



Inovative Optical Interconnect Solutions



SHENZHEN AFALIGHT CO., LTD

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Enterprise Profile

AFALIGHT Co., Ltd., established in 2016 is a National High-tech Enterprise focusing on INNOVATIVE OPTICAL INTERCONNECT SOLUTIONS. In 2022, AFALIGHT won the Excellent Enterprise of China Innovation and Entrepreneurship Competition, the first prize of Shenzhen Innovation Competition, as well as the Gold Award of Guangdong Innovation Cup. In 2023, it won the first prize of Science and Technology Progress of China Electronic Information Society, and the top 100 small, medium and micro innovation enterprises in Longhua District.

The company is the undertaking unit of the key research and development of optical communication project of the Ministry of Science and Technology in 2019. It is a member of the World Ultra HD Video Industry Alliance (CUVA), a member of Guangdong Connector Association, and a member of Shenzhen 8K Ultra HD Video Industry Cooperation Alliance (SUVA). The company has passed the ISO9001, ISO14001, ISO45001 three system certification and IECQ harmful substances process management certification. At present, it has more than 60 related patents, more than 10 software Copyrights, 4 PCT patents, and China National Accreditation Service for Qualification Assessment Certification Laboratory (CNAS Laboratory).

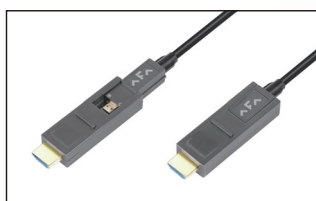
AFALIGHT has rich experience in innovative technology and industry. With the self-developed patented optical devices and the Passive Alignment optical sub-micron coupling technology, AFALIGHT develop products apply in consumer electronics and engineering applications, Such as HD video transmission, split TV, mobile phone, HD projector, VR game device signal transmission, industrial camera, medical device signal transmission and automotive electronics and other fields. AFALIGHT is now the world's largest supplier of consumer optical modules.

Enterprise Qualification

- 01 → National high-tech enterprise, Shenzhen high-tech enterprise
- 02 → Guangdong Specialized and New Enterprise
- 03 → Shenzhen high-tech high-growth top 20 enterprises
- 04 → First prize of Science and Technology Progress of China Electronic Information Society
- 05 → Longhua District small and medium-micro innovation top 100 enterprises
- 06 → Domestic consumer photoelectric module leading suppliers
- 07 → China takes the lead in introducing the optical module into the field of TV system and medical gastric endoscope manufacturers
- 08 → 2019, the Ministry of Science and Technology of the State Council
- 09 → 2019 Key R&D Funding project of Longhua District, Shenzhen
- 10 → 2018 Shenzhen Peacock Entrepreneurship Funding Project
- 11 → 2017 Responsible unit of Shenzhen Basic Research Project
- 12 → Member unit of Shenzhen 8K Ultra HD Video Industry Cooperation Alliance and member unit of 8K Ultra HD Connection Standard Customization Working Group
- 13 → Vice President Unit of Guangdong Cable Industry Association and Vice President Unit of Guangdong Connector Association
- 14 → Internship and Employment Base of the State Key Laboratory of Optical Communication, Peking University
- 15 → China National Accreditation Service for Conformity Assessment Certification Laboratory (CNAS Laboratory)
- 16 → ISO 9001 Quality Management System, ISO 4001 Environmental Management System, ISO 45001 Occupational Health Management System, QC080000 Hazardous Substance Management System, etc
- 17 → Optical communication patents (including the actual examination) more than 100

HDMI / DVI Photoelectric Hybrid Active Optical Cable

HDMI 2.1/HDMI 2.0/DVI



HDMI 2.1	Compliance with the HDMI 2.1 protocol specification 48 Gbps (12 Gbps / CH) transmission at high speed 8K@60Hz/4K@120Hz/4K@60Hz/4K@30Hz	Support for HDCP / EDID / CEC / eARC / HDR Plug and play, without an external power supply Transmission distance is up to 300 m
HDMI 2.0	Compliance with the HDMI 2.0 protocol specification 18 Gbps for high-speed transmission Nondestructive transmission distance is up to 300 m	4K@60Hz/4K@30Hz/1080p/720p Plug and play, without an external power supply Support for HDR / CEC / ARC / HDCP / 3D
DVI	Support for HDMI 1.4 4.455Gps(1.485Gbps/CH)	1080p/1080i/720p Transmission distance to 300 m

Application Scenarios



Renovation of Luxury
Homes/Home Theaters



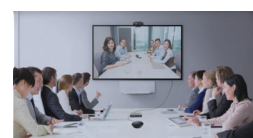
Shopping mall
Building cabling



Projection/Office



Outdoor Screen



Video Conference

Product Type

HDMI A Male Connector - HDMI A Male Connector HDMI D Male Connector - HDMI D Male Connector

HDMI A Male Connector - DVI D HDMI D Male Connector - HDMI A Male Connector HDMI A Male Connector - HDMI D Male Connector



DP Photoelectric Hybrid Active Optical Cable

DP 1.4/DP to HDMI2.1/DP to HDMI2.0

Product Features

DP 1.4

- Downward compatible with DP1.2
- 32.4Gbps (8.1Gbps per channel)
- 8K30Hz/4K144Hz/4K60Hz/4K30Hz
- Support HDR/HPD/HDCP 2.2
- Non-destructive transmission distance up to 300m

DP Turn to HDMI 2.1

- 8K/60Hz/8K/30Hz/4K@120Hz/4K@60Hz
- Transmission distance 100m

DP Turn to HDMI 2.0

- 4K@60Hz /4K@30Hz
- Transmission distance 100m



Application Scenarios



Renovation of Luxury Homes/Home Theaters



Shopping mall Building cabling



Projection/Office



Outdoor Screen



Video Conference

Product Type

DP - DP	Mini DP - Mini DP	Mini DP - DP	DP - HDMI A Male Connector	DVI D - DVI D	DVI D - HDMI A Male Connector
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USB Photoelectric Hybrid Active Optical Cable

USB 3.1 / USB 3.0 / USB 2.0 /
USB A Versus USB TYPE B



AFA customized HUB



USB 3.1	USB3.1 (Gen 1) photoelectric hybrid data transmission The host terminal must have interfaces above USB3.0	The transmission rate is 5G Transmission distance is 30m
USB 3.1	USB3.1 (Gen 2/Gen 1), backward compatible with USB3.0 and USB2.0 Transmission rate 10G	Incompatible with USB1.1/USB1.0. If compatibility is required, an additional AFA customized HUB needs to be purchased Transmission distance of 50m
USB 3.1	USB3.1 (Gen 2 / Gen 1), downward compatibility with USB3.0, USB2.0, USB1.1, USB1.0	Transmission rate is 10G The transmission distance is about 50m
USB A to the USB TYPE B	Support features USB2.0 compatible with 1.1 Signal has no compression and no attenuation Transmission distance: 50m	

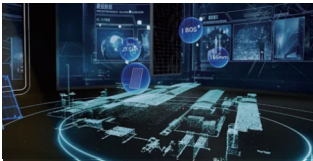
Application Scenarios



Machine Vision



Industrial Printing



Digital Intelligent Display
and Control



Video Surveillance



USB 3.1	USB3.1 (Gen 1) Optoelectronic hybrid data transmission compatible with USB3.0 Transmission distance is 30 m
Camera Link	Transmission rate: Full:5.4GB/S,Medium:4.8GB/S Base:2.0GB/S Maximum transmission distance of 20m (using the OM 3 optical fiber)

Application Scenarios



Machine Vision



Industrial Printing



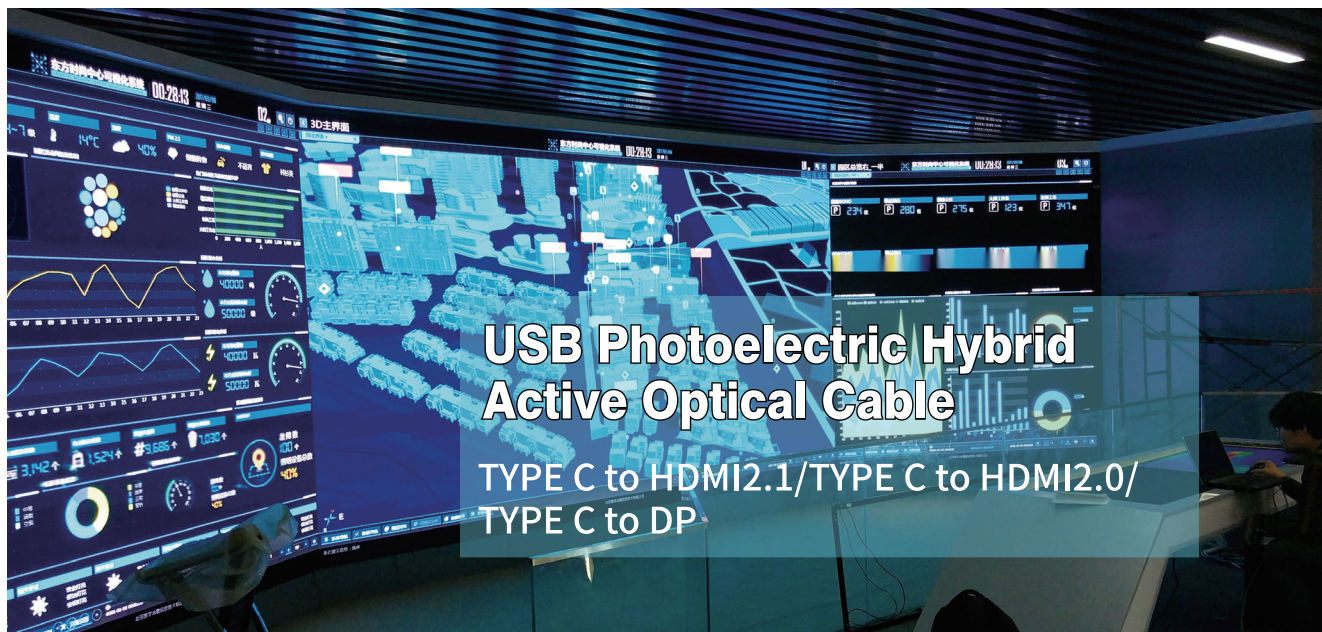
Digital Intelligent Display and Control



Video Surveillance



Zero Terminal System



TYPE C Turn to HDMI 2.1	Support for USB Type C DP Alt Mode compliant with USB Type C specification 1.1 and downward compatible with Type C specification 1.0	32.4Gbps (8.1Gbps/CH) 8K60Hz/4K@60Hz/4K@30Hz/1080p Support for HDCP / HDR The transmission distance is about 50 m
TYPE C Turn to HDMI 2.0	Support USB Type C DP At Mode meets USB Type C specification 1.1 and downward compatible with Type C specification.0	21.6Gbps (5.4Gbps/CH) 4K@60Hz / 4K@30Hz / 1080p supports HDCP / HDR The transmission distance is about 50 m
TYPE C Turn it to DP	Support the DP1.4/DP1.2 protocol specification Comply with the USB Type C specification 1.1 and is downward compatible with the Type C specification.0	8K@60Hz/4K@60Hz The transmission distance is about 50 m

Application Scenarios



Renovation of Luxury Homes/Home Theaters



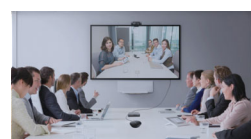
Shopping mall Building cabling



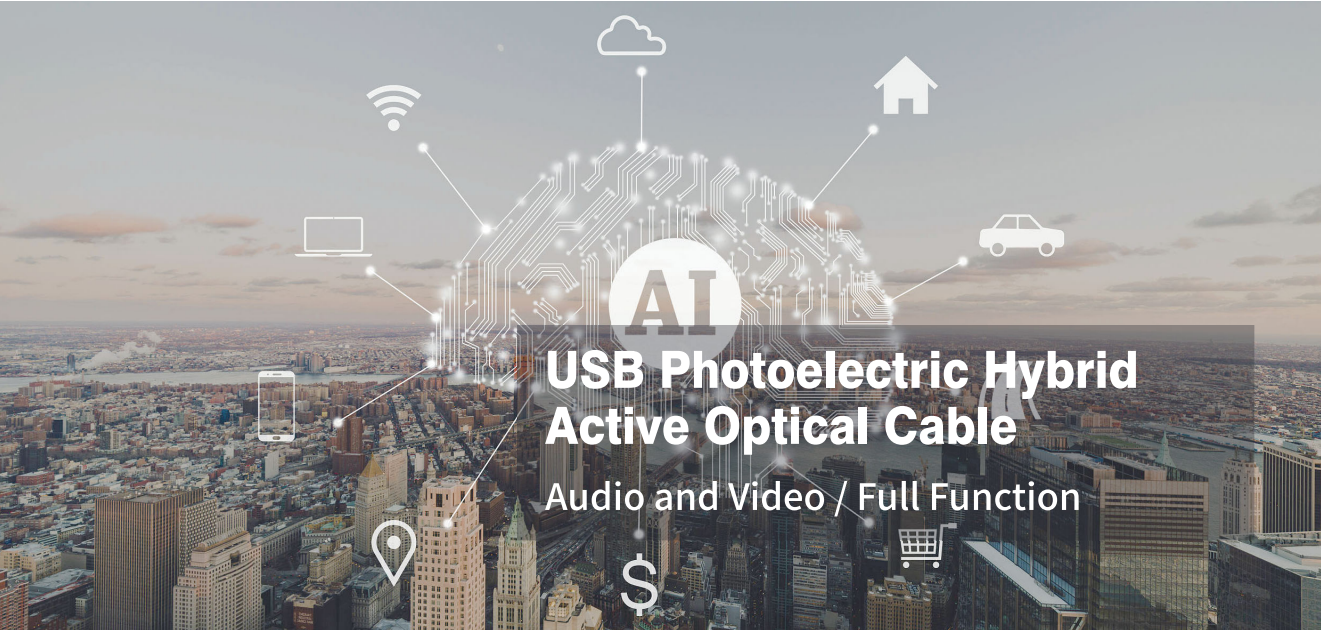
Projection/Office



Outdoor Screen



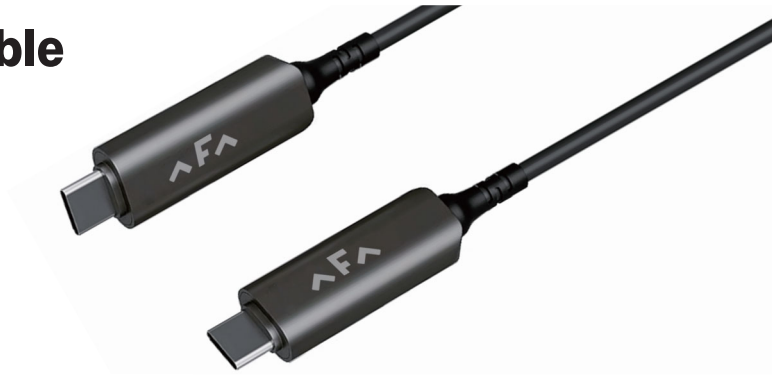
Video Conference



USB 3.1	DP Alt Mode 4 Lane Video Supports 4K60Hz / 4K30Hz / 1080p The transmission distance is about 50 m	
USB 3.1	USB3.1 (Gen 2/Gen 1) 向下兼容USB3.0,USB2.0和DP	8.1Gbps/Lane, 4K@60Hz/1080p/1080i/720p 传输距离10米

USB4 Active Optical Cable

- Supports 40 Gbps rate transmission
- Up to 20V / 5A 100W charging support
- Transmission distance: 5 m



Application Scenarios



Automotive Data Transmission



Expand Data Storage



Type C Active Optical Cable (VR)

- The USB3.1 Gen2 protocol is supported, with rates of up to 10 Gbps
- Super fast refresh rate, watch the dripping dripping
- Optical fiber material transmission, low signal delay, no loss
- Plug and play without any additional power supply
- The transmission distance is up to 30 m





USB 3.1	USB3.1 (Gen 1) pure optical data transmission USB3.1 (Gen1) is USB 3.0 compatible	USB2.0 is not supported Transmission distance: 100 m
USB 3.0	USB3.0 is downward compatible with 2.0 pure optical data transmission The USB3.0 interface must be inserted in the host HOST terminal The RX side is compatible with USB2.0 devices Transmission distance: 100 m	
USB 2.0	Support function USB2.0 Transmission rate of 4Mbps	Signal has no compression and no attenuation Transmission distance: 100 m

Application Scenarios



Consumer Electronic Data



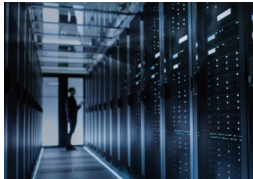
Video Transmission



Digital Intelligent Display and Control



Conference System



Remote Storage

HDMI / DP / DVI Single-Fiber Multimode

HDMI 2.1/HDMI 2.0/DP 1.4/DVI



HDMI 2.1	Compliance with the HDMI 2.1 protocol specification 48 Gbps (12 Gbps / CH) transmission at high speed 8K@60Hz/4K@120Hz/4K@60Hz/4K@30Hz	Support for HDCP / EDID / CEC / eARC / HDR Optical fiber material, low signal delay, no loss Nondestructive transmission distance is up to 300 m
HDMI 2.0	Compliance with the HDMI 2.0 protocol specification 18 Gbps for high-speed transmission 4K@60Hz/4K@30Hz/1080p/720p	Optical fiber material, low signal delay, no loss Support for HDR / CEC / ARC / HDCP / 3D Transmission distance is up to 300 m
DP 1.4	Support is DP1.4 compatible with DP1.2 32.4Gbps (8.1Gbps/CH) 8K30Hz/4K144Hz/4K60Hz/4K30Hz	Support for HDR / HPD / HDCP 2.2 Optical fiber material, low signal delay, no loss Lossless transmission distance to 300 m
DVI	Support for HDMI 1.4 4.455Gps(1.485Gbs/CH)	1080p/1080i/720p Transmission distance up to 1,000 m

Application Scenarios





**HDMI/DP/DVI Single Fber
Single Mode**
HDMI 2.1/HDMI 2.0/DP 1.4/DVI

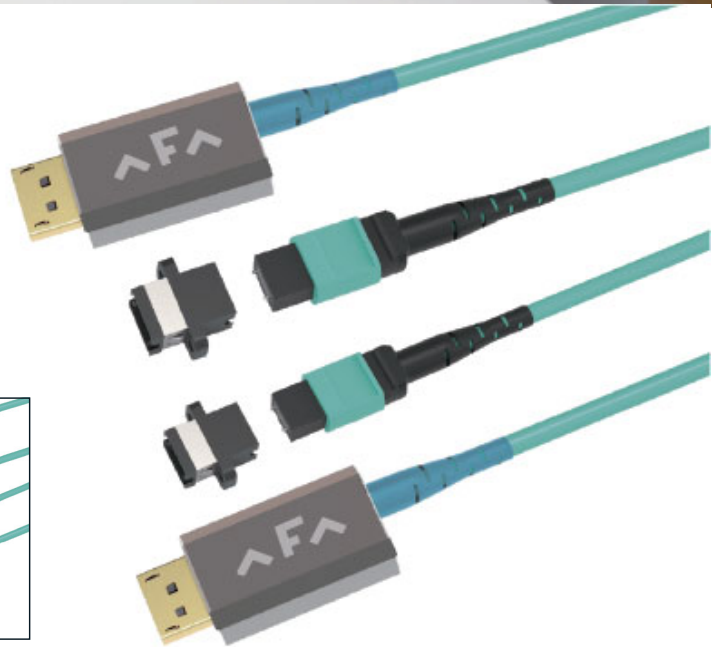
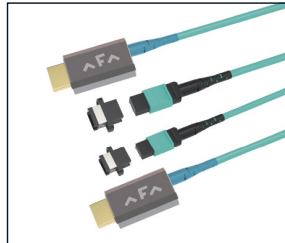
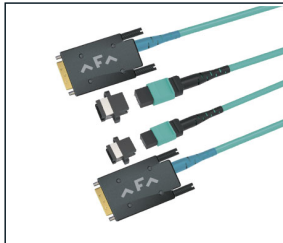


HDMI 2.1	Compliance with the HDMI 2.1 protocol specification 48 Gbps (12 Gbps / CH) transmission at high speed 8K@60Hz/4K@120Hz/4K@60Hz/4K@30Hz	Support for HDCP / EDID / CEC / eARC / HDR Optical fiber material, low signal delay, no loss Nondestructive transmission distance is up to 10KM
HDMI 2.0	Compliance with the HDMI 2.0 protocol specification 18 Gbps for high-speed transmission 4K@60Hz/4K@30Hz/1080p/720p	Optical fiber material, low signal delay, no loss Support for HDR / CEC / ARC / HDCP / 3D Transmission distance is up to 10KM
DP 1.4	Support is DP1.4 compatible with DP1.2 32.4Gbps (8.1Gbps/CH) 8K30Hz/4K144Hz/4K60Hz/4K30Hz	Support for HDR / HPD / HDCP 2.2 low signal delay, no loss Transmission distance is up to 10KM
DVI	Support for HDMI 1.4 4.455Gps(1.485Gbs/CH)	1080p/1080i/720p Nondestructive transmission distance is up to 10KM



Separated Active Optical Cable HDMI / DP

HDMI 2.1/HDMI 2.0/DP 1.4



HDMI 2.1	Compliance with the HDMI 2.1 protocol specification 48 Gbps (12 Gbps / CH) transmission at high speed 8K@60Hz/4K@120Hz/4K@60Hz/4K@30Hz	Support for HDCP / EDID / CEC / eARC / HDR Optical fiber material, low signal delay, no loss Nondestructive transmission distance is up to 300 m
HDMI 2.0	Compliance with the HDMI 2.0 protocol specification 18 Gbps for high-speed transmission 4K@60Hz/4K@30Hz/1080p/720p	Optical fiber material, low signal delay, no loss Support for HDR / CEC / ARC / HDCP / 3D Nondestructive transmission distance is up to 300 m
DP 1.4	Support is DP1.4 compatible with DP1.2 32.4Gbps (8.1Gbps/CH) 8K30Hz/4K144Hz/4K60Hz/4K30Hz	Support for HDR / HPD / HDCP 2.2 Optical fiber material, low signal delay, no loss Transmission distance up to 1,000 m
DVI	Support for HDMI 1.4 4.455Gbps(1.485Gbps/CH)	1080p/1080i/720p Transmission distance up to 1,000 m



Multimode Fiber-Optic Transceiver

- The network signal is input by the RJ 45 interface and converted into a road optical signal through the photoelectric conversion chip;
- The optical signal is transmitted to the receiving end through an LC-LC optical fiber, and then the one-road optical signal conversion network signal is connected to the RJ 45 interface output through the photoelectric conversion chip;
- Support for gigabit network transmission
- Transmission distance is 300m



Docking

- Support for PD charging, and the maximum support is 60W
- Support for HDMI 2.0 video transmission
- Support for USB3.1 10G data transmission
- High-speed expansion, large file easily transfer
- Multi-interface expansion, to meet the different needs
- Multi-system is compatible with plug and play

Docking TX

	Type C IN TO PC	×1
	LC-LC Fiber	×3
	USB3.0/USB2.0	×2
	USB2.0	×1
	TF Card/SD Card	×1
	100/1000M Ethernet	×1
	DP OUT4K@60Hz	×1
	HDMI OUT 4K@60Hz	×1
	Connect Adapter	×1

- HDMI and DP interfaces can be used as extended display
- fiber transmission distance of 300m (OM 4)
















Docking RX

	Type C IN TO PC	×1
	LC-LC Fiber	×1
	USB3.0/USB2.0	×5
	TF Card/SD Card	×1
	100/1000M Ethernet	×1
	DP OUT4K@60Hz	×1
	HDMI OUT 4K@60Hz	×1
	Connect Adapter	×1

- The computer needs to install FL6000 and Display Link drivers
- HDMI and DP interfaces can be used as extended displays
- When there is no fiber optic insertion, it is in local mode. When there is fiber optic (signal) insertion, it automatically switches to extended mode



Optical Extender Multimode and Single Mode Customer Design Available (HDMI/dp/USB etc.)

Function/ Interface	Keyboard mouse	USB Printing	USB 2.0	USB 3.0	IR	RS232	HDMI 4K60Hz	HDMI TX Ring Out	DP	DC 2.0 Power	USB Power	TYPE-C Power	RJ45	Multimode (LC)	Single Mode (SC)
Product															
B1H-4KIR V1.0					✓	✓	✓	✓		✓		✓		✓	
B1H_4KKM_V1.0	✓	✓					✓	✓		✓		✓		✓	
B1HB_4KKM_V1.0	✓	✓					✓	✓		✓		✓		✓	
B1H USB2.0_V1.0	✓		✓			✓	✓			✓	✓ (TX)		✓		✓

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