

Xintekvideo INC.

PICTURE QUALITY RESTORER MODEL VP1000



DESCRIPTION:

Xintekvideo's Picture Quality Restorer Model VP1000 is a state of the art signal processing system that significantly improves the picture quality of video signals contaminated by impulse noise, dropouts, FM threshold noise, and other unwanted random interference.

It is particularly effective in reducing satellite of FM link threshold noise that normally appears as "sparkles" or streaks as well thermal noise. It is, in effect, a means of extending threshold in FM links. It is very effective in restoring picture quality of poor signals from old tapes or film as it can essentially remove most video dropouts and reduce random noise by up to 9 dB's.

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 or dropouts 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 VP1000 features separate controls for luminance and chrominance random noise reduction that permits optimum

processing for all kinds of different conditions, e.g. plain snow in picture, color streaks, other interferences and beats.

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 5MHz

Luminance or Chrominance noise reduction: 0 dB to 9dB,
(motion and initial picture quality dependent)

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, 24 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; 8Lbs

Specifications subject to change without notice. 3/02

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