KODAK EktaPro Motion Analyzer, Model 1000HRC

The KODAK EKTAPRO Motion Analyzer, Model 1000HRC is a state-of-the-art, full-color digital motion analysis system that provides powerful data acquisition and communication capabilities. With high-resolution recording at speeds up to 1000 full frames per second, a wealth of data triggering, download and storage options, and a proprietary color-sensing technology, the Model 1000HRC is the system of choice for applications ranging from automotive safety testing to biological research and flame/fluid visualization studies.

COMPUTER INTERFACE

The Model 1000HRC supports several computer interface protocols, providing the user with a wide range of download, archiving and system control options.

External data, recorded at 10 samples per frame, is correlated with the visual images through the use of the KODAK EKTAPRO Multi-Channel Data Link accessory. Computer control and data communication is available through a wide variety of interface ports: RS-232, RS-422, GPIB, and SCSI. An optional internal optical disk drive is also available for archiving the digital files. Analog archiving of recorded sessions is available through either standard RS-170 video (NTSC/PAL) or S-VHS formats to a digitally controlled professional (RS-232) VCR.

TRIGGER/STORAGE OPTIONS

As with all Kodak digital motion analyzers, flexible triggering modes allow efficient capture of either controlled or unpredictable events. The Model 1000HRC processor can be triggered by virtually any kind of sensing device, including optical, acoustical, impact, acceleration, temperature, and proximity sensors, to name a few.

Memory options allow over five seconds of continuous recording time at full speed and resolution. In addition, the processor memory can be partitioned into subsections, allowing multiple recording sessions to reside in memory. An IRIG timing option allows IRIG data to be inserted into each data frame.

- **High Resolution Color Recording**
  640 x 480 pixel digital image display.
- **Flexible Control Options**
  Hand-held keypad is supplemented by RS-232, RS-422, GPIB, and SCSI interfaces for system control and data communication.
- **Built-in Electronic Shutter**
  Reliable electronic design can reduce exposure time to 50 microseconds without mechanical shutter. Useful in eliminating motion blur.
- **Removable Storage Media**
  Optional internal multi-function optical disk drive allows quick archiving and transfer of stored data. Existing sessions can be uploaded for post-analysis.

THE COLOR ADVANTAGE

The KODAK EKTAPRO Motion Analyzer, Model 1000HRC is ideal for a wide range of high-speed imaging applications. Unique Kodak color-sensing technology offers the ultimate in performance and resolution – bringing a powerful new tool to the realm of full-color motion analysis.

The EKTAPRO Motion Analyzer, Model 1000HRC consists of an imager (left), and a processor (back) with hand-held keypad (front).

KODAK EKTAPRO Motion Analyzer, Model 1000HRC – SPECIFICATIONS

Processor

Hand-held Keypad:	Back-lit LCD indicates status of all system functions.
Recording Technique:	Color digital images stored in Dynamic Random Access Memory (DRAM).
Recording Modes:	RECORD: Records images until memory is full and then stops. RECORD-STOP: Continually records images until "stop" button is pushed. The last "n" images are saved in memory, where "n" equals the number of frames installed. RECORD-TRIGGER: Continually records images until trigger signal is received. When signal is received, continues to record until memory is full and then stops. Trigger point is preset by operator. RECORD-RETRIGGER: As described above but re-arms automatically for multiple session recording. RECORD-ON-COMMAND: Records images at the selected recording rate when a user-supplied signal is active. May be used in conjunction with all other recording modes. EXTERNAL SYNCHRONIZATION: Records at frame rates that correspond to a user-supplied signal.
Multiple Sessions:	Available in user-defined partitions.
Recording Rates:	250, 500 and 1,000 full-frame images per second.
Exposure Rates:	Inverse of frame rate, 50 or 100-microsecond, 1, 2 or 4-millisecond shutter.
Frame Storage:	Up to 5,456 frames. Optional internal optical drive.
Playback Rates:	From single step to 960 frames per second, forward or reverse.
X-Y Reticle:	Built in electronic crosshairs for data reduction and calibrated rectangular and circular grid.
Display Output:	Digital RGB (VGA)/NTSC or PAL (RS-170)/S-VHS.
DATA-FRAME Border:	Date, ID number, record rate, exposure rate, elapsed time, frame number, ROC status, trigger status, color temperature, reticle position, grid parameters, system status. MCDL and IRIG data, if applicable.
External Signal Inputs:	TTL through BNC connector, positive or negative true logic. Will accept up to 30 volts.
External Data Inputs:	Accepts 2 analog and 6 digital data inputs through KODAK Multi-Channel Data Link accessory. Also accepts IRIG time code as system option.
Computer Interfaces:	RS-232C, RS-422, GPIB, SCSI.
Size:	11.3" H x 17.6" W x 14.3" D (28.7cm x 44.7cm x 36.3cm).
Weight:	37 lbs (16.8kg).
Power:	110/220 VAC, 60/50 Hz, 700 VA.
Operating Environment:	0 to 45 degrees C, non-condensing RH.

Imager

Rear Panel Interconnects:	RS-170 video out, External Sync in, Strobe out.
Rear Panel Controls:	Live indicator LED, Ext. sync polarity invert.
Display Resolution:	640 x 480 pixel VGA.
Lens Mount:	C-mount.
Tripod Mount:	1/4 - 20 and 3/8 - 16 with standard ANSI hole pattern.
Size:	8.0" H x 5.2" W x 15.4" D (20.3cm x 13.2cm x 39.1cm).
Weight:	17 lbs (7.7kg).
Power:	Derived from processor.
Operating Environment:	0° to 45°C, non-condensing RH.

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