

Xintekvideo INC.

IMPULSE NOISE ELIMINATOR MODEL INR 2000



DESCRIPTION:

Xintekvideo's Impulse Noise Eliminator Model INR2000 is an advanced, next generation implementation of the very popular Impulse Noise Reducer Model INR^{ES}. It is a state of the art signal processing system that essentially removes all electrical and ignition-type noise from NTSC color television signals with practically no picture quality penalties. Like the Model INR^{ES} the Model INR 2000 is also very effective in detecting and correcting satellite or FM link threshold noise that normally appears as "sparkles". It is as effective as the most advanced median filter without the median filter artifacts.

The performance of the Model INR 2000 has been significantly improved with the addition of two new modes of operation, **SPT1** and **SPT2** (for sports programming). In these modes the advanced complex logic of the INR 2000 is capable of differentiating between electrical impulse noise and fast moving video details, like panned football field markings or moving golf balls which normally exhibit the same correlative characteristics of impulse noise. In the INR^{ES} those markings could be masked, in the INR 2000 only truly electrical noise is removed.

Aside from the standard analog-to-digital and digital-to-analog conversion operations, the system signal processing is all digital. Every video pixels is analyzed and a differentiation is made based on the statistical characteristics of unwanted noise and errors. Sophisticated circuits are used to analyze the video signal and search for impulse noise using multidimensional correlation techniques. To differentiate between impulse noise and moving video details, motion is also detected using a number of video frames for temporal correlation detection.

When the circuits determine that a particular video pixel has noise perturbation or is in error, and the motion circuits determine that there is no motion in the vicinity of the error, that pixel is replaced with a value predicted from spatio-temporal neighboring pixels. All processing is performed on the composite color signal thus avoiding color decoding and re-encoding impairments.

The unit is fully self contained. It takes a baseband 1v pp NTSC color video signal and it outputs the same level processed signal. Hardwired bypass occurs in the event of power loss.

SPECIFICATIONS:

Input: NTSC color video signal, 1v pp into 75 Ohms
Return Loss>40dB
Output: NTSC color video signal, 1v pp into 75 Ohms
Return Loss>35dB
Frequency Response: +/- 0.5dB to 4.2MHz
Non Linearity: <2%
Differential Phase: <1° plus quantizing effects
Differential Gain: <1% plus quantizing effects
K Factor with 2T pulse: Better than 1%
System Delay: 1 TV Field nominal
Power Requirement: 120v AC, 60 Hz, 15 Watts
Operating Temperature: 32° F to 110° F , ambient
Humidity: 10% to 90% non-condensing
Mechanical: 1RU cabinet: 1.75"H, 19"W, 10"L; 7Lbs

Specifications subject to change without notice. 3/2002

XINTEKVIDEO INC
56 West Broad Street
Stamford, CT 06902

(203) 348-9229

www.xintekvideo.com