2. Unified Form Format （*.gsd）

1. Any imported data of MiCAM01/02/Ultima/Deltaron into BV_Analyzer can be converted into same data format called “Unified Form”.

2. The [Save] button located at the left upper of BV_Analyzer can save data on the canvas in the “Unified Form”. Movie with all frames and/or movie with partial frames can be saved with “gsh” and “gsd” format files. “gsh” file has header information in text format, which information is mainly about acquisition condition. “gsd” file has data in “Unified Form” in binary.

3. The structure of “Unified Form”

	Byte Address from file top
Reserved Header Information (256 byte)	0
Data Format information (72 bytes), refer to the structure of “FORM_INFO”	256 (100H)
Input signal information (20 bytes), refer to the structure of “AUX_INFO”	328 (148H)
Control information (624 bytes), refer to the structure of “CONTROL_INFO”	348 (15CH)
Background image data Short (16bit signed binary)　Dark: 0 Saturation:16383 (X*Y*2 bytes)	972 (3CCH)
Differential data of 0th frame Short (16bit signed binary) Darker: Plus, Brighter: Minus (X*Y*2 byte)	972+X*Y*2
Differential data of 1st frame Short (16bit signed binary) (X*Y*2 byte)	
…	
Differential data of n-th frame Short (16bit signed binary) (X*Y*2 byte)	972+X*Y*2*n
Analog input signal data Short (16bit signed binary) (nChanum*nFrameSize*nRate*2 bytes)	972+X*Y*2*(n+1)

Each pixel in the short-type format of “Background image data” is shown in the range from 0 to 16,384. Each pixel in the short-type format of “Differential image data” is shown in the value of negative or positive.

4. Each structure

Structure name	Data type	Data name	Byte from file start	Note
FORM_INFO 72 bytes	short	nDataXsize	256	Number of pixels on X axis
	short	nDataYsize	258	Number of pixels on Y axis
	short	nLeftSkip	260	Skipped number of pixels on X axis
	short	nTopSkip	262	Skipped number of pixels on Y axis
	short	nImgXsize	264	Number of effective pixels on X axis
	short	nImgYsize	266	Number of effective pixels on Y axis
	short	nFrameSize	268	Number of frames
	short	nOrgImgXsize	270	
	short	nOrgImgYsize	272	
	short	nOrgFrmSize	274	
	short	nShift	276	
	short	nDummy	278	
	float	dAverage	280	Number of averaging times
	float	dSampleTime	284	Sampling rate (msec)
	float	dOrgSampleTime	288	
	float	dDummy	292	
	char	chDum[32]	296	
AUX_INFO 20Byte	short	nChanum	328	Number of analog channels
	short	nRate	330	Temporal resolution
	short	nOfset	332	
	short	nChNext	334	
	short	nTimeNext	336	
	short	nFrameSize	338	Number of frames
	short	nShift	340	
	short	nDummy1	342	
	short	nDummy2	344	
	short	nDummy3	346	
CONTROL_INFO 624Byte	Reserved	Reserved	348	Information about data display (such as points, gain, color and so on)