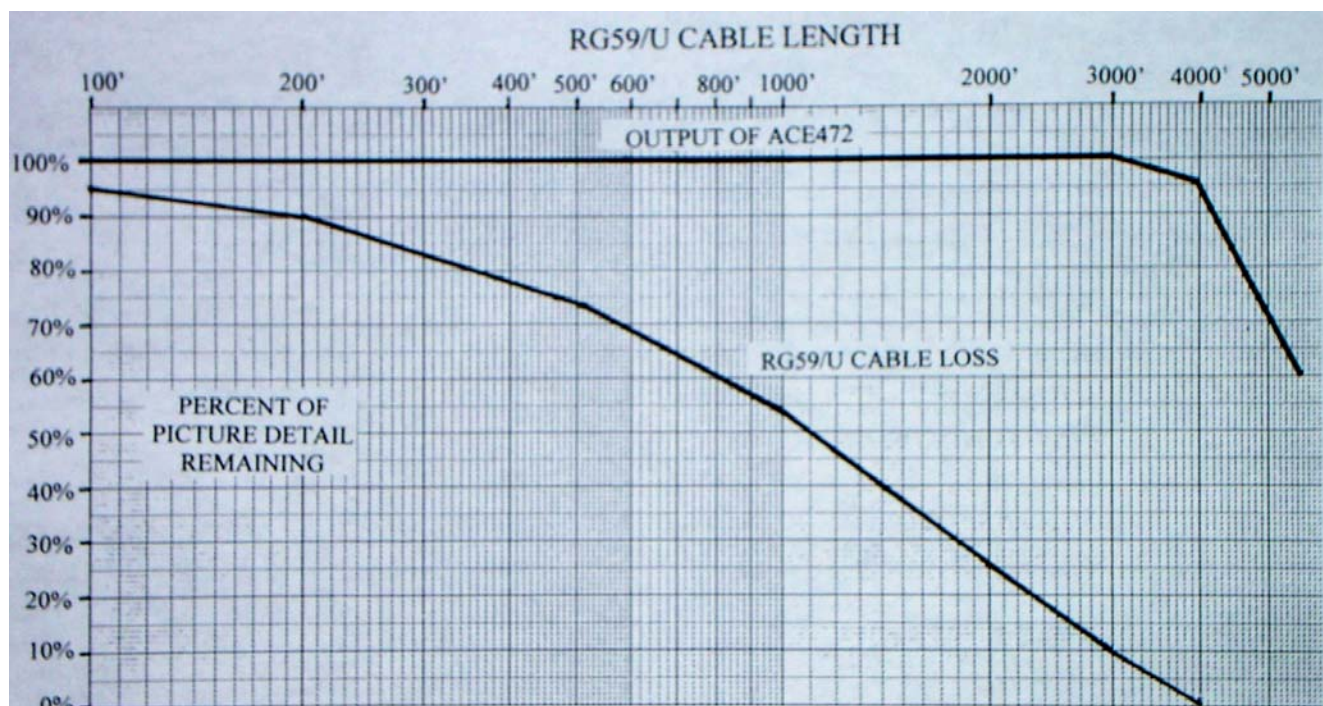


Why your CCTV images are not as sharp as they should be.



This graph illustrates the picture quality obtained when transmitting a CCTV picture through various lengths of RG59/U cable, and the restoration of picture quality obtained by using the ACE472 at the monitor end of the system. Note that only 80% of the picture quality remains after going through 350 feet of coaxial cable, and 50% is missing after only 1100 feet of cable. By 2000 feet, 75% of the original picture detail is gone. This picture detail can be recovered!

When the “Cable Ace” ACE472 is connected at the monitor end of the cable, 100% of the original picture detail will be delivered by coax or twisted pair wire up to 3000 feet long. Even after a 5000 foot run the picture quality is still as clear as a 600 foot run of RG59/U.

All cables introduce some loss of picture brightness and clarity. The longer the cable run the greater the loss. The loss of picture clarity is usually more noticeable than the loss of brightness as the cable length between the camera and the monitor becomes greater. Picture quality is often measured in terms of “Lines of Definition” on camera and monitor specification sheets, but coaxial cable and CAT-5 twisted pair wire are not rated in this way because the “Lines of Definition” rating of the cable varies with the length of the cables. The overall picture quality delivered to the monitor requires that the camera, monitor, and cable all be capable of handling the picture quality desired. Once the camera, recorder, and monitor have been selected to produce the desired system quality, then overall system quality will depend entirely on the loss produced by the cable or twisted pair wire connecting the camera to the monitor.

One frequently used measure of the degree of quality loss in pictures transmitted over cables is when ½ of the energy required to produce those “Lines of Definition” is lost in transmission over the cable. Note that “Lines of Definition” does not refer to the number of picture lines being transmitted. In fact the number of picture lines in an NTSC CCTV picture is always 525 lines, regardless of the number of “Lines of Definition” being transmitted. The term “Lines of Definition” refers to the number of vertical lines that could be resolved in a picture. That is why a “Lines of Definition” test pattern contains progressively finer and thinner vertical lines to denote higher definition. The following table shows the maximum length of Coaxial Cable and CAT-5 pairs that may be used to deliver standard “Lines of Definition”:

<u>LINES</u>	<u>RG59/U</u>	<u>CAT-5</u>	<u>RG59/U plus ACE472</u>
330	686 Feet	289 Feet	5300 Feet
400	615 Feet	259 Feet	5200 Feet
470	585 Feet	246 Feet	5100 Feet
570	521 Feet	219 Feet	4900 Feet
700	470 Feet	198 Feet	4700 Feet

The table shows the maximum distance in feet that can be used and still obtain the desired number of “Lines of Definition” for RG59/U coaxial cable and twisted pair wire “CAT-5” cable pairs. Much greater lengths of cable can be used when an ACE472 Cable Ace is connected at the monitor site. The ACE472 can be ordered for coaxial cable or twisted pair wire input.

Note that the CAT-5 (twisted pair) type of transmission typically transmits about ½ the distance as coaxial cable at the same quality level when transmitted over non equalized cables, however, the quality of the pictures on both coaxial cable and CAT-5 facilities will be full quality when the ACE472 is connected at the receiving end of the system.

The coaxial version of the ACE472 Automatic Cable Equalizer will enable your picture to be transmitted for any distance up to one mile, precisely compensating the cable automatically for its exact length. If switched to another, different length of cable, the ACE472 will automatically re-adjust to correctly compensate for the new length of cable. The ACE472 will correctly compensate for any number of “Lines of Definition” and any distance up to one mile on any coaxial cable type.

The twisted pair wire input version ACE472-UTP will compensate the twisted pair wire run for up to 3000 feet automatically.

The picture brightness and frequency response correction provided by the ACE472 is totally automatic and does not require any routine adjustments. That means that all cameras and cables connected to the “Cable Ace” will always have the same peak brightness and the best possible picture clarity. The length of the cable is no longer a factor in CCTV picture quality when the ACE472 is employed. The ACE472 will correctly compensate High Definition cameras as well as Standard Definition cameras, all automatically to provide the highest definition possible for the cameras and monitors connected into the system. This means that a system can be upgraded with the ACE472 alone and then further upgraded by replacing the standard definition equipment with high definition equipment.