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LOGO

- Products
- Investors
- ESG
- Career
- About ITE
- Technical Support

SEARCH

- EN
- 繁
- 简

- Log In

Products

- Overview
- Video Link
- DTV & ccHDTV
- USB3 Video Bridge
- USB Type C
- PC I/O & EC
- Sensor Hub/IOT
- SoC
- EPD(e-paper) IC

Investors

- Overview
- Financials
- Shareholders
- Events & Contact

ESG

- Overview
- Sustainable Governance
- Sustainable Operations
- Environmental Sustainability
- Partner Prosperity
- Friendly Workplace
- Social Participation

- Report Download

About ITE

- Overview
- ITE Vision
- Management Team
- Product History
- Quality Management
- Environmental, Safety, Health Management

News Release

- Overview
- COMPANY NEWS
- PRODUCT NEWS
- EVENTS

Career

- Overview
- Salary & Benefits
- Life at ITE
- Learning & Development
- 104 JOB BANK

Technical Support
Contact Us

EXPLORE

- SoC
- ccHDTV

PRIVACY POLICY

- Products
- Video Link
- IT66322: 2 IN to 1 OUT HDMI 2.0 18 Gb/s Switch with eARC RX with Audio In/Out

BACK

SELECT MODELS

- IT66651: HDMI 2.1 to HDMI 2.1 and Dual-Port MIPI CSI/DSI Converter
- IT6602E: Dual-port HDMI 1.4 Receiver with 3D Support
- IT66021FN: Single-port HDMI 1.4 Receiver with 3D Support
- IT6801FN: Single Port HDMI 1.4 Receiver with 3D Support
- IT68013FN: Single-port HDMI 1.4 Receiver with 3D Support
- IT6802E: Dual Port HDMI 1.4 Receiver with 3D Support
- IT6807: Dual port HDMI 1.4 Receiver with 3D Support

- IT68071: Single-port MHL 2.2/HDMI 2.0b Receiver with 3D Support to 8-Lane V-by-One® HS
- IT6653: Single Chip HDMI 2.0 to 4 Lane DisplayPort 1.2 Converter with Embedded MCU
- IT68050: Single-port HDMI 2.0b Receiver with 3D Support
- IT68051: Dual port HDMI 2.0b Receiver with 3D Support
- IT68052: Dual port HDMI 2.0b Receiver with 3D Support
- IT66120FN: Low Power Transmitter with HDMI 1.4 3D
- IT66122: Low Power HDMI 1.4 4K2Kp30 Transmitter
- IT66122FN-300: Low Power Transmitter with HDMI 1.4 3D
- IT6615: HDMI 2.0 4K2Kp60 Transmitter
- IT6263: Single Chip De-SSC LVDS to HDMI Converter
- IT62633: Single Chip High Speed LVDS to HDMI 2.0 Converter
- IT6264: Single Chip High Speed LVDS to HDMI 2.0 Converter
- IT6265: 8 Lane V-by-One® HS to HDMI 2.0 Converter
- IT6635: 4 IN to 1 OUT HDMI 2.0 18 Gb/s Retimer Switch
- IT66352: 2 IN to 1 OUT HDMI 2.0 18 Gb/s Retimer Switch
- IT66353: 3 IN to 1 OUT HDMI 2.0 18 Gb/s Retimer Switch
- IT6636: 3 IN to 1 OUT HDMI 2.1v Retimer Switch with Embedded MCU
- IT66362: 2 IN 1 OUT HDMI 2.1 (48 Gbps) Retimer Switch with Embedded MCU
- IT66612: 1-to-2 HDMI Active Splitter with EDID RAM and Embedded MCU
- IT6664: 1 IN to 4 OUT HDMI 2.0 Dual in Active Splitter with EDID RAM
- IT66620: 1-to-4 HDMI Active Splitter with EDID RAM
- IT66630: 1 IN to 2 OUT HDMI 2.0 Active Splitter with EDID RAM
- IT66631: HDMI 2.0 to HDMI 2.0/TTL Dual Output Converter
- IT6634: 4 IN to 3 OUT HDMI 2.0 Matrix/Switch
- IT6620BFN: ARC/eARC Receiver with Audio MUX
- IT6621: ARC/eARC Transmitter with Audio MUX
- IT6622: HDMI 1.4 Tx with eARC RX and Embedded MCU
- IT66341: 4 IN to 1 OUT HDMI 2.0 Switch
- IT66320: 1 IN to 1 OUT HDMI 2.0 Retimer with HDMI 2.1 eARC RX and Embedded MCU
- IT66321: 2 IN to 1 OUT HDMI 2.0 18 Gb/s Switch with Audio In/Out
- IT66323: 2 IN to 1 OUT HDMI 2.0 18 Gb/s Switch with ARC RX with Audio In/Out
- IT66324: 3 IN to 1 OUT HDMI 2.0 Switch with HDMI 2.1 eARC RX and Embedded MCU
- IT66325: 1 IN to 1 OUT HDMI 2.1 Retimer with eARC RX and Embedded MCU
- IT66326: 2 IN to 1 OUT HDMI 2.1 Switch with eARC RX and Embedded MCU
- IT66311: HDMI 2.0 Retimer
- IT66313: HDMI 2.1 Retimer
- IT66318: HDMI 2.0 Retimer
- IT66319: HDMI 2.1 Retimer
- IT6695: Single Chip HDMI to VGA Converter with Embedded MCU

SHARE

Video Link

IT66322: 2 IN to 1 OUT HDMI 2.0 18 Gb/s Switch with eARC RX with Audio In/Out

- Product Information

- Specification Table
- Product Information
- Specification Table
- Download

Product Information

IT66322: 2 IN to 1 OUT HDMI 2.0 18 Gb/s Switch with eARC RX with Audio In/Out

The IT66322 is a HDMI 2.0, 2 IN to 1 OUT switch with eARC receiver function which supports maximum signaling rate up to 6 Gbps/channel. It is compliant with the latest HDMI 2.0b specification and backward compatible with the HDMI 1.4 and DVI specifications. With 6 Gbps/channel capability, the IT66322 can support ultra-high resolution content streams, such as 4K x 2K@50/60 Hz video formats.

All 2 input ports and 1 output port support HDMI 2.0 data rate up to 18 Gb/s, and the IT66322 also supports various data processing functions, such as video color space conversion function and audio extract/merge function. For the audio content in HDMI data stream, the IT66322 can extract the audio from the input stream and/or merge the external audio to the output stream.

With the audio extract/merge function, the audio stream from HDMI RX port can be decoded and output to external audio processor through various audio interfaces. After processing by the audio processor, the new audio content can be encoded to audio stream and merged to original video stream from RX port and then a complete video/audio stream can be transmitted by TX port.

In some application, the external audio would like to be transmitted by TX port without HDMI input signals. An embedded pattern generator in IT66322 could be used to generate internal video stream which is merged to the external audio stream generated by audio encoder function to form a complete HDMI output signal.

The IT66322 TX port contains an audio receiver designed for HDMI 2.1 Enhanced Audio Return Channel (eARC) and it is also backward compatible with the HDMI 1.4 Audio Return Channel (ARC). When operating in eARC mode, the Differential Mode Audio Channel (DMAC) bandwidth, i.e. 98.304 Mbps, allows to receive 8-channel 192 K or 16-channel 96 K audio from HDMI Sink. No video stream and CEC function is required when eARC link is active.

The IT66322 also builds in HDCP 1.4/2.3 hardware engines which can be used to disable the HDCP encryption at the output port or convert HDCP 2.3 to HDCP 1.4 for closed system application. Each IT66322 chip comes preprogrammed with an unique HDCP key, in compliance with the HDCP 1.4/2.3 standard so as to provide secure transmission of high-definition content. Users of the IT66322 need not purchase any HDCP keys or ROMs.

The IT66322 also provides a complete solution of Consumer Electronics Control (CEC) function. This optional CEC feature of HDMI specification allows the user to control two or more CEC-enabled devices through HDMI network. With IT66322 embedded CEC PHY, user can use high-level software API to easily implement all the necessary remote control commands. The CEC bus related protocol is handled by the CEC PHY which eliminates extra loading of the MCU.

Features

- Switch 2 HDMI 1.4/HDMI 2.0 (18 Gb/s) input ports to 1 HDMI 1.4/HDMI 2.0 (18 Gb/s) output port
- Compliant with HDMI 1.4b, HDMI 2.0b, HDCP 1.4, HDCP 2.3 and DVI 1.0 specifications
- On-chip EDID RAM for each input port
- Support HDMI 2.1 eARC receiver function on TX port
- Support HDCP decryption on RX port and disable HDCP encryption to TX port for closed system
- Support HDCP 1.4 to HDCP 2.3 conversion
- Support HDCP 2.3 to HDCP 1.4 conversion
- Bi-direction Color Space Conversion (CSC) between RGB and YCbCr color spaces with programmable coefficients
- Support audio extraction and output data thru I2S/TDM, SPDIF and DSD audio interface

  - Up to eight I2S interfaces supporting maximum 16-channel 3D audio, with sample rates of 32~192 kHz and sample sizes of 16~24 bits

  - SPDIF interface supporting PCM, Dolby Digital, DTS digital audio at up to 192 kHz frame rate

  - Support high-bit-rate (HBR) audio such as DTS-HD and Dolby TrueHD through the four I2S interface or the SPDIF interface, with frame rates as high as 768 kHz

  - Support maximum 12-channel 3D one-bit audio through DSD interface

  - Compatible with IEC 60958 and IEC 61937

- Support external audio stream merge with the input video stream and output to HDMITX port
- Support HDMI 1.4 3D feature

  - Frame packing mode up to 1080P@23.98/24 Hz and 720P@59.94/60 Hz

  - Top and Bottom up to 1080P@59.94/60 Hz

  - Side-by-Side (Half) up to 1080P@59.94/60 Hz
  - Side-by-Side (Full) up to 720P@59.94/60 Hz
- Support HDMI 2.0 3D feature
  - Frame packing mode up to 4K x 2K@23.98/24/30 Hz and 1080P@59.94/60 Hz
  - Top and Bottom up to 4K x 2K@59.94/60 Hz
  - Side-by-Side (Half) up to 4K x 2K@59.94/60 Hz
  - Side-by-Side (Full) up to 1080P@59.94/60 Hz
  - Support 3D Dual-View and 3D Independent View
- Support HDR and Gamut Metadata packet
- Support adaptive and programmable input equalization for long and short cables
- Support auto-calibrated and programmable TMDS output current level, with optional output pre-emphasis and source termination
- Support output TMDS R/G/B/C channel swapping
- Integrated pre-programmed HDCP keys
- Purely hardware HDCP engine increasing the robustness and security of HDCP operation
- Monitor detection through Hot Plug Detection and Receiver Termination Detection
- Support input signal detection of non-active input port and fast switch function
- Support multiplexing function between external audio input and internal audio stream
- Embedded 256-byte Capabilities Data Structure
- Embedded full-function pattern generator
- Embedded hardware controlled CEC PHY
- Intelligent, programmable power management
- 128-Pin 14 x 14 LQFP package
- RoHS-compliant and Halogen-Free

Specification Table

After years of technology development, ITE has owned many types of advanced Silicon Intellectual Property (SIP) and highly integrated technology of system software/hardware.

PART NO.

PACKAGE TYPE

DESCRIPTION

FLASH SUPPORT

IT66322E

128-pin LQFP (14 mm x 14 mm)

2 IN to 1 OUT HDMI 2.0 18 Gb/s Switch with eARC RX

-

Explore

IT68050: Single-port HDMI 2.0b Receiver with 3D Support

The IT68050 is a single-port HDMI 2.0b receiver which supports 6.0 Gbps/channel capability and up to 18 Gbs bandwidth. It is fully compatible with HDMI 1.4b/HDMI 2.0b, HDCP 1.4/HDCP 2.3 and also backward compatible with DVI 1.0 specifications.

IT68051: Dual port HDMI Support

The IT68051 is a dual-port supports 6.0 Gbps/channel bandwidth for each port. It HDMI 1.4b/HDMI 2.0b, H backward compatible with IT68051 with its Deep Col ensures robust reception of video content, along with s and compressed digital auc and Dolby TrueHD in digi The IT68051 also supports which are compliant with t specification.

Products

- Video Link
- DTV & ccHDTV
- USB3 Video Bridge
- USB Type C
- PC I/O & EC
- Sensor Hub/IOT
- SoC
- EPD(e-paper) IC

Investors

- Financials
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ESG

- Sustainable Governance
- Sustainable Operations
- Environmental Sustainability
- Partner Prosperity
- Friendly Workplace
- Social Participation
- Report Download

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3F., No. 13, Chuangsin 1st Rd., Science Park, Hsinchu 30076, Taiwan, R.O.C.

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SoC

ccHDTV

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PRIVACY POLICY

TOP

Modal4

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Member Password

Please enter your membe

Verification Code

Please enter the corrcet v

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Welcome to ITE Tech. Inc.'s technical support center. For your efficient product development, we provide comprehensive technical documents and development sources. Please read the membership benefits below before signning up:

1. Membership Benefits and Source Categories

The sources we provide are divided into "General Development Resources" and "Core Technology Resources" by the confidentialty levels:

Source Categories

Content

Obtain Methods

General Development Resources

Product Brief, Publicly Available Datasheet, Publicly Available Driver, FAQs

Complete registration and log in, then you can start to download the documents.

Core Technology Resources

Full-version datasheet, SDK (Software Development Kit), HDK (Hardware Development Kit), Integration Guide, Reference Design

Please submit the "Download Application through the system. Once the verification is successful, you could download the documents.

2. Application Procedure for Document with High-level Permissions

For the core technology-related document, such as SDK or HDK, etc. please follow the procedure below:

Submit Application

Log in and click download on the document page, and confirm your application according to the instructions.

Eligibility Verification

The system will complete the automatic verification in 1 hour.

Download Notification

If the verification is successful, the system will send a "Download Authority Notification" to your email. Please follow the instructions in the email to download.

3. Membership Terms and NDA

Information Confidentialty

The member accounts are non-transferable. All the core technology is confidential, which is only authorized to internal usage. Transferring the downloaded core technology sources to any third party is prohibited.

Valid Information

When signing up, you must fill out the real company name and business email. This will be an important reference for the eligibility verification (Using free email, such as Gmail or Yahoo mail may be rejected when verifiying).

Usage Restrictions

The downloaded information is only for assessment or development usage with ITE's products. Any usage that may damage ITE's interests is prohibited.

4. Service Termination

Any account found engaging in excessive downloading, public distribution of resources, or identity fraud will be terminated immediately without notice. The Company will seek legal action to the fullest extent of the law.

☐

I have read and agree with the "Membership Terms and Conditions" and "Privacy Policy".

Next Step

Reset password/Forgot your password?

We will send a verification email to you.

Member Account

Please enter your email.

Verification Code

Please enter the correct ∨

Confirm and submit.

Password Reset Successful

Your password has been successfully reset.

Log In

Membership Terms and Conditions

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TOP

Application Received

The system has received your application. Once the verification is done, you will receive the download link in your email. Please wait patiently.

OK

Insufficient permissions to download.

This document is only available for specific members. Your account is not authorized to download this document.

Contact Us

Cancel

Not Logged In

This service is only for the members to use. Please log in first.

Log In

Cancel

Logging Out

If you log out, you shall log in again to use the member services. Are you sure to log out?

Yes, I'm logging out.

Cancel

Logged In Successfully

You have logged in successfully. You could go to "Technical Support" and "Product Information" sections. Download the required documents.

OK

Logged Out Successfully

You have logged out successfully.

OK

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. Collection and Use of Personal Data
No personal data collection occurs during basic browsing, searching, and downloading activities on the ITE official website. If you use the "Contact Us" feature of the website, our company will collect personal information such as your name, company name, email, and contact number. The collected visitor information is solely used for responding to your queries and for communication, and will not be used for purposes other than business contacts by our company. The website records user IP addresses, times, and browsed page data to analyze the browsing behavior of all users collectively, not individually.

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