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676T / 676R Quick Start Guide

This guide helps you install and use your 676T / 676R for the first time.

Go to www.kramerav.com/downloads/676T or www.kramerav.com/downloads/676R to download the latest user manual and check if firmware upgrades are available.

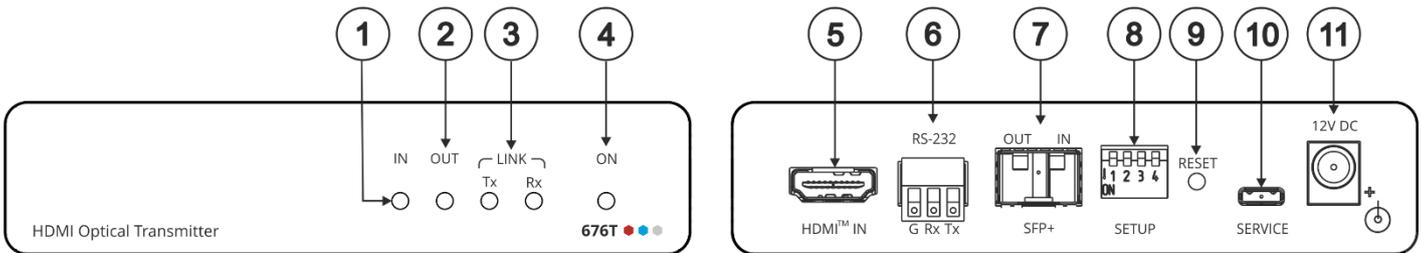
Step 1: Check what's in the box

- ✓ 676T HDMI Optical Transmitter or 676R HDMI Optical Receiver
- ✓ 1 Bracket set
- ✓ 4 Rubber feet
- ✓ 1 OSP-MM1 Fiber Optic SFP+ Transceiver
- ✓ 1 Power cord and adapter
- ✓ 1 Quick start guide

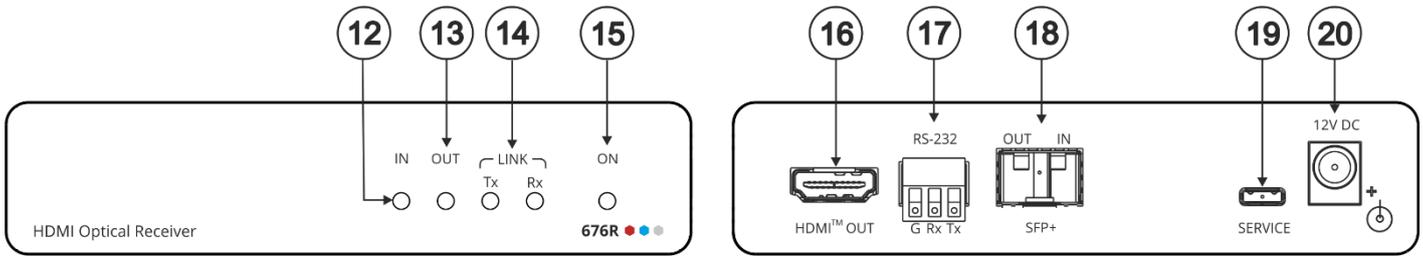
Step 2: Get to know your 676T and 676R

i 676T can be connected to a single 676R device or to multiple devices via optical splitters. When multiple devices are connected, a receiver device is defined as primary when its Tx (SFP+ OUT) optical fiber is connected directly to the 676T Rx optical fiber (SFP+ IN).

676T



#	Feature	Function
1	IN LED	Lights green when a connected source device (with an active HDMI™ signal) is detected. Flashes 4 times green when resetting the device. Off when no active signal is detected on the connected HDMI source device.
2	OUT LED	Lights green when an HDMI acceptor device (with an active HDMI signal) is detected. Off when no active signal is detected on the connected acceptor.
3	LINK LEDs	Tx Lights green when OUT IN SFP+ is connected, and an active Tx optical link is detected. Lights red when OUT IN SFP+ is connected, and a fault is detected on the single/primary 676R receiving optical link. Off when the OUT IN SFP+ is disconnected.
	Rx	Lights green when OUT IN SFP+ is connected, and an active Rx optical link is detected. Lights red when OUT IN SFP+ is connected, and a fault is detected on the incoming optical link. Off when OUT IN SFP+ is disconnected.
4	ON LED	Lights green when the device receives power.
5	HDMI™ IN Connector	Connect to an HDMI source.
6	RS-232 (Tx, Tr, G) 3-pin Terminal Block Connector	Connect to a serial controller to communicate serially with all the connected receivers. i Receives RS-232 communication only from a single/primary receiver.
7	OUT IN SFP+ Connector	Connect the fiber optic cable to the plugged-in SFP+ optical module connectors. (OSP-MM1 , included).
8	SETUP 4-way DIP-switch	Sets the device behavior.
9	RESET Recessed Button	Press and hold for 5 seconds or less to reset the device. Press and hold for over 5 seconds to reset the device to factory default values.
10	SERVICE Micro USB Port	Connect to a PC to perform firmware upgrade (via K-Upload).
11	12V DC Power Connector	12V DC connector for powering the unit.

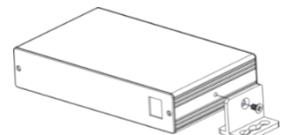


#	Feature	Function
12	IN LED	Lights green when a connected HDMI source device (with an active HDMI signal) is detected. Flashes 4 times green when resetting the device. Off when no active signal is detected on the connected source device. i IN LED is always off for 676R receivers other than the single/primary device.
13	OUT LED	Lights green when an HDMI acceptor device (with an active HDMI signal) is detected on the single/primary 676R device. Off when no active signal is detected on the connected acceptor.
14	LINK LEDs	Tx Lights green when OUT IN SFP+ is connected, and an active Tx optical link is detected. Lights red when OUT IN SFP+ is connected, and a fault is detected on the 676T receiving optical link. i Tx LED on devices other than the single/primary 676R device always light red. Off when OUT IN SFP+ is disconnected.
		Rx Lights green when OUT IN SFP+ is connected, and an active Rx optical link is detected. Lights red when OUT IN SFP+ is connected, and a fault is detected on the incoming active optical link. Off when OUT IN SFP+ is disconnected.
15	ON LED	Lights green when the device receives power.
16	HDMI™ OUT Connector	Connect to an HDMI acceptor.
17	RS-232 (Tx, Tr, G) 3-pin Terminal Block Connector	Connect to the serial control port of a controlled device located next to the 676R. i Only the controlled device connected to the single/primary receiver returns serial data to the transmitter.
18	OUT IN SFP+ Connector	Connect the fiber optic cable to the plugged-in SFP+ optical module connectors (OSP-MM1, Included).
19	SERVICE Micro USB Port	Connect to a PC to perform firmware upgrade via K-Upload.
20	12V DC Power Connector	12V DC connector for powering the unit.

Step 3: Mount 676T/676R

Install 676T/676R using one of the following methods:

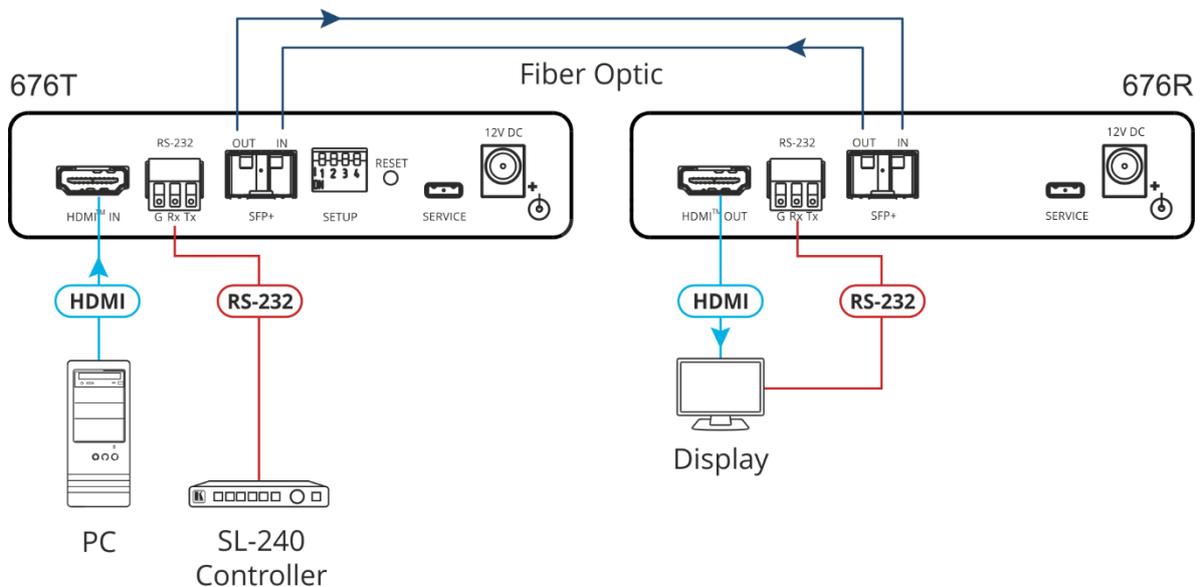
- Attach the rubber feet and place the unit on a flat surface.
- Fasten a bracket (included) on each side of the unit and attach it to a flat surface (see www.kramerav.com/downloads/676T).
- Mount the unit in a rack using the recommended rack adapter (see www.kramerav.com/product/676T).



- Ensure that the environment (e.g., maximum ambient temperature & air flow) is compatible for the device.
- Avoid uneven mechanical loading.
- Appropriate consideration of equipment nameplate ratings should be used for avoiding overloading of the circuits.
- Reliable earthing of rack-mounted equipment should be maintained.
- Maximum mounting height for the device is 2 meters.

Step 4: Connect inputs and outputs

Always switch OFF the power on each device before connecting it to your 676T/676R.



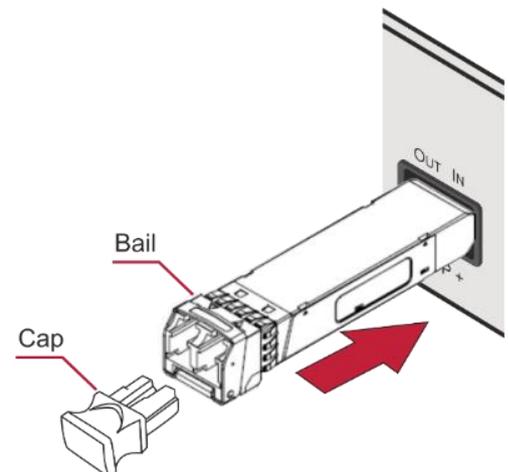
For optimal performance, use the recommended Kramer cables available at www.kramerav.com/product/676T.

Using third-party cables may cause damage!

To install/replace the OSP-MM1 or other Kramer recommended SFP+ transceiver:

1. Pull the bail out and remove the currently installed transceiver, insert the protective cap and store in a safe place.
2. Make sure the bail of the new transceiver is pushed up, in the closed position.
3. Insert the new transceiver into the relevant optical device SFP+ slot and push it in until it clicks.
4. Remove the protective cap and store it in a safe place for future use.

Warning: Connecting the OSP SFP+ connector to an LC(APC) fiber connector may cause poor performance and damage the connector! Refer to www.kramerav.com/downloads/OSP-MM1 for more information.



Warning: Class 1 Laser Product

- Invisible laser radiation present.
- Avoid long-term viewing of laser.
- Avoid the use of magnifying viewing aids or instruments (such as binoculars, telescopes, microscopes and magnifying lenses, but not spectacles or contact lenses).
- Avoid placing optical devices in the emitted beam that could cause the concentration of the laser radiation to be increased.

Step 5: Connect power

Connect the power cord to 676T/676R and plug it into the mains electricity.

Safety Instructions (See www.kramerav.com for updated safety information)

Caution:

- There are no operator serviceable parts inside the unit.

Warning:

- Use only the power cord that is supplied with the unit.
- Disconnect the power and unplug the unit from the wall before installing.



Step 6: Operate 676T and 676R

Set the 676T DIP-switches

The DIP-switch setup on 676T applies to all the 676R devices that are connected.

A DIP-switch that is down is on, up is off. Changes to the DIP-switches take effect immediately. By-default, all DIP-switches are set to Off

#	Function	Status
1	EDID Lock	Off (up) – Unlock stored EDID. On (down) – Lock stored EDID.
2	Color Depth	Off (up) – Follow output color depth. On (down) – Force 8-bit color depth.
3	Input HDCP Appearance	Off (up) – HDCP ON. Always input HDCP-supported appearance. On (down) – HDCP OFF. Always input HDCP-unsupported appearance (MAC mode).
4	For future use	

Control the devices

Operate remotely, by RS-232 serial commands transmitted by a touch screen system, PC, or other serial controller

RS-232 Control / Protocol 3000 on the Micro USB			
Baud Rate:	115,200	Parity:	None
Data Bits:	8	Command Format:	ASCII
Stop Bits:	1		
Example (get device model name): #model?<cr>			
Factory Default Parameters			
Reset front panel button:	Press and hold for over 5 seconds to reset the device to factory default settings.		
P3K command:	#factory<cr>		

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