

Video Over Fiber Products Troubleshooting

The Rancent Analog and HD-CVI/HD-TVI/AHD Video Transmission Products are available with most applications using multimode or singlemode optical fibers. Please be certain that the correct size and type of the fiber is being used for the particular mode transmitter/receiver combination.

Also be certain that the attenuation and bandwidth of the fiber optic cable being used is within the range of the system's loss budget specifications.

General Troubleshooting

Any dirt or dust may easily pollute or block the fiber from accepting or radiating light. Therefore, please try to keep the optical connector clear and always use the dust caps whenever the connector is exposed to air. It is suggested that the tip of the optical connected should be carefully cleaned with a lint-free cloth moistened with alcohol from time to time.

Please also make sure that the transmitter and the receiver are not used in opposite position.

The status of any of the indicator LEDs should provide the first clue as to the optical and electrical status of the units. Troubleshooting normally starts at the transmit end.

On the Rancent video transmitter, at least one of the indicators should be illuminated. If no indicators are illuminated, check the power supply connections.

When video is connected to Channel 1 ~ Channel 32 input BNCs, the Video Present indicator for that channel should be illuminated green. If the Video Present indicator is not green, then check the video source and coaxial connections.

On the Rancent video receiver, at least one indicator should be illuminated. If no indicators are illuminated, check the power supply, power source, and connections.

If all the VIDEO LEDs on the receiver are blinking, it usually means that the fiber is broken or has too much attenuation. Please check the fiber for poor connections or optical losses greater than the unit specifications.

When the video indicators on both transmitter and receiver are illuminated green, operation is normal.

Fiber Information

The Rancent products were manufactured with attention to fiber cleanliness. Beyond the troubleshooting information contained in this file, the following guidelines should be observed when working with optical fibers. The biggest problem is dirt! It takes very little contamination to cause problems with optical fiber connections; cleanliness is extremely important to proper operation of optical equipment.

1. Protect optical connectors by leaving the connector covers in place on unused fiber connections and on the fiber tips themselves.
2. Personnel who remove and replace fibers should be equipped with a fiber cleaning kit. These are inexpensive and can be obtained from any fiber equipment supply house. If you choose to, you can use propanol and lint-free tissue to clean fibers.
 - Do not use isopropanol alcohol (typically called rubbing alcohol) mixed with water. This can cause additional spots. (Caution: Pure isopropanol is very flammable!)
 - Use lintless tissues or cloth to clean fibers.
 - Clean the fiber with a folded tissue or cloth moistened with the propanol, pulling the connector tip across the tissue, then turn the connector 90 degrees and repeat in a different spot on the tissue.
 - Don't pull the fiber across and then push it back. This will put the dirt that was cleaned off back on again.
 - Repeat the process on a dry, folded tissue or cloth.
3. When removing fibers, always clean them when replacing them no matter how long you had them off.
4. When connecting fibers, pay attention to the bend radius of the fibers. A general rule is to have a 3-inch (8 cm) bend radius. A bend radius less than 3 inches is an attenuator and can cause optical signal loss.
5. Installers of fiber equipment should be equipped with the equipment manuals and an optical power meter to measure the optical inputs and outputs in a system. An optical power meter is an inexpensive tool that can save much time and effort in getting optical communications links up and running. Properly equipped and trained installers can quickly determine the source of any problems that occur.

For help installing, operating, maintaining, and troubleshooting this product, refer to this document and any other documentation provided. If you still have questions or if you have any particular fiber topic inquires you would like to know more about, please send an email to support@rancent.com.