

## REAL-TIME DIGITAL RECORDING

GRAPHICS  
VIDEO  
AUDIO

DGy  
Recording System

Computer / radar / sonar /  
X-Ray / video / HD-SDI / FLIR / audio

Up to 2560 x 2048 image  
resolution

Stereo audio

Event marking

Random access

Simultaneous recording /  
playback

Simultaneous recording /  
streaming

Remote replay

Network attached storage

FTP file transfer

Simulation

Training

Command & control

Debriefing

Mission analysis

Surveillance

Air traffic control

Digital presentation



The DGy™ is a disk-based system for recording and transmitting high resolution images with uncompromised quality. The system captures, compresses, stores and plays back imagery at up to 2560 x 2048 pixel resolution. It accepts computer, radar, sonar, FLIR, x-ray and other high resolution signals, NTSC/PAL video, HD-SDI and stereo audio.

The DGy uses the latest JPEG 2000 compression standard. This wavelet-based codec provides results superior to the more common DCT based compression schemes. Recording frame rates are selectable up to 30 fps at 1280 x 1024, and correspondingly higher or lower at other resolutions.

Internal storage is available as a single or dual drive system, one fixed and one removable. A diskless version is available for use with an external storage system via a dedicated network connection.

Record time is a function of disk size, input resolution, image compression and frame rate. For 1280 x 1024 resolution at 30 fps, record time would be 52 hours with dual disk drives. For an air traffic control application at 2048 x 2048 resolution, record time would be 40 hours at 7 fps or as much as 100 hours at 2 fps.

The base level DGy can be switched between record and replay. Advanced models support optional concurrent record and replay, which allows review while live recording continues.

Remote playback on a Windows PC is supported using a JPEG 2000 plug-in to the standard Windows Media Player. This playback ability applies to recordings transferred over the network, replayed from an external storage system or transferred physically via a removable disk or other storage media. The replay frame rate of the software player will depend on image size, compression level and the speed of the PC.

The DGy supports file transfer to and from a remote computer, file server, or network attached storage device. Advanced models offer streaming video capability. Typical compression ratios allow transmission over a 100Base-T Ethernet link, eg. a compressed 1280 x 1024 x 30 fps signal requires up to 5 MB/s.

Models of the DGy support analog input up to 2048 x 2048 pixels and DVI digital input up to 2560 x 2048 pixels.

The DGy real time clock can be synchronized externally to IRIG-B time code or an NTS server.



Models	200	201	202
Input Resolution (max)	1280 x 1024	1600 x 1200	2560 x 2048
Removable Disk (238GB)	yes	yes	yes
Internal Disk (238GB)	option	option	option
Composite Video Input	no	option	option
IRIG-B time code	no	option	option
Simultaneous Record / Play	no	option	option
Image Transfers FTP File Transfer Streaming	yes no	yes option	yes option

**Features**

Recording resolutions up to 2560 x 2048

Event marks

Playback frame rates up to 50 fps

External and internal storage

Fixed and removable disk drives

Network transfers to remote computers and storage systems

Stereo audio input and output

General purpose I/O for recording ancillary data

Flexible time code options

Synchronization of multiple units via time code

Internal recording time up to 52 hours at 1280 x 1024 x 30 fps

Selectable compression rates

Synchronized multi-unit record and playback

Selectable frame rates for extended recording time

Composite video input option

Web based operation

RS-232 and Ethernet control

Random access

DVI/RGB on input and output

Variable speed forward and reverse

Simultaneous recording and playback

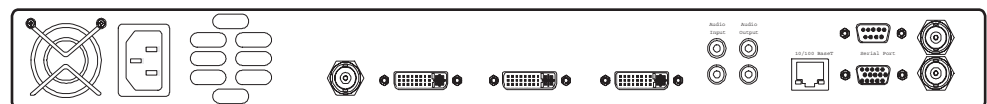
Simultaneous recording and video streaming

Loop thru on RGB and DVI inputs

Contact closure

Compact 1RU chassis

PC playback software



**Model 201 back panel with optional video input and IRIG-B time code**

## Specifications

### High Resolution Graphics Input

Analog RGB	RGB Interlaced or non-interlaced
Video level	Signal formats Nominal 0.7 V p-p (1.0 V composite p-p)
Input impedance	75 ohms
Sample rate	Up to 360 MHz
Resolution	Model 200: 640 x 480 to 1280 x 1024 Model 201: 640 x 480 to 1600 x 1200 Model 202: 640 x 480 to 2048 x 2048
Sync	3 wire (sync on green) 4 wire (separate composite sync) 5 wire (separate H and V sync)
Sync level	0.3 V p-p (3 wire) 1 to 5 V (4 and 5 wire)
DVI	
Number	1 (with active loop)
Connector type	DVI-I (integrated analog/DVI 29 pin connector)
Resolution	Model 200: 640 x 480 to 1280 x 1024 Model 201: 640 x 480 to 1600 x 1200 Model 202: 640 x 480 to 2560 x 2048
Pixel rate	Up to 330 MHz (DVI dual link)

### HD-SDI Input Option

SDI-SMPTE	259M-C (270Mb/s)
HD-SDI - SMPTE	292M (1.485, 1.485/1.001 Gb/s) 720p 60, 59.94, & 50Hz 1080i / 1080p 30, 29, 97, 25, 24 & 23.98Hz

### Video Input Option (Model 201)

Analog Composite	
Video level	Composite 1.0 V pk-pk nominal
Format	525 line NTSC, 625 line PAL
Input impedance	75 ohms
Connector type	BNC

### Audio Inputs

Analog	
Number	2 mono or 1 stereo
Sample rate	11.025, 22.05, or 44.1 kHz
Audio level (line)	0 dBu nominal
Audio level (mic)	-40 dBV
Input impedance	47 k ohms
Connector type	RCA phono

### Data Recording

GPIO (Models 201 and 202)	
Sample rate	100 kHz
Input impedance	10 k ohms
Input signal level	TTL
Output impedance	Open collector (1 k ohm pull-up to +5 V)
Output signal level	TTL

### RS-232

Baud rate	300 - 9600 baud
Data bits	7 or 8
Stop bits	1 or 2
Parity	Even, odd, none

### High Resolution Graphics Output

Analog RGB	
Video level	Nominal 0.7 V p-p
Output impedance	75 ohms
Sample rate	Up to 240 MHz
Resolution	Model 200: 640 x 480 to 1280 x 1024 Model 201: 640 x 480 to 1600 x 1200
Sync	3 wire (sync on green), 4 wire (separate composite sync), 5 wire (separate H and V sync)
Sync level	0.3 V p-p (3 wire), 5 V p-p (4 and 5 wire)
DVI	
Pixel rate	Up to 330 MHz (DVI dual link)
Resolution	Model 200: 640 x 480 to 1280 x 1024 Model 201: 640 x 480 to 1600 x 1200

### Audio Outputs

Analog	
Number	2 mono or 1 stereo
Audio level (line)	0 dBu nominal
Output impedance	Low impedance suitable for 10 k ohm bridging load
Connector type	RCA phono

### Control

Network Connection	
Type	10/100 Base-T Ethernet
Connector type	RJ 45
Command line	Internal telnet server
Graphical interface	Internal web server for browser- based control panel software

### RS-232 Serial

Connector type	9 pin D sub female
Baud rate	9600 baud to 115 k baud
Function	Command line control of all system functions

### Contact Closure (Models 201 and 202)

Function	User programmable start/stop
Signal level	TTL

### Storage

Removable disk	238 GB or 476 GB
Internal disk (option)	238 GB or 476 GB
NFS Remote Disk Mount (Model 201 Option)	Linux (Redhat 7.3 - 8.0) Windows (running Allegro NFS)

### Other

Power	< 60 W
Size	17.5" (w) x 19" (d) x 1.75" (h) excluding rack mount adapters included
Rackmount	

Models	Resolution	Frame Rate (Max.)
200, 201, 202	1024 x 768	50 fps
200, 201, 202	1280 x 1024	30 fps
201, 202	1600 x 1200	20 fps
202	1920 x 1200	17 fps
202	2048 x 2048	9 fps
202	2560 x 2048	7 fps