Bridge″X Tˢ

USER
MANUAL

TROUBLESHOOTER series : Conversion and Measurement at Once

Bridge X_TS   **for All Format Conversion with Measurement**

Bridge X_TS mini   for SDI & HDMI with Enhanced Measurement

Bridge X_TS mini

SDI / HDMI Cross Conversion with Measurement

ENGLISH

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Bridge X_TS : Trouble Shooter series

CONTENTS

OVERVIEW

Chapter 1

SUMMARY

Bridge X TS is Multi-Platform Signal Converter with Measurement and Test Pattern Generator.

Bridge X_TS can be effectively used in the installation and maintenance service of video and audio signal. Very handy but powerful functions of Bridge X_TS series enables to conveniently check a variety of signal status through 5" LCD touch screen from video display up to SDI jitter and Cable conditions.

FEATURE

- Up / Down / Cross / Scan Converter

- Standard Video / Audio signal supported

  SDI, HDMI, CVBS, COMPONENT, VGA, DVI,

  Analog Audio, AES / EBU

- Analog Audio Mux / DeMux

- Jitter Measurement for SDI signal (720p, 1080i, 1080p)

- Test Pattern Generator : 8 types provided

- SDI signal integrity check (Loss, TSR, CRC, Line number)

- HDMI signal integrity check (Loss, Resolution, HDCP)

- Audio Level Monitoring (up to 8 channels)

- 5" Touch Screen LCD (800x480)

- Battery Mounting Plate for Sony and Cannon type (optional)

APPLICATION

UNPACKING : X_TS pack (Hardcase Accessory Package)

- 1pc   x Hard case

- 1pc   x Bridge X_TS : Product

- 1set   x Universal Power Supply

- 1pc   x Battery Plate (Sony Type / Option : Cannon Type)

- 1pc   x VGA to Component jack cable

- 1pc   x Analog audio jack cable

- 1pc   x HDMI cable

- 1pc   x SDI cable

- 2sets   x Accessory mounting screws

  ① : Short screw (3x6mm) for mounting the Battery Plate ONLY

  ② : Long screw (3x8mm) for mounting both the Battery Plate and the Stand
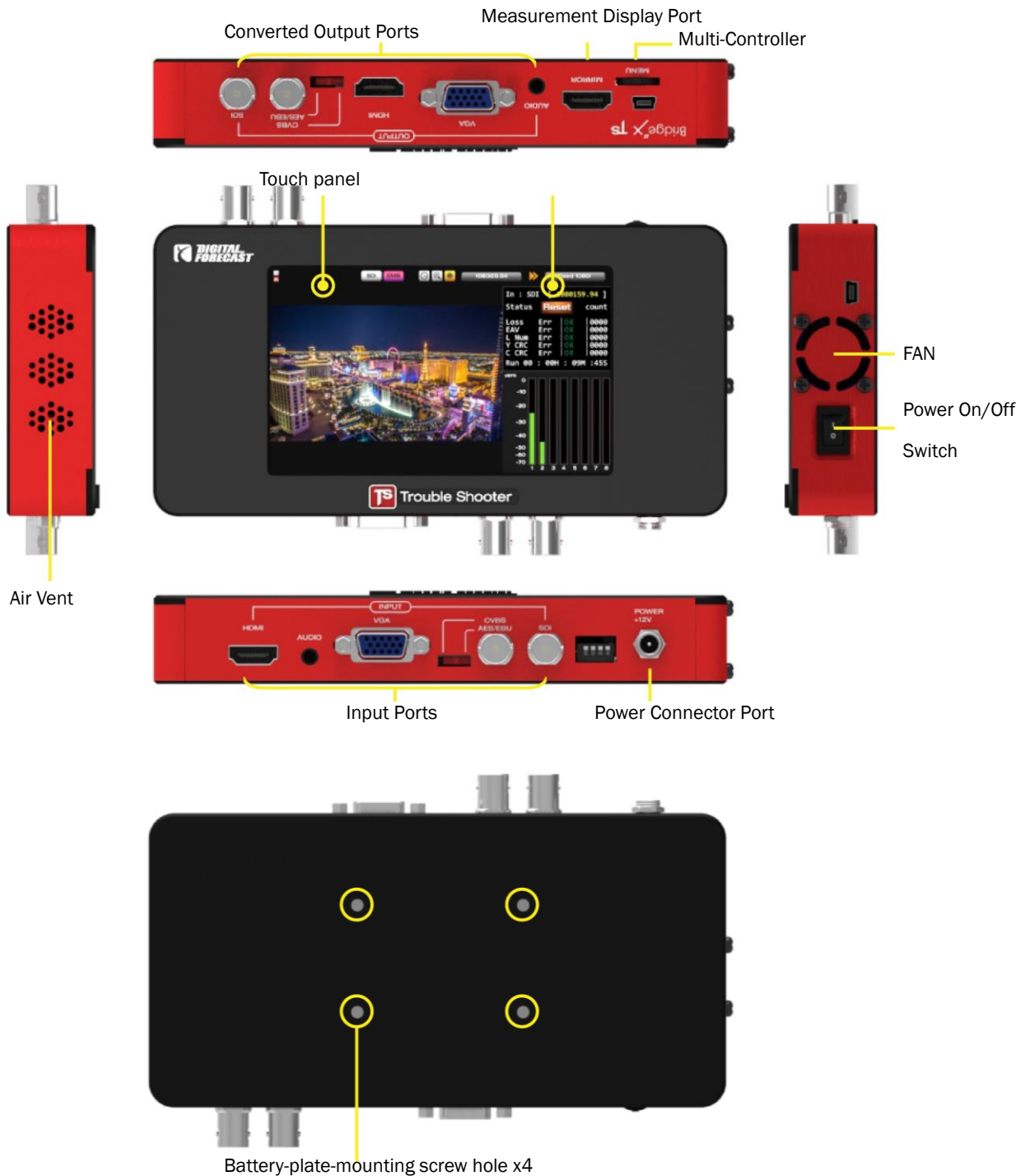
UNPACKING : X_TS (Standard Package)

- 1pc   x Bridge X_TS : Product
- 1set   x Universal Power Supply
- 1pc   x VGA to Component jack cable
- 1pc   x Analog audio jack cable

SPECIFICATION

Chapter 2

INTERFACE / CONNECTION

Converted Output Ports

Measurement Display Port

Multi-Controller

Touch panel

FAN

Power On/Off
Switch

Air Vent

Input Ports

Power Connector Port

Battery-plate-mounting screw hole x4

LCD SPECIFICATION

- Size: 5.0 Inch

- Resolution : 800 x 480

- Pixel area : 0.135mm(W) x 0.135mm(H)

- Display Area : 108mm(W) x 64.8(H)

VIDEO STANDARDS

- HDMI v1.3 format Support

- Multi-rate SDI format Support

- SD format : 525/29.97(NTSC), 625/25(PAL), 480P, 576P

- HD format : 720P(24/25/30/50/59.94/60)

  1080i(50/59.94/60)
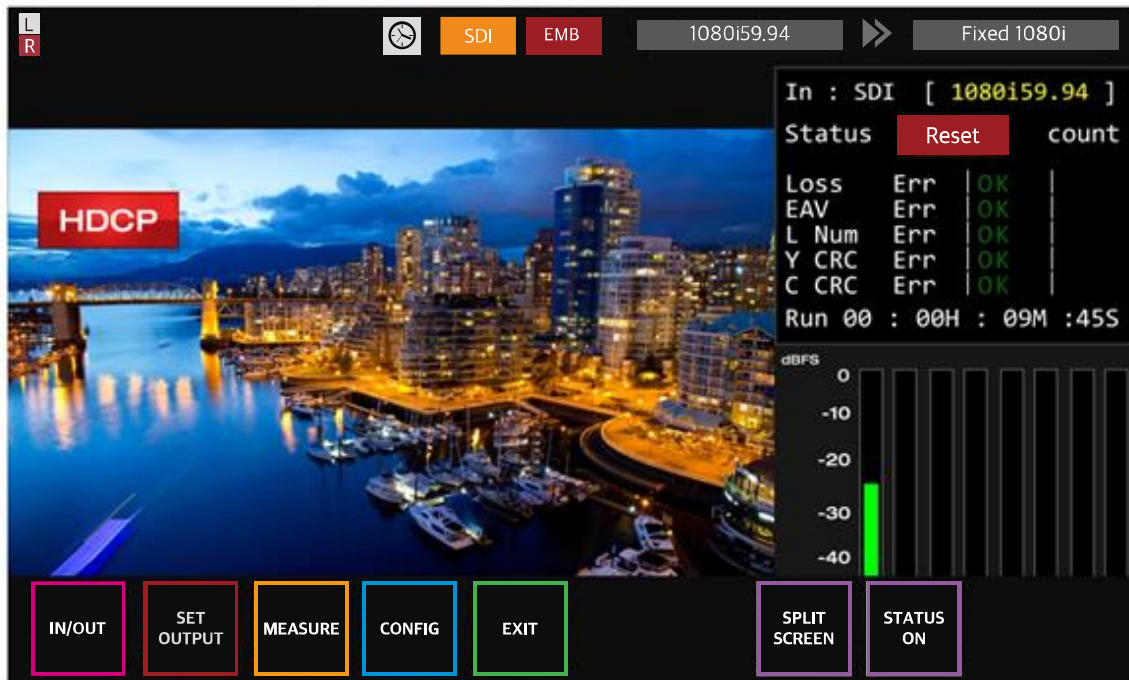
  1080p(24/25/30/sf24/50/59.94/60)

DIMENSION / WEIGHT

29 mm

92.6 mm

182.4 mm

W182.4 x L92.6 x H29.0 mm   /   530g
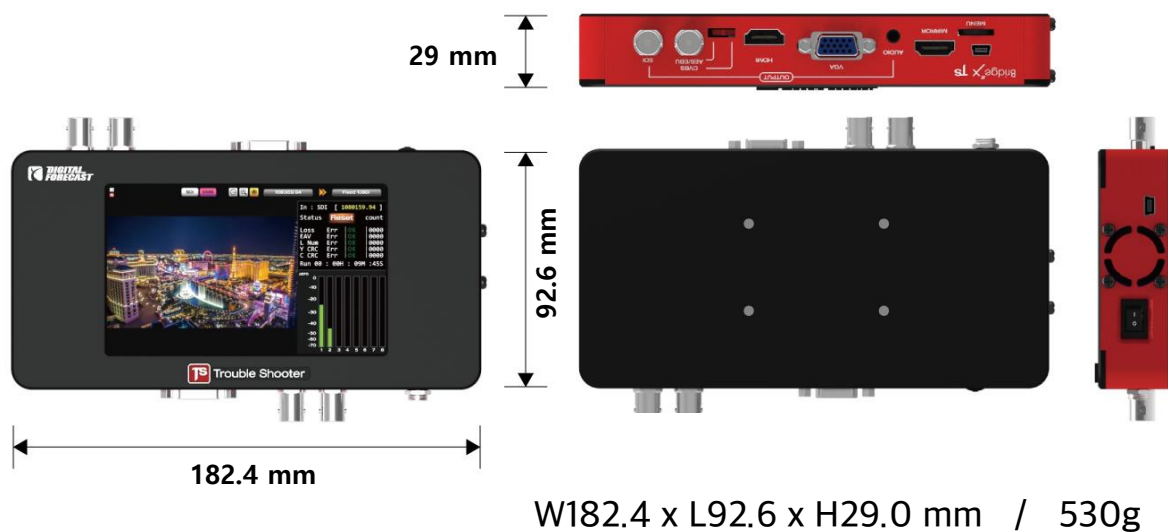
OPERATING ENVIRONMENT

Supply Power	+ 12 VDC
Power Consumption	13 Watts (Maximum: 15Watts)
Operation temperature	0℃ ~ 70℃
humidity	0% ~ 95% RH, Non-condensing

OPERATION

Chapter 3

MAIN MENU

① IN/OUT   Selects the Input signal type, Output Resolution/Frame Rate, and Test Pattern Generator.

② SET OUTPUT   Selects Output Color Mode and Aspect Ratio.

③ MEASURE   Selects the monitoring of Waveform, Audio Level, Vector Scope, Jitter with Error Count.

④ CONFIG   Adjusts the LCD Brightness, LCD Contrast, Audio Volume, Auto Sleep.

⑤ EXIT   Saves the setting, and goes out of Main Menu.

⑥ FULL/SPLIT   Selects whether to display as Full Screen Mode (Video) or Split Screen Mode (Video/Measurements)

⑦ STATUS   Selects whether to display Status Icons on the top row.

⑧ HDCP   Indicates whether HDCP is activated.

**FULL
SCREEN**

**SPLIT
SCREEN**

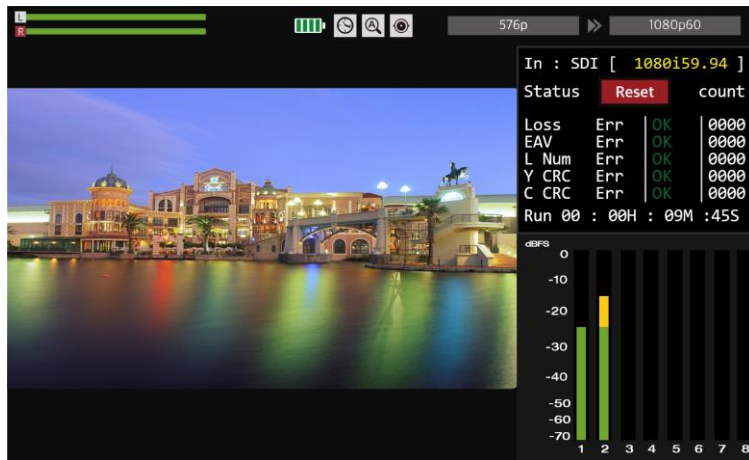## FULL/SPLIT SCREEN

FULL SCREEN MODE	Displays the video on the whole screen.

| SPLIT SCREEN MODE	Displays the video on the left area while the measuring elements are shown on the right area.

**STATUS
ON**

**STATUS
OFF**

STATUS ON/OFF

STATUS ICONS	
Audio Level Bar	Shows the Audio Signal Level Bar of Group 1 : Channel 1, 2 – L/R signal.
Battery Status	Indicates the residual battery capacity.
Auto Sleep Mode	Indicates the activation/deactivation of Auto Sleep Mode.
Auto Input Mode	Indicates the activation/deactivation of Auto Input Detection Mode.
Input Source Type	Indicates the type of Input Signal : SDI, HDMI, Pattern
Input Resolution /Frame Rate	Indicates the Resolution/Frame Rate of Input Signal
Conversion Indication	Indicates the direction of Conversion : from a Conversion Source to the Converted Output.
Output Resolution /Frame Rate	Indicates the Resolution/Frame Rate of Output Signal

SUB MENU

IN/OUT **IN/OUT**
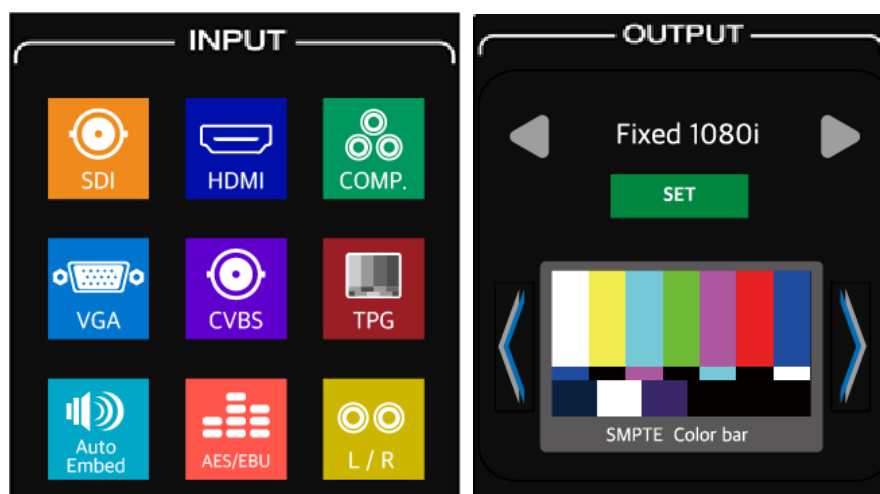
INPUT   : Selects an input among SDI, HDMI, COMP, VGA, CVBS, Pattern, Audio AUTO, Audio AES, Audio L/R.

AUTO Embed   : Embeds the Audio of SDI or HDMI when selecting the relevant input.

AES/EBU   : MUXing AES/EBU with the selected Input video signal
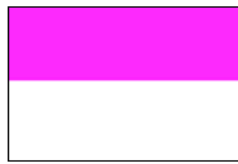
L / R   : MUXing Analog Audio with the selected Input video signal

OUTPUT   : Sets an output resolution, or Selects a type of Test Pattern. After the setting is done, "SET" button should be selected to apply.

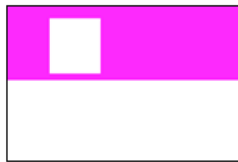## Test Pattern

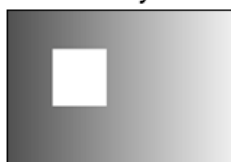SMPTE Color Bar   Pathological   Gray   Black
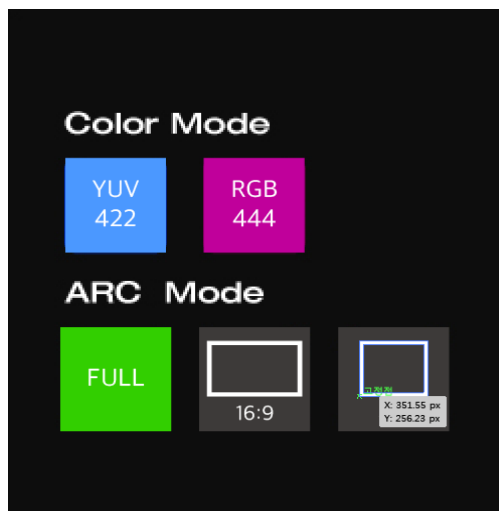
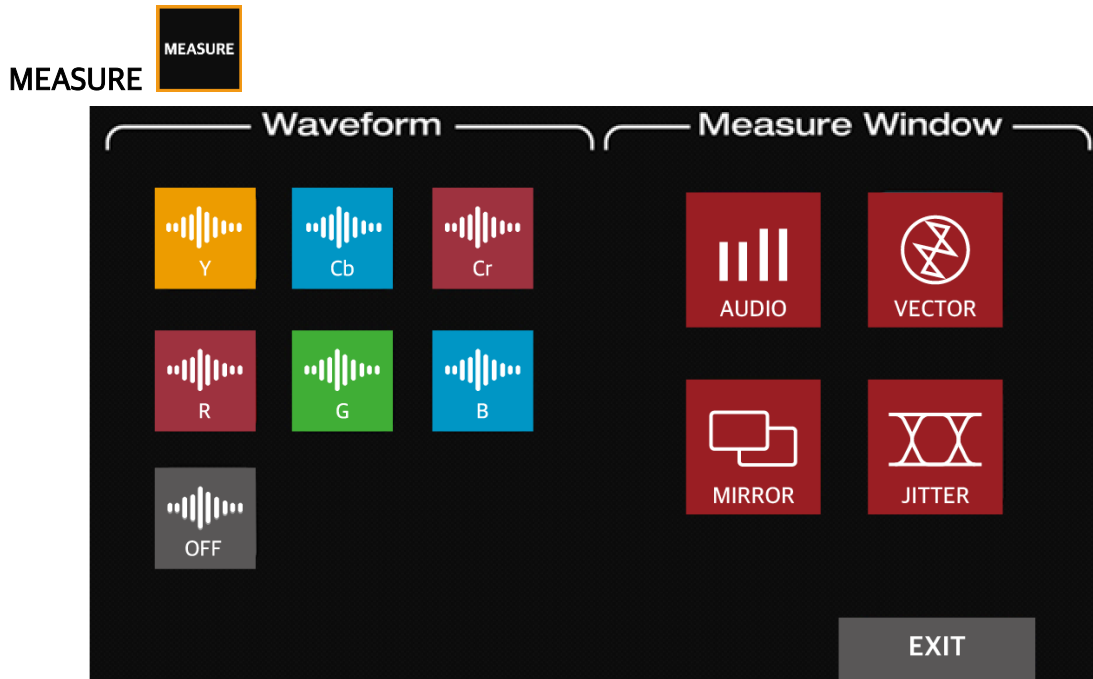SMPTE + Move   Pathological + Move   Gray + Move   Black + Move

SET OUTPUT

Color Mode   Sets the output color mode

ARC Mode   Converts Aspect Ratio.

Note
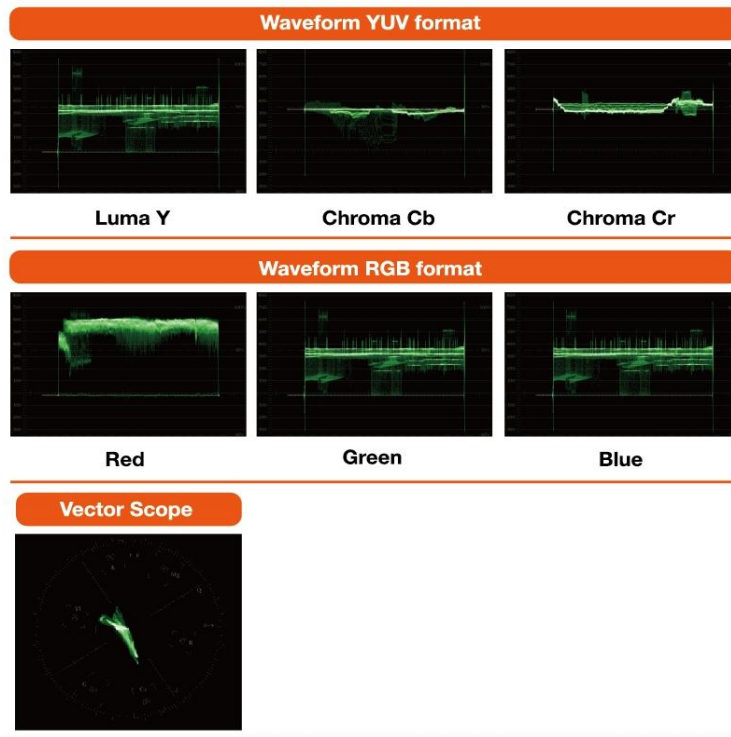
Please Do NOT change "Color Mode" from YUV422 (default value) unless using VGA.

Since SDI. CVBS and Component are supporting YUV422, it doesn't provide a proper output in case of applying RGB444.

MEASURE

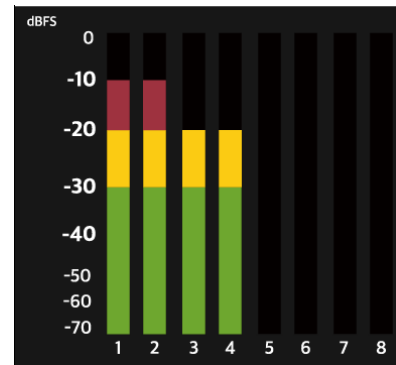| Waveform	Selects YCbCr or RGB waveform displayed at the bottom left.
Measure Window	Selects a display of Audio Level, Vector scope, Jitter during Split Mode.

1) **Audio Level Display**

- Up to 8 channel monitoring of Input source.
- Indicated as dbFS reference

2) **Vector Scope**

- Displays the Vector Scope

3) **Cable Length**

- Indicates an input SDI cable length

0~39m	40~79m	80m~
Good	Normal	Bad

- Color Gauge Bar indicates the increase of a possibility of error occurrence pursuant to a long distance (used for a parameter, Does NOT indicates the cable condition itself)
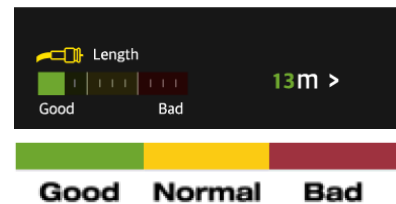
4) **Jitter**

- Indication a pseudo eye pattern with jitter
- Peak to Peak Jitter
  : Simulated Physical Eye jitter
- Max 1 UI Check
- Indication by Good, Normal, Bad

INFORMATION PANEL

```
In : SDI   [ 1080i59.94 ] ①        In : HDMI   [ 1080P59.94 ]
Status    ② Reset    count          Status     Reset     count

Loss    Err   | Err  | 0001         Sync    Err  | OK   | 0000
EAV           | OK   | 0000 ③        Hactive      |      | 1920
L Num         | Err  | 0001         Vactive      |      | 1080
Y CRC         | OK   | 0000         MODE         |      | HDMI
C CRC         | OK     0000         HDCP         |      |   ON
352M    |   85:06:00 :01            AUD Freq     |      48 Khz

Run 0④ : 00H : 09M :45S             Run 00 : 00H : 09M :45S
```
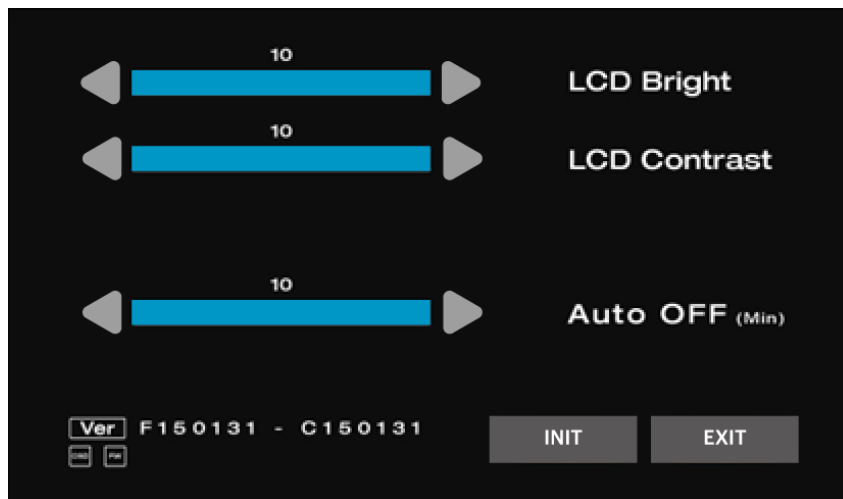
①	Input Information	Indicates Input source signal type and Resolution/Frame Rate.
②	Reset	Initializes the Error Count and Runtime when pressing the button.
③	Error Count	Indicates the count of the relevant error occurrence.
④	Run Time	Indicates the total elapsed operating time as dd/HH/mm/ss.

SDI : ERROR COUNT ITEMS

```
In : SDI [  1080i59.94 ]
Status     Reset     count

Loss    Err   | Err  | 0001
EAV     Err   | OK   | 0000
L Num   Err   | Err  | 0001
Y CRC   Err   | OK   | 0000
C CRC   Err   | OK   | 0000
Run 00 : 00H : 09M :45S
```

Loss Err	: Counts the Signal Loss error
EAV Err	: Counts the EAV error of TRS signal
L Num Err	: Counts the Line number marking error
Y CRC	: Counts the CRC error of Y signal
C CRC Err	: Counts the CRC error of Cb,Cr signal
352M	: Shows the SMPTE352M Payload

HDMI : ERROR COUNT ITEMS

```
In : HDMI  [ 1080P59.94 ]
Status     Reset      count

Sync   Err  |OK   |0000
Hactive     |     |1920
Vactive     |     |1080
MODE        |     |HDMI
HDCP        |     | ON
AUD Freq    |    48 Khz

Run 00 : 00H : 09M :45S
```

Sync	: Counts the Sync error
H active	: Counts the Horizontal resolution
V active	: Counts the Vertical resolution
MODE	: Shows the status of HDMI or DVI mode
HDCP	: Shows the status of HDCP
AUD Freq	: Shows the Audio sampling frequency

CONFIG [CONFIG]

```
       10
  ◄ ▭▭▭▭▭ ►    LCD Bright
       10
  ◄ ▭▭▭▭▭ ►    LCD Contrast

       10
  ◄ ▭▭▭▭▭ ►    Auto OFF (Min)

Ver  F150131 - C150131      INIT    EXIT
```

LCD Bright   Adjusts the brightness of LCD Touch Screen

LCD Contrast   Adjusts the Contrast of LCD Touch Screen

Auto OFF(min)   Sets the time(minute) for the Sleep Mode of LCD Touch Screen.

	After the set time, the LCD is automatically turned off for energy saving.
Ver	Indicates the System Version.

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