



dataMill User Guide V2.0 PROVISIONAL



This User Guide is for Cintel International Products:

**DM200460
DM200400**

**dataMill GUI option for Millennium2 data-cine
dataMill calibrated data scanner**

This user guide is to be used in conjunction with the Millennium Operational manual.

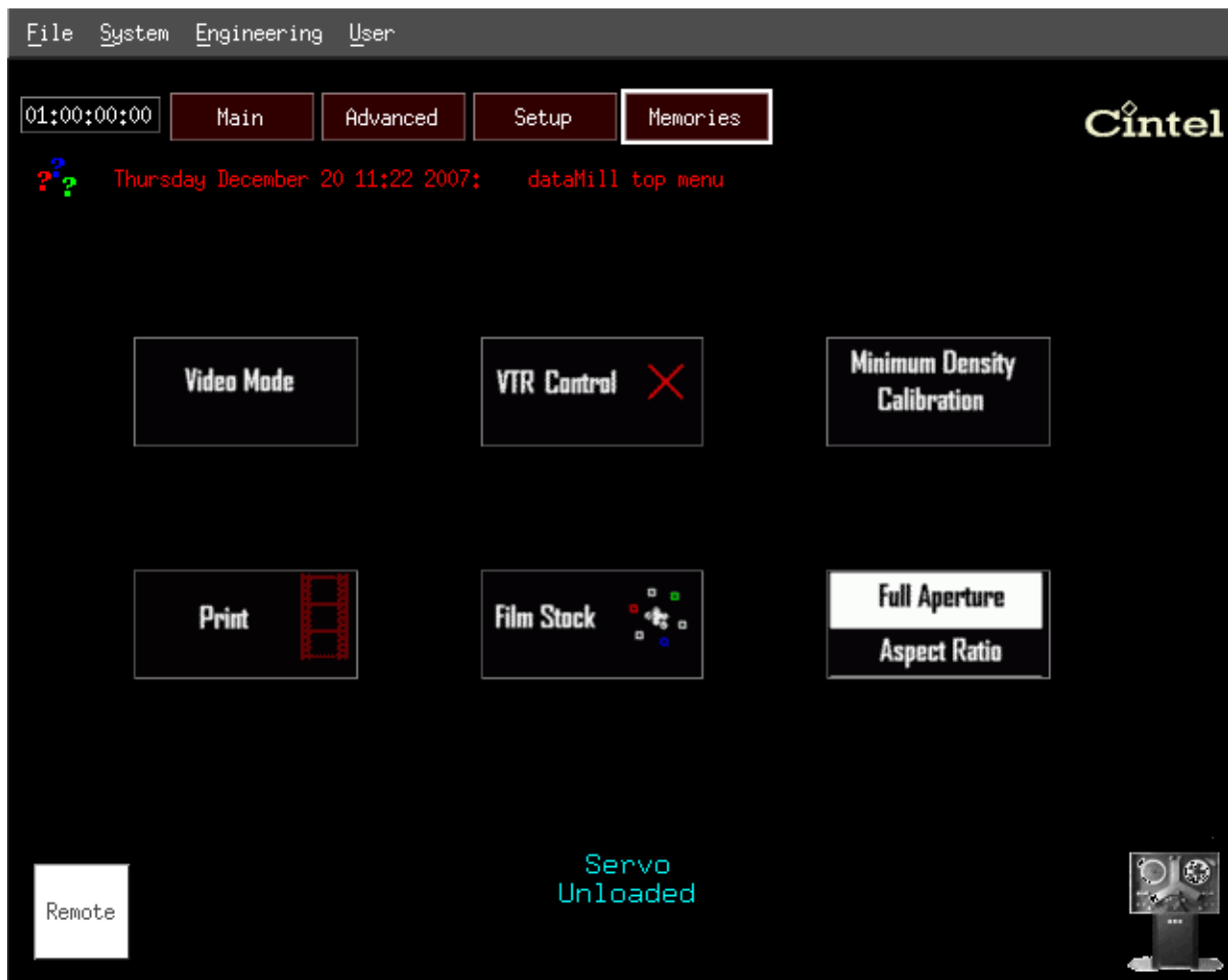
The dataMill fast scanner allows calibrated LOG outputs in 2K data at up to 15fps, 4K data at up to 3.75fps, High Definition* at up to 30fps and Standard Definition* at up to 30fps.

The dataMill GUI allows dataMill calibrated scanner operation on the Millennium2 or Millennium HD data-cine.

*optional

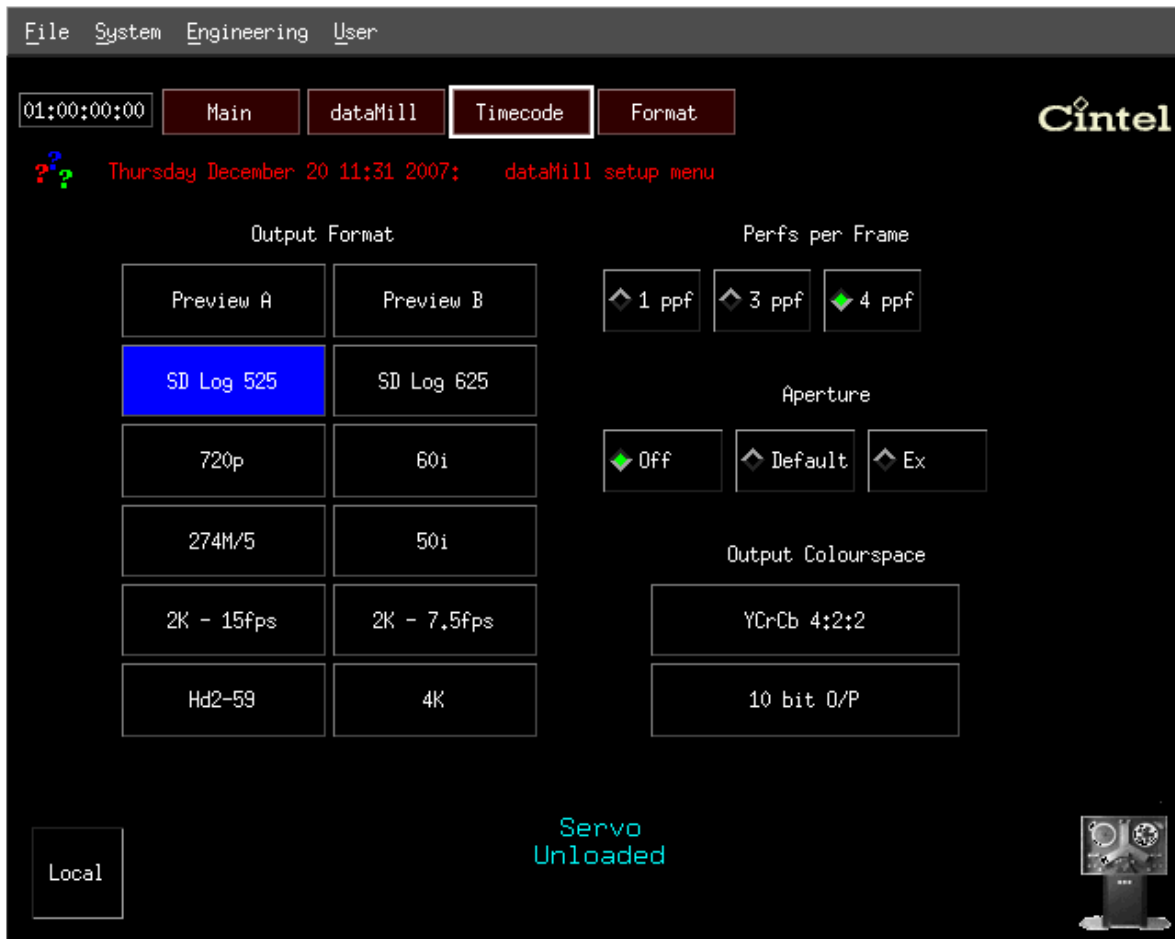
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dataMill Main Menu

VIDEO MODE	Selects between LOG and VIDEO modes
VTR CONTROL	Allows selection of remote control via RS422
MINIMUM DENSITY CALIBRATION	Performs a "DMIN" calibration of the film loaded in the gate. Should be performed every reel or stock change
FILM TYPE	NEG, IP, PRINT, BW NEG film types can be selected
FILM STOCK	Has selections for different Film Stock Masking e.g. Kodak Vision, Kodak EXR.
ASPECT RATIO	Allows Full Aperture, Academy or Anamorphic presets

dataMill Set Up Menu



OUTPUT FORMAT

Set the Video or Data standard required

PERFS PER FRAME

Select 1, 3 or 4 perf per frame

APERTURE

Select an Aperture Correction Setting – OFF, Default or EX
The amount of Aperture Correction applied will depend on user preference and vary from film to film.

OUTPUT COLOURSPACE

Enables switching between 4:2:2 YUV and 4:4:4 RGB output formats
Selects 10, 12 or 13 bit O/P operation

dataMill and Millennium2 have an Analogue HD Monitoring Output:
PREVIEW A mode is a confidence mode displaying all four corners of the data output. PREVIEW B mode is a central HD “cut-out” of the data output.

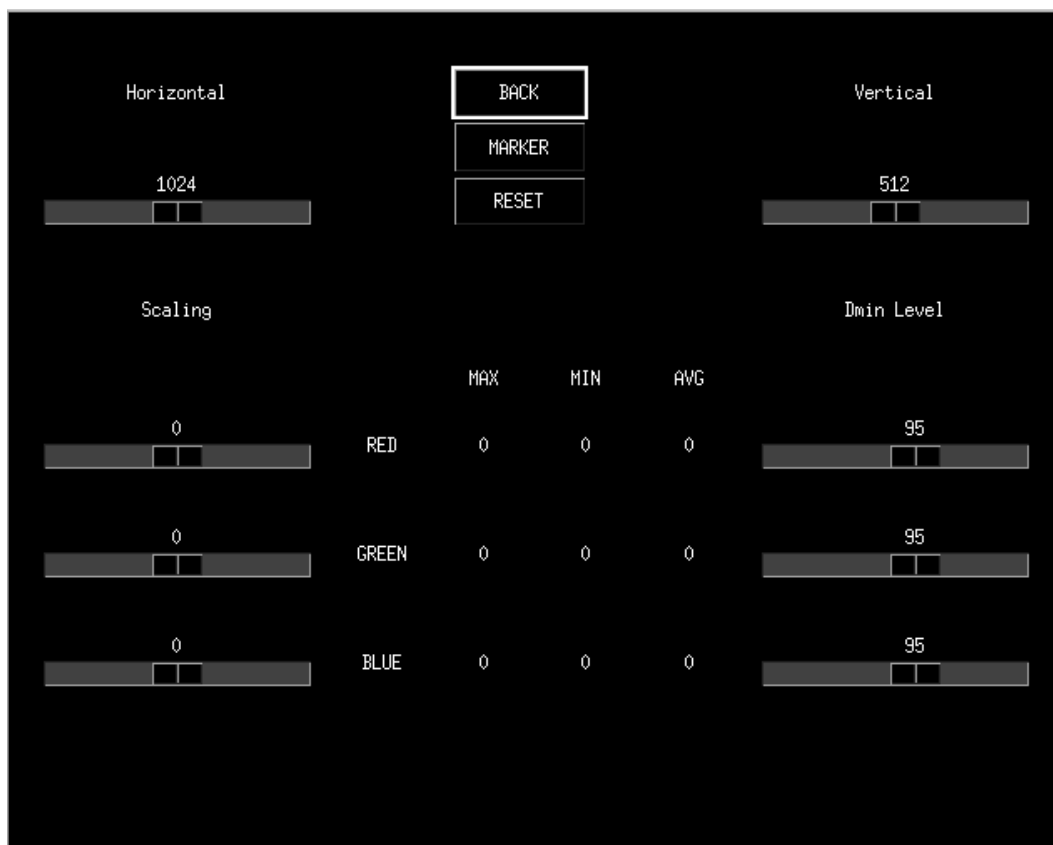
dataMill Advanced Menu

SCALE Allows adjustment of Red Green and Blue scale levels
SCALE is similar to a video 'GAMMA' control

DMIN LEVEL Allows adjustment of Red Green and Blue DMIN Levels
The Standard DMIN Level is 95

ANALYSE Enters the picture analyse mode (see page 6)

Clicking or touching on **Cintel** will reset to Default

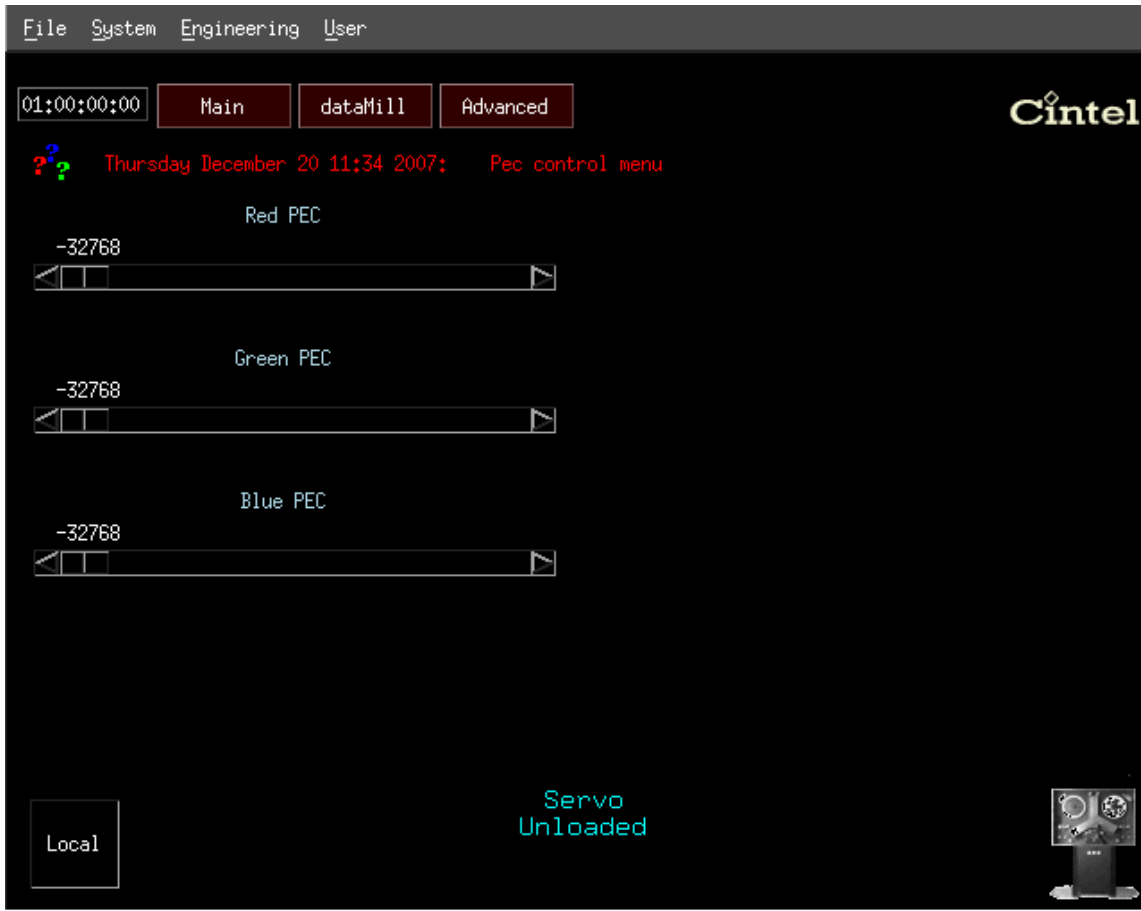
dataMill Analyse Menu

This enables a 32x32 pixel target area (8x8 pixel in Standard Definition output) to be moved around the film frame for image analysis purposes.

The display shows MAX, MIN and Average levels for Red Green and Blue elements within this target area.

Scaling and DMIN Level controls (see Advanced Menu Page 5) are also available in this menu

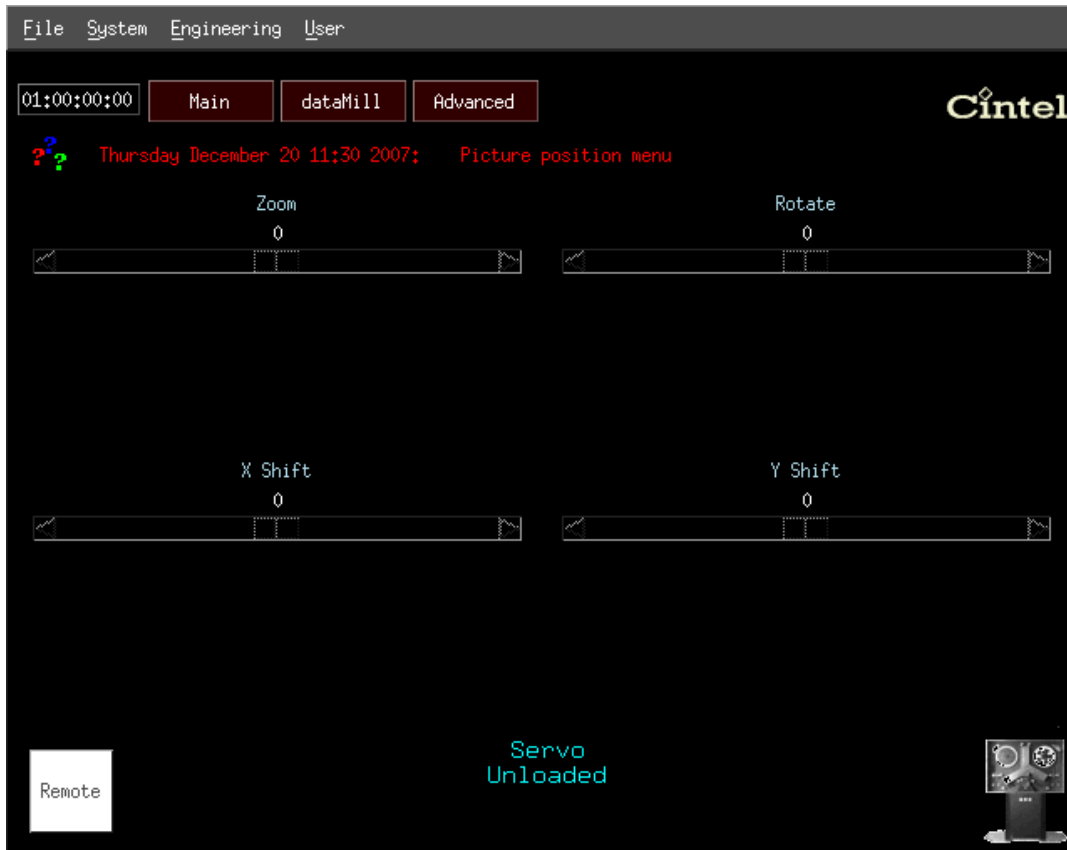
dataMill PEC Menu



This Menu allows individual adjustment of the Red, Green and Blue PEC's (Photo Electric Cells).

Note: Adjusting these controls will "de-calibrate" the machine. To restore calibration, repeat the "MINIMUM DENSITY CALIBRATION" from the Main Menu.

Clicking or touching on  will reset to Default

dataMill Position Menu

This menu enables scan position changes:

Zoom

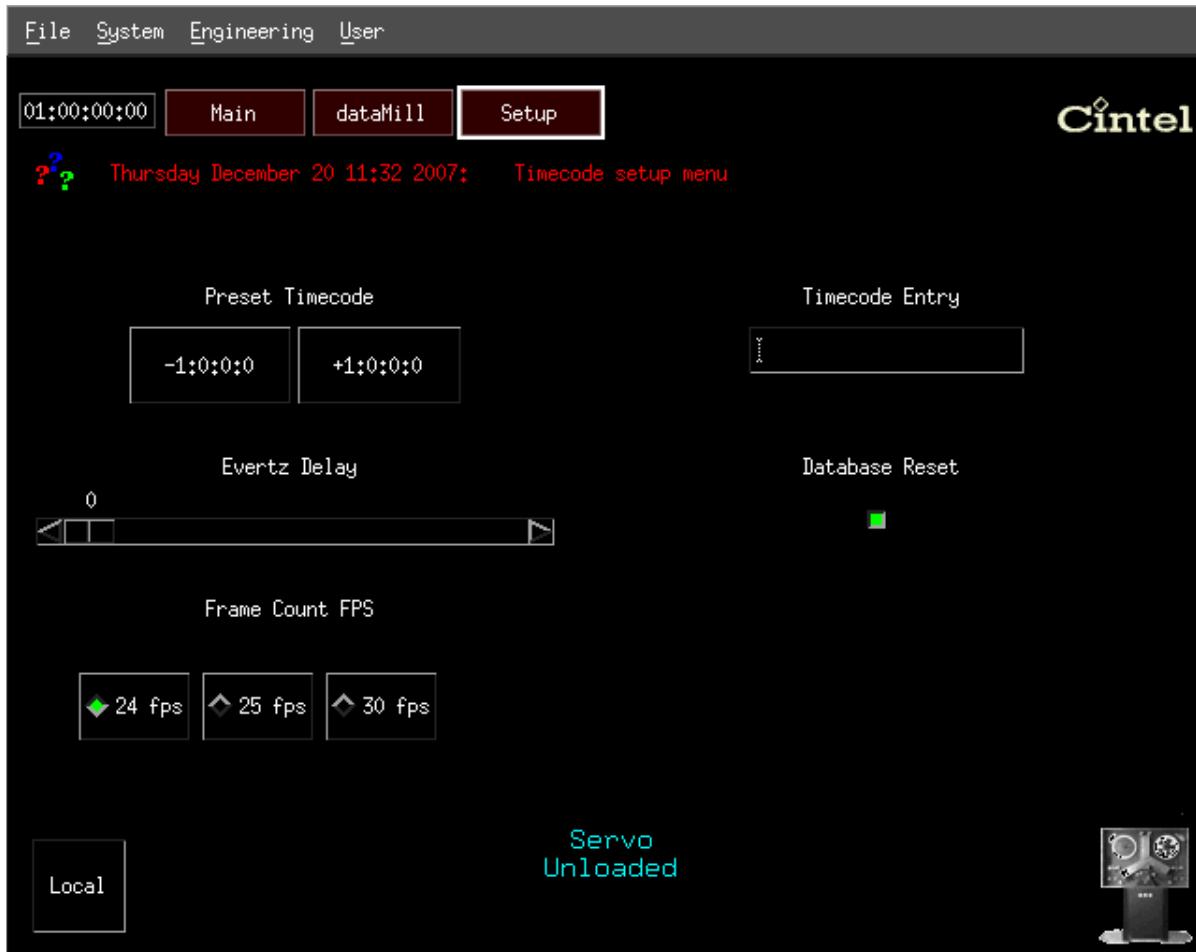
Rotate

X shift ("left and right" on a picture monitor if no rotate is applied)

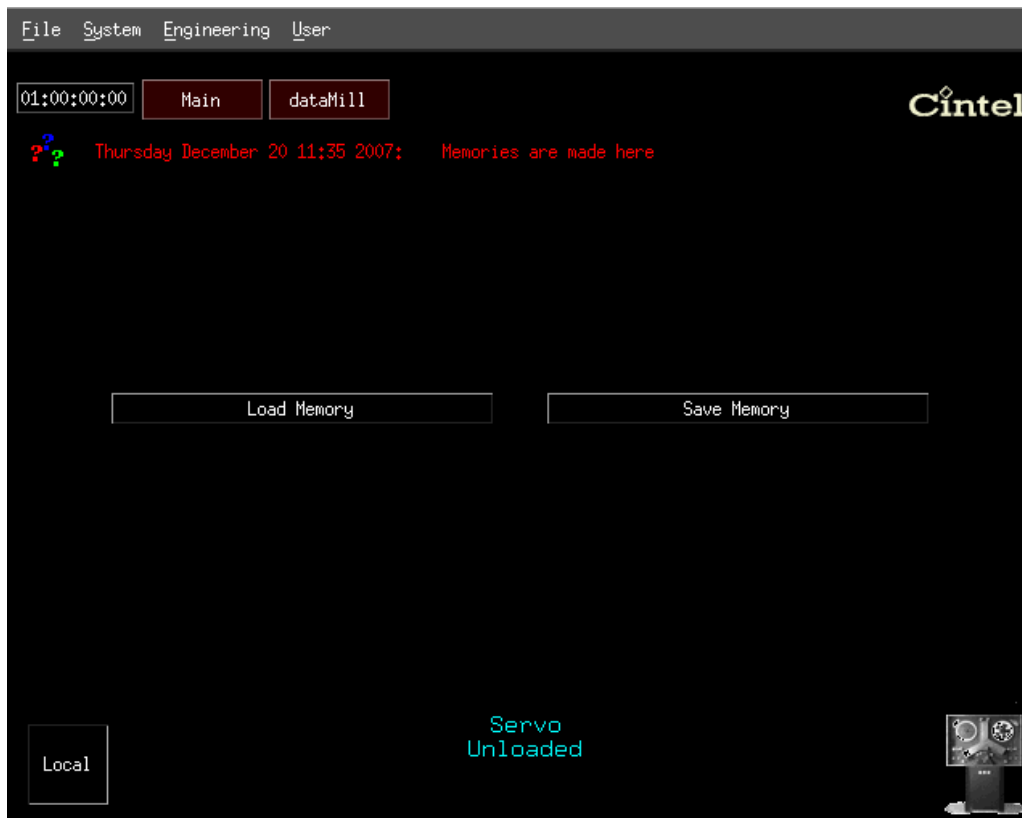
Y shift ("up and down" on a picture monitor if no rotate is applied)

The scan controls within the Millennium and dataMill machines are not a Digital Scaling process which would lose information. These actually manipulate the scan patch so that full resolution images are maintained.

Clicking or touching on **Cintel** will reset to Default

dataMill Timecode Menu

PRESET TIMECODE	allows conventional 1 hour, 2 hour etc. timecodes to be set quickly and easily.
TIMECODE ENTRY	will bring up a Numerical Keypad to enter timecodes.
EVERTZ DELAY	Allows adjustment of the delay between the KeyCode reader and the output frame
FRAME COUNT	Allows setting of 24, 25 or 30 frames per second Timecode.

dataMill Memories Menu

Allows Loading and Saving of Memories

The Memories store the following information:
PEC Master, PEC R-Y, PEC B-Y, Zoom, Rotate, Pan, Shift, Aspect, Film Type

The Memories can be named for easy reference.

Using dataMill:

On Power up the Main Millennium Menu will appear.

1. If not already ON, turn the EHT on. It is recommended that, after a lengthy machine shut down (i.e. overnight), a CRT warm up period of approx. 30minutes is allowed before performing calibrated scanning.
2. In SET UP, select the appropriate Output Standard.
3. Select the appropriate film gate
4. Select CALIBRATE if not already performed for that gate
5. Select SHADE if not already performed for that gate
6. Lace the film to be scanned as per the Film loading chapter in the Millennium2 or dataMill Operational guide
7. Select dataMill to enter the dataMill Main Menu
8. Select the appropriate STOCK and FILM TYPE
9. Run the film to an exposed scene that is to be scanned
10. If necessary confirm mechanical gate focus by using the DETAIL mode on the Millennium Front Page
11. Select MINIMUM DENSITY CALIBRATION. This performs a minimum density calibration of the film loaded in the gate and should be performed for every reel or stock change.

The image is rotated during the DMIN to give access to the framing bar – which is analysed to calibrate the film. For correct results the film must be racked in its normal framing.

An improved setting to base density may be achieved if there are frames of unexposed negative at the start of the roll by performing a DMIN here instead of from the framing bar.

Note: On NEGATIVE and INTERMEDIATE film, a DMIN calibration will result in the density values generally known as “Status M”. This will result in images that look biased towards Green in colour when viewed on a video monitor. LOG images will look very low in contrast (“washed out”) when viewed on a Video monitor

Cleaning and Maintenance:

Routine Maintenance Task Schedule	Before each job	Daily	Weekly
Clean PTR's	X		
Clean Drive roller in gate	X		
Check and clean roller lands	X		
Check and clean skid-plate lands	X		
Dust CRT face		X	
Dust the input lens of Y-front			X
Check that compliance arms move freely and smoothly		X	
Check that all rollers spin freely		X	
Check film path is unobstructed	X		
Check and if necessary clean rack filters			X

Support

The Cintel Customer Support Department can be contacted by email on

service@cintel.co.uk and service@cintelinc.com

You can contact The Customer Support Department by telephone on:

Cintel International Ltd.	(UK)	Tel: +44 (0) 1920 463939
Cintel Inc.	(USA)	Tel: +1 (661) 294 2310
Cintel Asia Pacific	(Hong Kong)	Tel: +852 2887 8727

For any replacement parts, please contact spares@cintel.co.uk

Appendix 1 **DPX files**

It is common practice to convert the HSDL data from dataMill into DPX files.

www.cineon.com gives detailed information of the Cineon film data specification.

www.cinesite.com has extensive information on Digital Picture eXchange (DPX) file formats.

Approximate File sizes for Colour DPX 10 bit LOG data scans

	Frame	Second	Minute	Hour
Standard Definition (720 x 576)	1.6MB	38.4MB	2.25GB	135GB
1K data (1024 x 768)	3.2MB	76.8MB	4.5GB	270GB
High Definition (1920 x 1080)	8.2MB	197MB	11.53GB	692GB
2K data (2048 x 1556)	12.5MB	300MB	17.6GB	1.03TB
4K data (4096 x 3112)	50MB	1.2GB	70.3GB	4.1TB

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