

## **WHAT CAUSES GROUND LOOPS**

A ground loop is an electrical problem; it is an AC current which interferes with the ground reference level of the video signal. It occurs on the conductive path formed by the shield of the video cable and the chassis of the video equipment. It results from the difference between the voltage potential of the shield at one end of the cable versus the voltage potential of the shield at the other end.

The electrical level of the shield is usually 0 volts. When a ground loop is present, this level fluctuates above and below 0 volts. The greater the difference, the more severe the distortion of tearing. If the potential is too great it can destroy the equipment.

It is an after-the-fact type of problem in which the end-user blames the installer, the installer blames the manufacturer, and actually it's nobody's fault. It is called a ground loop problem and neither the manufacturer nor the installer can predict where it will occur. Only after the system is installed can one determine if the problem will exist.

The ground loop problem can be corrected, but at a cost; this is why it is important for both the dealer and the end-user to be aware that this problem might occur. A ground loop problem may occur at several points in the system, and each occurrence of the problem must be corrected individually. It may occur from a camera to monitor, from a camera to a switcher, or from many other ways which would be too long to mention.