



Xintekvideo's Digital Impulse Noise Reducer Model INR^{ES} is a state of the art signal processing system that essentially removes all electrical and ignition-type noise from NTSC color television signals. It is also very effective in detecting and correcting satellite of FM link threshold noise that normally appears as "sparkles". It is, in effect, a means of extending threshold in FM links. The system may also be used as a stand alone dropout corrector for composite NTSC color signals.

Aside from the standard analog-to-digital and digital-to-analog conversion operations, the system signal processing is all digital. Every video pixel 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 spatiotemporal neighboring pixels. All processing is performed on the composite color signal thus avoiding color decoding and re-encoding impairments.

Operation of the system has been significantly improves and simplified from the earlier Model INR. Extended sensitivity "ES" means a more accurate differentiation between noise and motion. Operation consists of selecting either "Process ON" or "System Bypass". An "Auto ON" mode is also available in which the system automatically switches itself into Bypass when no impulse noise is detected in the video.

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.

Features:

- **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:** <10 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