SIGNAL PROCESSING
FOR THE REAL-TIME WORLD .....

RPA ELECTRONIC SOLUTIONS, INC

GEN3LOCK Kit for multi-channel graphics card systems

Overview

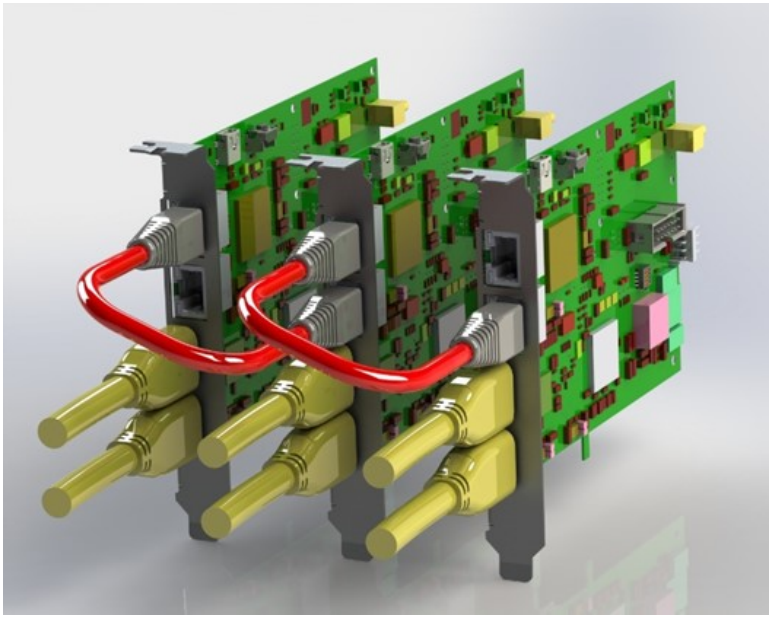
Solution for 4K HDMI gaming or commercial graphics cards
Adaptable to virtually any vendor's video card

Locks video vertical intervals from source to receivers
One source - any number of receivers
Locks receivers to within approximately 1 µSec of source
Short lock interval ensures application jitter free operation

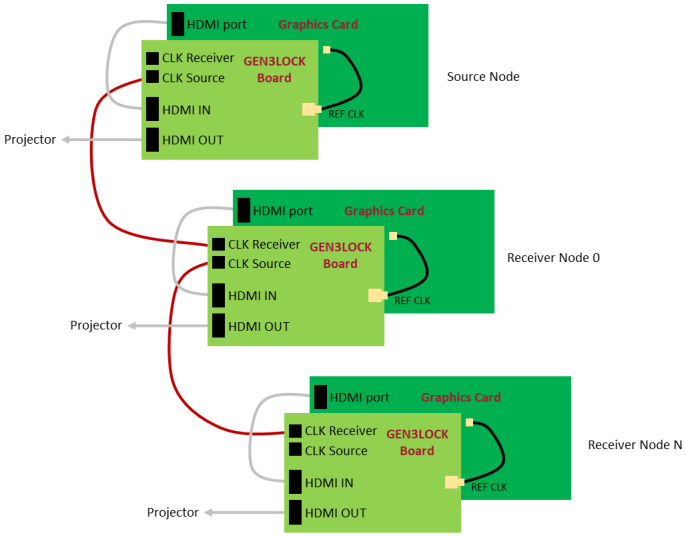
Kit consists of
GEN3LOCK single slot board w/pass through HDMI ports
Source / Sync cable, (CAT 5e)
Reference clock cable assembly attached to graphics card

System
No SW drivers to install and IG independent
EDID passthrough
HDMI 4K @ 60Hz support
External Sync support
Precision phase locked loop GPU CLK generation
Self healing genlock sync

Applications
Visual Simulation Systems
Side by Side / Conference Display Systems
Image Processing Systems
Caves
Media Servers



Typical System Configuration



Ordering Information

RPA Part Number

KIT-5814 Video Gen3lock Kit

Description

The RPA GEN3LOCK kit provides a generic solution for image generating applications that require multiple channels of imagery to be synchronized to one another.

With all video channels operating on the same video frame - full time - the task of process scheduling of data which controls the image generators can be greatly simplified as intervals become deterministic.

RPA's solution involves modifying the video card by removing the reference oscillator for the Graphics Processing Unit (GPU). The oscillator is replaced with a cable which allows the GEN3LOCK controller to provide a new reference clock to the GPU. The GEN3LOCK kit can be installed on virtually any vendor's video card provided the reference oscillator is accessible.

The GEN3LOCK controller drives the reference clock depending on its mode of operation. In its default source mode (no source cable connected to the receiver input), the controller sends it's fixed reference signal identical to the original reference oscillator.

To operate the GEN3LOCK in source configuration, the user simply connects the receiver input to a source output of another GEN3LOCK board. The receiver controller will then vary the video reference frequency to bring the card into 'lock' with the source. It will then monitor the video frame relationship between source and receiver and adjust the reference clock as need to maintain a narrow lock window (~1 µsec).

Using a variable reference clock design, the GEN3LOCK system is capable of synchronizing to external timing sources. To lock to an external source, the user need only adjust the graphics card frame rate to match that of the sync source. Virtually any video format can be locked to one another or to an external frame sync signal. The card accepts VSYNC, composite sync, and HD Tri-level external sync signal types.

RPA Electronic Solutions, Inc.
1285 Chenango Street
Binghamton, NY 13901

Phone 607-771-0393
Fax 607-771-0658
E-Mail sales@rpaelectronics.com

www.rpaelectronics.com