



# CREATOR<sup>®</sup>

CREATOR ORPORATION (CHINA)







## VEXTD-102I RGB 120Long Line Driver **User's Manual**

V1.1Version


# The meaning of symbols

## ■ Safety instructions

For your safe and correct use of equipments, we use a lot of symbols on the equipments and in the manuals, demonstrating the risk of body hurt or possible damage to property for the user or others. Indications and their meanings are as follow. Please make sure to correctly understand these instructions before reading the manual.

	<p>This is A level product, which may cause radio interference in the living environment. In this case, users may need to take the feasible measures to get around the interference.</p>
	<p>Remind users that the dangerous voltage without insulation occurring within the equipment may cause people suffer from shock</p>
	<p>CE certification means that the product has reached the directive safety requirements defined by the European Union. Users can be assured about the use of it</p>
	<p>SGS certification means that the product has reached the quality inspection standards proposed by the world's largest SGS.</p>
	<p>This product passed the ISO9001 international quality certification (certification body: TUV Rheinland, Germany).</p>
	<p>Warning: in order to avoid electrical shock, do not open the machine cover, nor is the useless part allowed to be placed in the box. Please contact the qualified service personnel.</p>

## ■ General information instructions

	<p>It lists the factors leading to the unsuccessful operation or set and the relevant information to pay attention to</p>
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# Important note



## Warning

In order to ensure the reliable performance of the equipment and the safety of the user, please observe the following matters during the process of installation, use and maintenance:

### The matters needing attention of installation

- ◆ Please do not use this product in the following places: the place of dust, soot and electric conductivity dust, corrosive gas, combustible gas; the place exposed to high temperature, condensation, wind and rain; the occasion of vibration and impact . Electric shock, fire, wrong operation can lead to damage and deterioration to the product, either;
- ◆ In processing the screw holes and wiring, make sure that metal scraps and wire head will not fall into the shaft of controller, as it could cause a fire, fault, or incorrect operation;
- ◆ When the installation work is over, it should be assured there is nothing on the ventilated face, including packaging items like dust paper. Otherwise this may cause a fire, fault, incorrect operation for the cooling is not free,;
- ◆ Should avoid wiring and inserting cable plug in charged state, otherwise it is easy to cause the shock, or electrical damage;
- ◆ The installation and wiring should be strong and reliable, contact undesirable may lead to false action;
- ◆ For a serious interference in applications, should choose shield cable as the high frequency signal input or output cable, so as to improve the anti-jamming ability of the system.

### Attention in the wiring

- ◆ Only after cutting down all external power source, can install, wiring operation begin, or it may cause electric shock or equipment damage;
- ◆ This product grounds by the grounding

wires .To avoid electric shocks, grounding wires and the earth must be linked together. before the connection of input or output terminal, please make sure this product is correctly grounded;

- ◆ Immediately remove all other things after the wiring installation. Please cover the terminals of the products cover before electrification so as to avoid cause electric shock;

### Matters needing attention during operation and maintenance

- ◆ Please do not touch terminals in a current state, or it may cause a shock, incorrect operation;
- ◆ Please do cleaning and terminal tighten work after turning off the power supply. These operations can lead to electric shock in a current state;
- ◆ Please do the connection or dismantle work of the communication signal cable , the expansion module cable or control unit cable after turning off the power supply, or it may cause damage to the equipment, incorrect operation;
- ◆ Please do not dismantle the equipment, avoid damaging the internal electrical component;
- ◆ Should be sure to read the manual, fully confirm the safety, only after that can do program changes, commissioning, start and stop operation;

### Matters needing attention in discarding product

- ◆ Electrolytic explosion: the burning of electrolytic capacitor on circuit boards may lead to explosion;
- ◆ Please collect and process according to the classification, do not put into life garbage:
- ◆ Please process it as industrial waste, or according to the local environmental protection regulations.

## **Preface**

VEXTD-102I RGB 120 Line Driver User's Manual mainly introduces the operation methods and main performance parameters of VEXTD-102 RGB.120.

This manual is only used as user instruction, not for a repair service usage. The functions or related parameters may be changed since the date of issue, please inquire the supplemental information from CREATOR Electronics or local distributors.

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## Chapter 1 Overview

The VEXTD-102I RGB.120 is a front-end video signal pre-emphasis driver in order to ensure high-definition images within long distance application range. It can realize the high bandwidth (400Mpixel bandwide), high-quality, 120 meters long distance video signal transmission, to ensure that the signal in the transmission process be free from outside interference and do not appear attenuation; computer image signal distortion, ghosting, streaking phenomenon produced in the long-distance transmission can be effectively improved.

### 1.1 Features

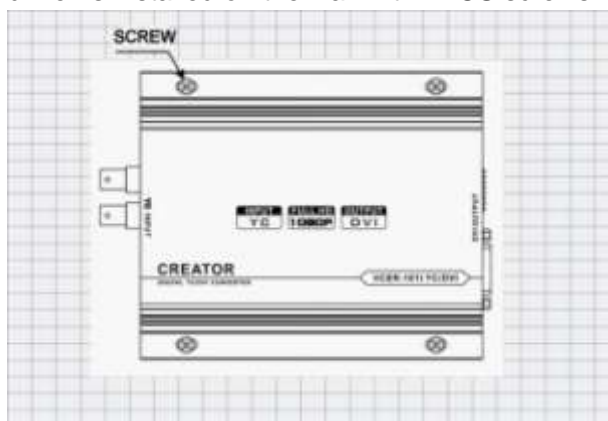
- ◆ Support 1 channel 15-pin HD female video input interface;
- ◆ An HV input impedance select button, you can choose 510R or 75R input matching;
- ◆ A composite sync select DIP switches;
- ◆ Compensation distance file select DIP, 16 files from 0-F from select file are optional;
- ◆ Support one BNC output;
- ◆ Select the appropriate compensation level based on the different transmission distance in order to improve the computer image signal distortion in the long-distance transmission. Support the ideal restore of the maximum transmission distance of 120 meters;
- ◆ Support signal formats: RGBHV, RsGsBs, YPbPr . YCbCr;
- ◆ Support bandwidth the 400M (pixel bandwide) @-3dB. All output perfect support for Full

HD1920x1200 @ 60, or 1920x1080p @ 60;

- ◆ Support the front-end segmented adjustable pre-emphasis processing of the video signals' brightness and sharpness at the same time.

### 1.2 Host Installation

The CREATOR line drive has small size, light weight, and can be easily installed in any place, for example the installation diagram below, line driver is installed on the wall with 4PCS screws.



# Chapter II System Description

## 2.1 Panel Description



① System power input port - system power input DC 12V adaptive.

② Grounded Column

③ VGA - VGA video input port, 15-pin HD female connect VGA video source, such as a PC.

④ The HV - input impedance select button, you can select 510R or 75R input matching.

Choose high HV input impedance when switch pops up, and the applicable input distance is 0 to 5 m, the default option.

Switch is pressed to select the HV input impedance of 75Ω, applicable to input distance of more than 5 meters.

⑤ COM-SYNC—composite sync select DIP switch.

When the input signal is RGBHV and the output signal is RGBS, toggle this button to the ON position of the upper. By default, set the button to the OFF position of next bit.

⑥ COMP - Compensation distance file select DIP, 0 ~ F 16 files from the select file are optional.

⑦ MONITOR - video monitor port, support local video output.

⑧ RGBH.VV - RGB video output port, BNC interface can be connected to the projector with RGB interface.

## 2.2 Compensation Distance File

### Select DIP Description

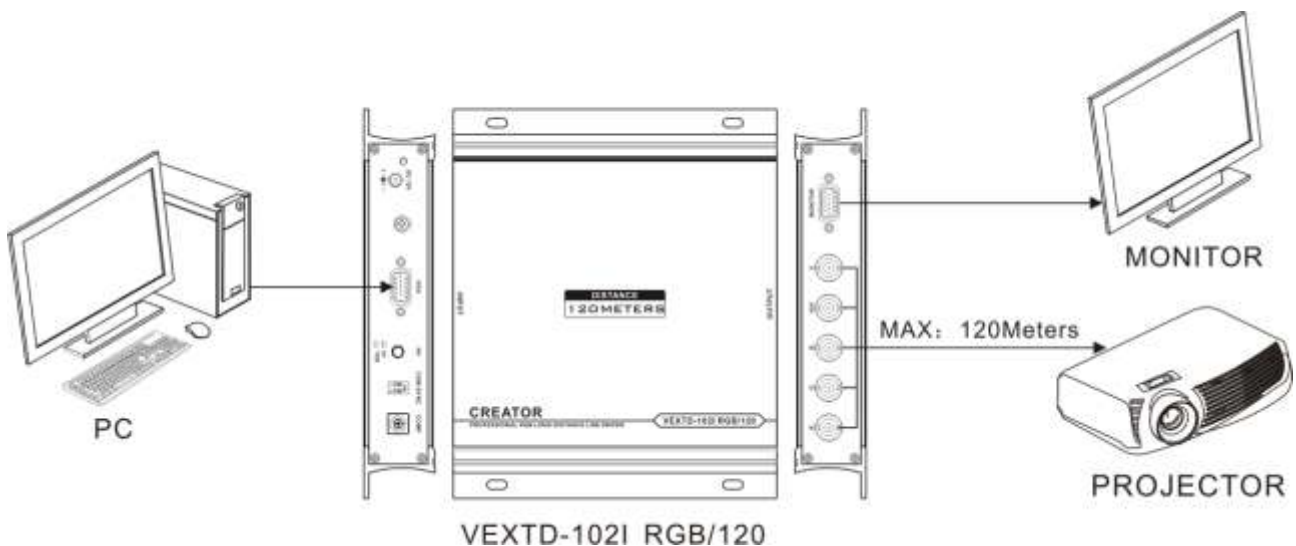


Distance(m)	DIP bit	Bandwidth(MHz)	Output resolution
<15	0	400	1920X1200@60 1920X1080P@60
23	1	400	1920X1200@60 1920X1080P@60
31	2	400	1920X1200@60 1920X1080P@60
39	3	400	1920X1200@60 1920X1080P@60
47	4	380	1680X1050@60 1920X1080I@60
55	5	350	1680X1050@60 1920X1080I@60
63	6	320	1680X1050@60 1366X768P@60
71	7	290	1440X900@60 1366X768P@60
79	8	260	1440X900@60 1280X720P@60
87	9	230	1440X900@60 1280X720P@60
94	A	200	1280X1024@75 720X576P@60
100	B	180	1280X1024@60 720X576P@60
106	C	170	1152X864@72 720X576P@60
112	D	160	1024X768@72 720X576P@60
117	E	150	1024X768@60 720X576P@60

122	F	140	1024X768@60 720X576P@60
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Note: The actual bandwidth is directly related to selected wire, therefore, particularly recommend selecting the wire with a large diameter and sufficient copper content of the wire core, namely the wire whose line core DC resistance is smaller and the surface area is larger. And DC resistance of the wire core should be controlled under 16Ω. If this value is exceeded, it is recommended to replace the larger core diameter wire, to obtain adequate system bandwidth.

### 2.3 System Connection Diagram



### 2.4 Technical parameters

Model	VEXTD-102I RGB 120		
Technical Specifications			
<b>Monitor Interface Part Video</b>			
Gain	0.2 dB		
Bandwidth	400MHz (-3dB), Full load 0 -10MHz:≤+/- 0.2dB 0 -30MHz:≤+/- 0.5dB		
Differential I.O.S	Phase	<1.28 Degree.3.58MHz	
Differential error	Phase	0.1 Degree,3.58-4.43MHz	



Model	VEXTD-102I RGB 120	
Technical Specifications		
Differential error	Gain	0.1%, 3.58-4.43MHz
Maximum Propagation delay	5nS(±1nS)	
Signal Type	RGBHV,RGBS,RGB, RsGsBs,YPbPr,YCbCr,S-Video, CVBS	
<b>Long drive interface part video</b>		
Differential error	Phase	<2.0 Degree.3.58MHz (Only use the compensation file below 40 meters)
Gain	Minimum 0.2dB (0 ~ 10MHz bandwidth) Max 1.8dB ((0 ~ 10MHz bandwidth) Minimum 0.4dB (10M ~ 400MHz bandwidth), Max> 6dB (10 ~ 400MHz)	
Differential error	Gain	0.3%, 3.58-4.43MHz (Only use the compensation file below 40 meters)
Maximum Propagation delay	5nS(±1nS)	
Signal Type	RGBHV,RGBS,RGB, RsGsBs,YPbPr,YCbCr,S-Video, CVBS	
<b>Video Input</b>		
Interface	15-Pin HD female connector	
Signal Strength	1V P-p component video or Y ,composite video in the S-video; 0.7V p-p RGB (computer signals); Cb , Cr or Pb , Pr in 0.3V p-p component video, C in S-video	
Impedance	75 Ω	
Return Loss	-30dB@5MHz	
Genlock	0.3V-0.4Vp-p	
Maximum DC Offset errors	15mV	
<b>The video output of Monitoring Interface Part</b>		
Interface	15-pin HD Female Connector	
Minimum , Maximum level	Analog Signal: 0.5V ~ 2.0V p-p	
Impedance	75 Ω	
Return Loss	-30dB@5MHz	
DC compensation	Maximum ±5mV	
<b>The video output of Long Drive Part</b>		
Interface	BNC Female Connector	
Minimum , Maximum level	Analog Signal: 0.5V ~ 2.0V p-p	
Impedance	75 Ω	
Return Loss	-30dB@5MHz	
DC Bias	Maximum ±5mV	

Model Technical Specifications	VEXTD-102I RGB 120
<b>Sync signal</b>	
Input , Output types	RGBHV, RGBS, RGsB, RsGsBs,
Input level	0.5V- 5.0V p-p,: 4.0V p-p normal
Output level	AGC-TTL: 5Vp-p, unterminated
Input Impedance	510 $\Omega$ , low resistivity optional
Output Impedance	75 $\Omega$ (monitor output interface part) :75 $\Omega$ (Line driver output interface part)
Polarity	Positive or negative (according to input exactly)
<b>Control types</b>	
Method	-By-File Manually Select, Subject To Subjective Feelings.
<b>Specification</b>	
Power Supply	190VAC ~ 240VAC, 50,60 Hz, International Adaptive Power
Power Consumption	<3.6W
Temperature	Storage, Use Temperature: -20 ° ~ +70 ° C
Humidity	Storage, Use Humidity: 10% to 90%
Chassis Size	162(L) X 195(W) X 35mm(H)
Product Weight	763g

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