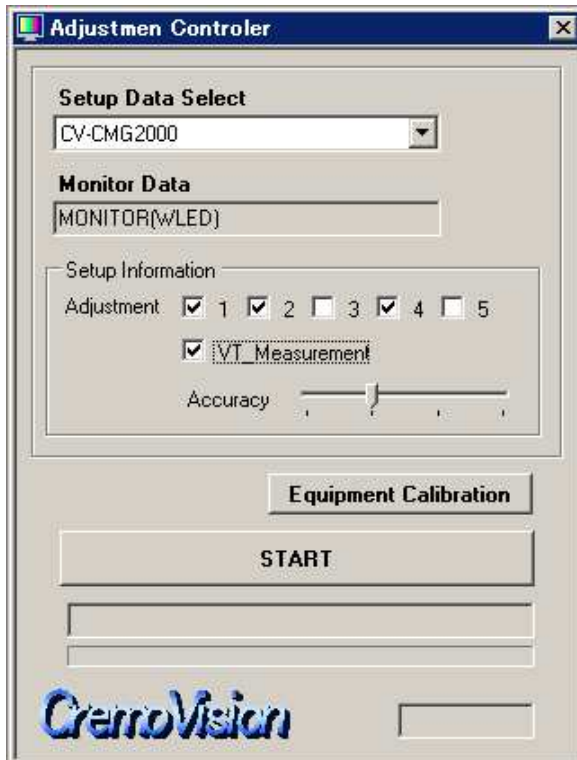
5. Software for mass-production

There are some accidents that the displays are produced with wrong settings on adjusting software by worker's mistakes in mass-production (by mistakes on operation and so on) The software only for mass-production is prepared in CV-CMG2000. Because the limited operation can be carried out by workers on this software, the accidents will be prevented.
The detail settings are linked with CV-CMG2000.

The specification of PC (Reference)

*OS: Windows XP (above .NET Framework 2.0SP1), Windows Vista, Windows 7
*CPU: Intel CPU
*Port: Please confirm in advance.
*Resolution of PC monitor: SXGA