

ZX202HD Extended Display Identification Data, EDID , Emulation module

Zebax [ZX202HD](#) is EDID emulator, emulates any HDMI TV (Sink) device using onboard EEPROM. It supports EDID standard published by VESA 1.3 extension block CEA-861-F. It emulates any specific or general HDMI resolution and encoding protocol. It provides test solution to engineering and technical teams facilitating test and development in accelerated method. This document lists the ZX202HD EDID emulator which complements Zebax [ZX200x series HDMI test fixture](#) and 3rd party HDMI TPA-P or TPA-S HDMI test fixture.

This document identifies:

1. HOTPLUG detection , HPD, switch - facilitating HOTPLUG detection and debug.
2. Switch over to other resolution.
3. Accessible CEC signal for monitoring, as well as external stimulus.
4. Accessible DDC signals for validation test and stimulus
5. Accessible 5DVC as well as use of external Power Supply for purpose of test and debug - droop test.
6. Easily interfaces to any 3rd parts HDMI test fixture.

Revision History

Version	Date	Description
v01	Jan 14, 2017	Initial release -

1 Description

The Zebax ZX202HD is EDID emulator, emulates any HDMI TV (Sink) device using onboard EEPROM. It emulates any specific or general HDMI resolution and encoding protocol. It provides test solution to engineering and technical teams facilitating test and development in accelerated method.

It has been designed for interfacing with Zebax [ZX200x series HDMI test fixture](#) and interfaces easily with 3rd party HDMI TPA-P or TPA-S HDMI test fixture. Five onboard EEPROMs facilitate testing 5 different resolutions in one test run. Accessible CEC and HPD eases use of external stimulus and HPD droop test.

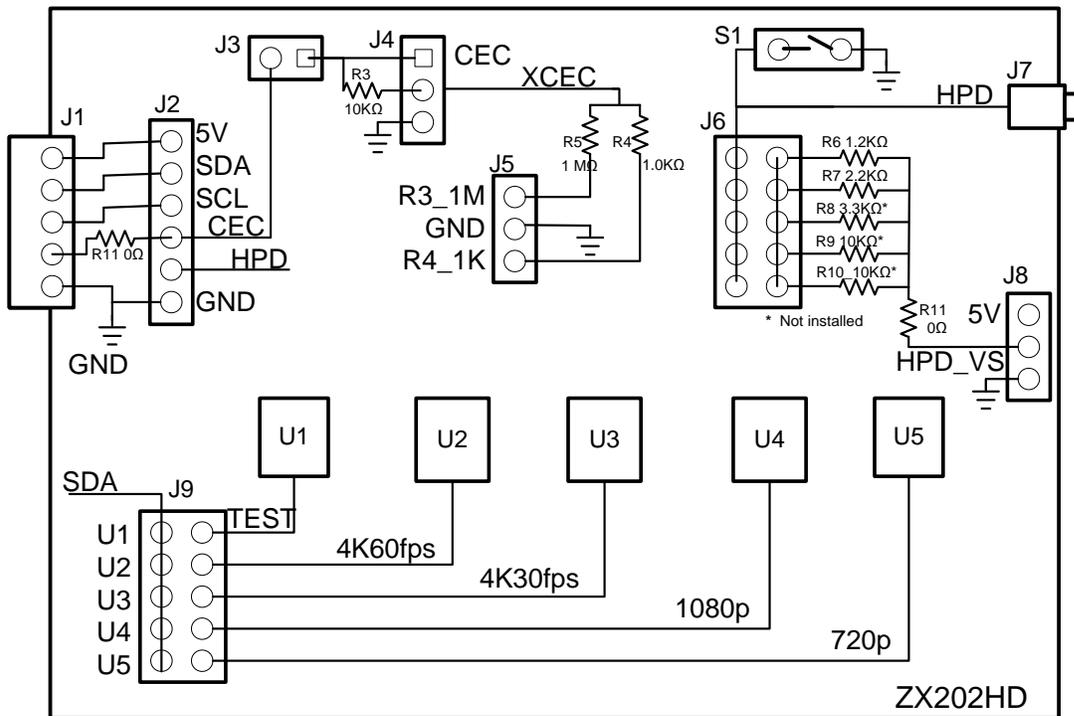
- I. Provides 5 onboard EEPROMs facilitating five different HDMI resolutions in one test run.
- II. All signals are accessible for test and debug, +5VDC, GND, CEC, DDC, and HPD.
- III. External stimulus option for HPD, CEC and +5VDC
- IV. Standard 0.1" (2.54mm) pitch header for interfacing with 3rd parts as well as test equipments.

2 ZX202HD EDID Emulator

EDID Emulator

ZX202HD Emulates Extended Display Identification Data, EDID, supporting EDID standard published by VESA 1.3 extension block CEA-861-F. It supports full access to Consumer Electronics Control, CEC, as well as HOTPLUG Detection, HPD, signaling. It provides full test coverage of electrical and protocol standards.

- Accessible DDC signals for test and debug.
- Accessible CEC for test and validation as well as external stimulus via onboard headers, J3, J4.
- Hotplug Detect, HPD , test and validation using onboard resistive loads via J6 or external stimulus for droop test & validation.
- Easy EDID re-test by pressing push-button S1, forcing HPD trigger. Applicable for automated testing using external test equipments.
- Five onboard EEPROMs easily switchable by J9 connector



[ZX202HD EDID Emulator circuit diagram](#)

Accessible DDC signals

The ZX202HD provides full access to DDC (I2C) signals for purpose of test, validation and debug. The DDC signals are accessible via standard 0.1" pitch header.

Accessible CEC

CEC signal is accessible for test , validation as well as external stimulus. Ample design configuration is provided via J5, J4, J3 along with standard resistive loads for proper test and validation. Automated test system may simply exert test condition for validation and stress testing.

Hotplug Detect, HPD

HotPug Detection test access point , external stimulus connector interface , onboard resistive loads and S1 push-bottom features support full validation and test coverage on HPD.

EDID EEPROMs

ZX202HD is shipped with five onboard EEPROMs supporting various HDMI resolutions as listed below:

- 4K 60Hz
- 4K 30Hz
- 1080p 120Hz
- 1080p 60 Hz

More EDID data files supporting other resolutions are available for download from www.zebax.com

Switching between EDIDs is facilitated by onboard 2x5 header where user places shunt (The shunt is shipped with ZX202HD) connecting the SDA signal to the selected EEPROM, (U1, U2, U3, U4, or U5) - enabling the required EDID EEPROM for DDC access.



[ZX202HD EDID Emulator](#)

Test Automation

ZX202HD is an ideal test solution for CEC, HPD, and Voltage droop. It provides ample standard connectors interfacing with any test equipment for purpose of automated test environment or full test coverage on any of the associated features.

Accessories

ZX202HD is shipped with 3 cable assemblies, making it ideal EDID emulation module to interface with Zebax ZX200x HDMI test fixture or 3rd parts TPA-P TPA-S .

ZXJS1173HD cable assembly

[ZXJS1173HD](#) cable assembly interfaces with J1 of ZX202HD. It provides pin sockets interfacing with test equipments or 3rd party test fixture.



[ZXJS1173HD cable assembly](#)

ZXJS1173-05 cable assembly

[ZXJS1173-05](#) cable assembly is board to board cable assembly. It interfaces ZX202HD with Zebax ZX200x series HDMI test fixtures.

ZX00020212 SMA cable assembly

[ZX00020212](#) is 12" SMA coax cable assembly. It provides SMA connector interface from ZX202HD to Zebax [ZX200x series HDMI test fixture](#) , or test equipments.



[ZXJS1173-05 cable assembly](#)



[ZX00020212 SMA cable assembly](#)

Zebax offers best in class [HDMI](#), [Display Port, DP](#), [USB test fixture](#), [USB Type C](#) test fixture (a.k.a. test board breakout adapter). ZX202HD EDID Emulation module is offered supporting full test & validation coverage along and test automation environment.

Zebax is dedicated in providing best in class solutions supporting engineering and technical communities in test and measurements disciplines.

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