		FSL 3.1	SPM	AFNI	BrainVoyager (QX) vmr export to analyze1	vtc export to analyze2	fmr export to analyze3	FreeSurfer read	write	NITFI1 ??
struct	header_key									
int	sizeof_hdr	used to test byte ordering	needs to be 348		set to '348'	set to '348'	set to '348'	used to test byte orderin	set to 348 in native byte order	
char	data_type[10]				set to 'dsr'	set to 'dsr'	set to 'dsr'			
char	db_name[18]		ignored on reading, but set to image filename - or ho	su	su	su				
int	extents				set to '0'	set to '0'	set to '0'			
short	session_error				set to '0'	set to '0'	set to '0'			
char	regular	set to 'r'	set to 'r'		set to 'r'	set to 'r'	set to 'r'			
char	hkey_un0				set to 'O'	set to 'O'	set to 'O'			
struct	image_dimension									
short	dim[8]	dim[0] not used, rest: su	dim[0] for byte order tes	dim[0] for byte order testin	dim 1-4 su; dim 5-7 set t	dim 1-4 su; dim 5-7 set	dim 1-4 su; dim 5-7 set t	su		dim[0] = 4 always
char	vox_units[4]	set to 'mm'			set to 'mm', vox_units[3	set to 'mm', vox_units[3	set to 'mm', vox_units[3] = 0			
char	cal_units[8]				set to '0'	set to '0'	set to '0'			
short	unused1				set to '0'	set to '0'	set to '0'			
short	datatype	su	su	su	DT_UNSIGNED_CHAR	DT_SIGNED_SHORT	DT_SIGNED_SHORT	su	su	
short	bitpix	set but not read	set but not read		set to '8'	set to '16'	set to '16'	unused	su	
short	dim_un0				set to '0'	set to '0'	set to '0'			
float	pixdim[8]	su; pixdim[4]=TR in FMRI	pixdim 1 to 3 - voxel size	determines voxel sizes [1..4	pixdim[1-3] set to '1.0',	pixdim 1-3 su (valid only	pixdim 1-3 su; pixdim[3]	su		pixdim[4]=TR if dim[4] > 1
float	vox_offset				set to '0.0'	offset x	set to '0.0'	su		0
float	funused1		scalefactor if funused~=(	see SPM (controlled by envi	set to '0.0'	offset y	set to '0.0'			
float	funused2		intercept if funused1~=0		set to '0.0'	offset z	set to '0.0'			
float	funused3				set to '0.0'	TR	TR			
float	cal_max,cal_min	display intensity range	scale and intercept (su) if funused1==0		set to '0.0'	set to '0.0'	set to '0.0'			
int	compressed				set to '0.0'	set to '0.0'	set to '0.0'			
int	verified				set to '0.0'	set to '0.0'	set to '0.0'			
int	glmax,glmin	set to int(cal_max/min) but	scale and intercept (su) if funused1==0		set to '0' and '255'	set to '0' and '32767'	set to '0' and '32767'	unused	mix, max values	
struct	data_history									
char	descrip[80]		human readable text		human readable text	human readable text	human readable text			
char	aux_file[24]	name of colour LUT for display			set to 'none'	set to 'none'	set to 'none'			
char	orient				set to '0'	set to '0'	set to '0'	used if no .mat file	unused	
char	originator[10]	co-ordinate origin (3 shorts)	co-ordinate origin (3 sho	see SPM (controlled by environment variable)				su if no .mat file	su	
char	generated[10]									
char	scannum[10]									
char	patient_id[10]									
char	exp_date[10]									
char	exp_time[10]									
char	hist_un0[3]									
int	views				set to '0'	set to '0'	set to '0'			
int	vols_added				set to '0'	set to '0'	set to '0'			
int	start_field				set to '0'	set to '0'	set to '0'			
int	field_skip				set to '0'	set to '0'	set to '0'			
int	omax,omin				set to '0'	set to '0'	set to '0'			
int	smax,smin				set to '0'	set to '0'	set to '0'			
struct	dsr									
struct	header_key	hk								
struct	image_dimension	dime								
struct	data_history	hist								

#define	DT_NONE	0
#define	DT_UNKNOWN	0
#define	DT_BINARY	1
#define	DT_UNSIGNED_CHAR	2
#define	DT_SIGNED_SHORT	4
#define	DT_SIGNED_INT	8
#define	DT_FLOAT	16
#define	DT_COMPLEX	32
#define	DT_DOUBLE	64
#define	DT_RGB	128
#define	DT_ALL	255

Notes
su = standard usage
1   a *.vmr file contains anatomical 3D data
2   a *.vtc file contains functional data (time series) of one experimental run in 3D format
3   a *.fmr file describes functional data that are stored in *.stc (slice time course) files (=2D)