The KAM-HDD-FS is one of the first in a series of new HD-capable Kameleon multifunction modules. It offers the unique ability to handle either an SD or an HD signal without the need for reconfiguration. Additionally, the frame synchronizer mode can be disabled to allow fixed delays to be applied to the signal to accommodate fixed audio delays or other system processing delays.

A unique feature is the downconverted output when the input is HD. This output is then converted to composite analog thus providing two NTSC/PAL outputs and two SD outputs. This feature is ideal for low-cost monitoring or simulcast applications. When the input is SD the outputs for SD expand from two to four and two composite analog outputs are provided for monitoring.

A full-featured proc amp allows component level adjustments to correct colors and avoid illegal signal levels. Additionally, a separate mode can control hue, chroma, and luma similar to a traditional analog composite proc amp.

All parameters are controllable via our web browser interface or via the Newton Control Panel for simple parameter adjustment. The popular NetConfig and NetCentral applications are supported for remote configuration and product health monitoring
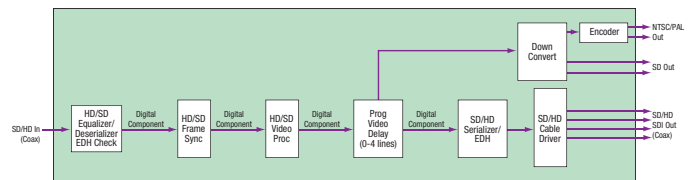

key features

- *Supports both SD and HD formats*
- *Full proc amp functions including: video gain, chroma gain, phase control (hue), black level control, and individual component level controls (Y,Cr,Cb)*
- *Operates in frame sync and delay modes*
- *Complete phasing adjustment relative to input reference signal*
- *Downconverted SD w/ composite analog outputs*
- *Up to four modules in a 1 RU frame—up to twelve modules in a 3 RU frame*
- *Five user-programmable E-MEM registers*
- *Save/load module specific configuration files to configuration PC*
- *Powerful VBI processing*

- *Hot swappable*
- *Intuitive Web browser configuration and SNMP monitoring*
- *Supports Newton control panels for on-the-fly facility operation*
- *Dual-height module for up to six modules per 3 RU frame or two modules per 1 RU frame*

specifications

Serial Digital Input
Connector: BNC

Input Impedance: 75Ω

Return Loss: >15 dB, from 5 MHz to 1.5 GHz

Reclocking: Yes

Signal Type:
- 1080i @ 59.94, 50, 24, 23.98
- 720p @ 59.94
- 480i @ 59.94 (NTSC)
- 575 @ 50 (PAL-B)

Auto Equalization Cable Length
- 300m (Belden 1694A cable or similar for 270 Mb/s)
- 100m (Belden 1694A cable or similar for 1.5 Gb/s)

Serial Digital Outputs
Connector: BNC

No. of Outputs: Four

Output Impedance: 75Ω

Return Loss:
- >15 dB, from 5 MHz to 270 MHz
- >10 dB, from 270 to 1.5 GHz

Signal Level: SDI 800 mVp-p +10% max.

Rise and Fall Time (20-80%):
- < 270 ps for reclocked HD
- 400 to 800 ps for SD and bypass mode

Output Polarity: Non-inverted, all outputs

Output Jitter: <0.2 UI (in frame sync mode)

Input to Output
Minimum Electrical Length (Delay Mode):
- 480i: 33 ms
- 1080i: 33 ms
- 720p: 16.6 ms

Power Dissipation: 17W

Environmental
Operating Temperature Range: See general module environmental specs

Non-Operating Temperature Range: See general module environmental specs

Humidity: See general module environmental specs

ordering information

KAM-HDD-FS
SD/HD frame synchronizer with downconverter

KAM-HDMAN
Product manual

Frame, Reference, and Power Supplies

2000T1DNG
1 RU frame w/ dual 130W P/S, 2000NET, and 2000GEN modules

2000T3NG
3 RU frame w/ single 240W P/S, 2000FAN, 2000NET, and 2000GEN modules

2000NET
Ethernet I/F module for 1 RU and 3 RU frame, w/ "SNMP" agent, required for Kameleon, Newton control panel, Web-browser control, and monitoring, supports NetConfig application

2000GEN
Genlock module for 1 RU and 3 RU frame, required for all Kameleon SDTV multifunction modules

NEWT-RM
Newton 1 RU Modular Control Panel and configuration software