

Description of the Operational Characteristics of the MMR

The RF signal directly modulates the intensity of a high linearity electro-optical device (laser). Therefore, the RF signal amplitude modulates the intensity of the laser and is superimposed on the light source. An optical receiver consisting of a PIN diode is used to convert the light signal back to RF, while maintaining the integrity of the original signal. The RF signal is not demodulated or altered from input to output of the equipment.

Auto-leveling is implemented to maintain a constant system gain independent of changes to loss in the fiber transport path. RF attenuators are placed before the optical transmitter and after the optical receiver. The optical power from the optical transmitter is a fixed value and the optical receive strength at the optical receiver is measured to provide the optical loss in the optical fiber. A table is used to define the attenuation values that will be used depending upon the loss in the optical fiber.