BUFR TABLES D
(Version 9 - originating center 247)

TABLE REFERENCE			TABLE REFERENCES			ELEMENT NAME
F	**X**	**Y**				
						General information about radar product
3	1	192	3	1	11	Date of observation
			3	1	12	Time of observation
			3	1	23	Latitude/longitude of top left corner of the image
			3	1	23	Latitude/longitude of top right corner of the image
			3	1	23	Latitude/longitude of bottom right corner of the image
			3	1	23	Latitude/longitude of bottom left corner of the image
			0	29	201	Projection type
			0	5	2	Latitude of radar
			0	6	2	Longitude of radar
			0	5	33	Pixel size on horizontal between columns
			0	6	33	Pixel size on horizontal between rows
			0	30	21	Number of pixels per row
			0	30	22	Number of pixels per column
						Projection information
3	1	193	0	29	199	Semi-major axis of rotation ellipsoid
			0	29	200	Semi-minor axis of rotation ellipsoid
			0	29	193	Longitude Origin
			0	29	194	Latitude Origin
			0	29	195	X-coordinate of the upper left corner of the upper left pixel of the image
			0	29	196	Y-coordinate of the upper left corner of the upper left pixel of the image
			0	29	197	1st Standard Parallel
			0	29	198	2nd Standard Parallel
						General information about radar product (high resolution)
3	1	194	3	1	11	Date of observation
			3	1	12	Time of observation
			3	1	21	Latitude/longitude of top left corner of the image
			3	1	21	Latitude/longitude of top right corner of the image
			3	1	21	Latitude/longitude of bottom right corner of the image
			3	1	21	Latitude/longitude of bottom left corner of the image
			0	29	201	Projection type
			0	5	1	Latitude of radar
			0	6	1	Longitude of radar
			0	7	1	Height of radar
			0	5	33	Pixel size on horizontal between columns
			0	6	33	Pixel size on horizontal between rows
			0	30	21	Number of pixels per row
			0	30	22	Number of pixels per column
						Heights of side view
3	13	192	1	1	0	Delayed replication of 1 descriptor
			0	31	1	Delayed descriptor replication factor
			0	10	7	Height of side view

TABLE REFERENCE			TABLE REFERENCES			ELEMENT NAME
F	X	Y				
						4 bit per pixel radar images (top view)
3	21	192	1	10	0	Delayed replication of 10 descriptors
			0	31	2	Extended delayed descriptor replication factor
			0	5	31	Row number
			1	7	0	Delayed replication of 7 descriptors
			0	31	1	Delayed descriptor replication factor
			1	2	0	Delayed replication of 2 descriptors
			0	31	1	Replication factor
			0	31	12	Extended delayed descriptor and data repetition factor
			0	30	1	Pixel value (4 bit)
			1	1	0	Delayed replication of 1 descriptor
			0	31	1	Replication factor
			0	30	1	Pixel value (4 bit)
						8 bit per pixel radar images (top view)
3	21	193	1	10	0	Delayed replication of 10 descriptors
			0	31	2	Extended delayed descriptor replication factor
			0	5	31	Row number
			1	7	0	Delayed replication of 7 descriptors
			0	31	1	Delayed descriptor replication factor
			1	2	0	Delayed replication of 2 descriptors
			0	31	1	Delayed descriptor replication factor
			0	31	12	Extended delayed descriptor and data repetition factor
			0	30	2	Pixel value (8 bit)
			1	1	0	Delayed replication of 1 descriptor
			0	31	1	Delayed descriptor replication factor
			0	30	2	Pixel value (8 bit)
						4 bit per pixel radar image (north-south view)
3	21	194	1	10	0	Delayed replication of 1 descriptor
			0	31	2	Extended delayed descriptor replication factor
			0	5	31	Row number
			1	7	0	Delayed replication of 7 descriptors
			0	31	1	Delayed descriptor replication factor
			1	2	0	Delayed replication of 2 descriptors
			0	31	1	Replication factor
			0	31	12	Extended delayed descriptor and data repetition factor
			0	30	1	Pixel value (4 bit)
			1	1	0	Delayed replication of 1 descriptor
			0	31	1	Replication factor
			0	30	1	Pixel value (4 bit)
						8 bit per pixel radar image (north-south view)
3	21	195	1	10	0	Delayed replication of 10 descriptors
			0	31	2	Extended delayed descriptor replication factor
			0	5	31	Row number
			1	7	0	Delayed replication of 7 descriptors
			0	31	1	Delayed descriptor replication factor
			1	2	0	Delayed replication of 2 descriptors
			0	31	1	Delayed descriptor replication factor
			0	31	12	Extended delayed descriptor and data repetition factor
			0	30	2	Pixel value (8 bit)
			1	1	0	Delayed replication of 1 descriptor

TABLE REFERENCE			TABLE REFERENCES			ELEMENT NAME
F	X	Y				
			0	31	1	Delayed descriptor replication factor
			0	30	2	Pixel value (8 bit)
						4 bit per pixel radar image (east-west view)
3	21	196	1	10	0	Delayed replication of 10 descriptors
			0	31	2	Extended delayed descriptor replication factor
			0	5	31	Row number
			1	7	0	Delayed replication of 7 descriptors
			0	31	1	Delayed descriptor replication factor
			1	2	0	Delayed replication of 2 descriptors
			0	31	1	Delayed descriptor replication factor
			0	31	12	Extended delayed descriptor and data repetition factor
			0	30	1	Pixel value (4 bit)
			1	1	0	Delayed replication of 1 descriptor
			0	31	1	Delayed descriptor replication factor
			0	30	1	Pixel value (4 bit)
						8 bit per pixel radar image (east-west view)
3	21	197	1	10	0	Delayed replication of 10 descriptors
			0	31	2	Extended delayed descriptor replication factor
			0	5	31	Row number
			1	7	0	Delayed replication of 7 descriptors
			0	31	1	Delayed descriptor replication factor
			1	2	0	Delayed replication of 2 descriptors
			0	31	1	Delayed descriptor replication factor
			0	31	12	Extended delayed descriptor and data repetition factor
			0	30	2	Pixel value (8 bit)
			1	1	0	Delayed replication of 1 descriptor
			0	31	1	Delayed descriptor replication factor
			0	30	2	Pixel value (8 bit)
						Rain accumulation product
3	21	198	1	3	0	Delayed replication of 3 descriptors
			0	31	2	Extended delayed descriptor replication factor
			1	1	0	Delayed replication of 1 descriptor
			0	31	1	Delayed descriptor replication factor
			0	13	16	Precipitable water
						Polar reflectivity data for a given elevation
3	21	199	1	10	0	Delayed replication of 10 descriptors
			0	31	1	Delayed descriptor replication factor
			3	1	13	Time of scan start
			0	2	134	Antenna beam azimuth
			0	2	135	Antenna elevation
			3	21	6	Integration characteristics
			0	21	201	Range-bin size
			0	21	202	Azimuthal resolution
			0	2	193	Antenna rotation direction
			0	30	194	Number of bins along the radial
			0	30	195	Number of azimuths
			3	21	193	Compressed pixmap
						Compressed rainfall accumulation data
3	21	200	1	10	0	Delayed replication of 10 descriptors

I.2 BUFR Table D - 3

TABLE REFERENCE			TABLE REFERENCES			ELEMENT NAME
F	X	Y				
			0	31	2	Extended delayed descriptor replication factor
			0	5	31	Row number
			1	7	0	Delayed replication of 7 descriptors
			0	31	1	Delayed descriptor replication factor
			1	2	0	Delayed replication of 2 descriptors
			0	31	1	Delayed descriptor replication factor
			0	31	12	Extended delayed descriptor and data replication factor
			0	13	11	Total precipitation
			1	1	0	Delayed replication of 1 descriptor
			0	31	1	Delayed descriptor replication factor
			0	13	11	Total precipitation
						Polar radial wind data for a given elevation
3	21	201	1	10	0	Delayed replication of 10 descriptors
			0	31	1	Delayed descriptor replication factor
			3	1	13	Time of scan start
			0	2	134	Antenna beam azimuth
			0	2	135	Antenna elevation
			3	21	6	Integration characteristics
			0	21	201	Range-bin size
			0	21	202	Azimuthal resolution
			0	2	193	Antenna rotation direction
			0	30	194	Number of bins along the radial
			0	30	195	Number of azimuths
			3	21	202	Compressed radial wind data array
						Compressed radial wind data array
3	21	202	1	10	0	Delayed replication of 10 descriptors
			0	31	2	Extended delayed descriptor replication factor
			0	5	31	Row number
			1	7	0	Delayed replication of 7 descriptors
			0	31	1	Delayed descriptor replication factor
			1	2	0	Delayed replication of 2 descriptors
			0	31	1	Delayed descriptor replication factor
			0	31	12	Extended delayed descriptor and data replication factor
			0	21	14	Doppler mean velocity
			1	1	0	Delayed replication of 1 descriptor
			0	31	1	Delayed descriptor replication factor
			0	21	14	Doppler mean velocity
						ODIM polar volume mandatory content
3	21	203	1	12	0	Delayed replication of 12 descriptors
			0	31	1	Number of scans
			3	21	205	Time period *(/dataset?/what/startdate, /dataset?/what/starttime, /dataset?/what/enddate and /dataset?/what/endtime)*
			0	30	196	Type of product *(/dataset?/what/product)*
			0	2	135	Antenna elevation *(/dataset?/where/elangle)*
			0	30	194	Number of bins along the radial *(/dataset?/where/nbins)*
			0	21	201	Range-bin size *(/dataset?/where/rscale)*
			0	21	203	Range-bin offset *(/dataset?/where/rstart)*
			0	30	195	Number of azimuths *(/dataset?/where/nrays)*
			0	2	134	Antenna beam azimuth (of first ray) *(/dataset?/where/a1gate)*

TABLE REFERENCE			TABLE REFERENCES			ELEMENT NAME
F	X	Y				
			1	2	0	Delayed replication of 2 descriptors
			0	31	1	Number of parameters
			0	30	196	Type of product (*/dataset?/data?/what/quantity*)
			3	21	206	ODIM compressed array
						ODIM additional station identifier
3	21	204	1	2	0	Delayed replication of 2 descriptors
			0	31	1	Delayed descriptor replication factor
			0	1	192	Type of station identifier (*RAD, ORG, PLC, CTY or CMT*)
			0	1	193	Station identifier
						ODIM times stamps
3	21	205	1	2	2	Replication of 2 descriptors (start time stamp and end time stamp)
			3	1	11	Date (year, month, day)
			3	1	13	Time (hour, minute, second)
						ODIM compressed array
3	21	206	0	30	197	Compression method
			1	3	0	Compressed array of IEEE double floats
			0	31	2	Number of chunks
			1	1	0	Delayed replication of 1 descriptor
			0	31	2	Size of chunk
			0	30	198	Byte element of a compressed array
						ODIM polar volume mandatory content with extensions (evolution of 3 21 203)
3	21	207	3	21	209	ODIM how attributes set */how*
			1	14	0	Delayed replication of 14 descriptors
			0	31	1	Number of scans
			3	21	209	ODIM how attributes set */dataset?/how*
			3	21	205	Time period (*/dataset?/what/startdate, /dataset?/what/starttime, /dataset?/what/enddate and /dataset?/what/endtime*)
			0	30	199	ODIM product (*/dataset?/what/product*)
			0	2	135	Antenna elevation (*/dataset?/where/elangle*)
			0	30	33	Number of bins along the radial (*/dataset?/where/nbins*)
			0	21	23	Range-bin size (*/dataset?/where/rscale*)
			0	21	22	Range-bin offset[1] (*/dataset?/where/rstart*)
			0	30	34	Number of azimuths (*/dataset?/where/nrays*)
			0	2	134	Antenna beam azimuth (of first ray) (*/dataset?/where/a1gate*)
			1	3	0	Delayed replication of 3 descriptors
			0	31	1	Number of parameters
			3	21	209	ODIM how attributes set */dataset?/data?/how*
			0	30	200	ODIM quantity (*/dataset?/data?/what/quantity*)
			3	21	206	ODIM compressed array
						ODIM composites mandatory content with extensions (evolution of composite template with tables 8)
3	21	208	3	21	209	ODIM how attributes set */how*
			3	1	11	Date (year, month, day) (*/what/date*)
			3	1	13	Time (hour, minute, second) (*/what/time*)
			3	21	204	ODIM compositing center identifiers (*/what/source*); it

[1]this is here in meters, contrary to ODIM specification which requires km

TABLE REFERENCE			TABLE REFERENCES			ELEMENT NAME
F	X	Y				
						should be at least ORG:247 for Odyssey products
			0	29	205	Geographic projection as PROJ initialization string /where/projdef)
			0	5	33	Pixel size on horizontal between columns (/where/xscale)
			0	6	33	Pixel size on horizontal between rows (/where/yscale)
			2	1	129	We need more bits to code large products
			0	30	21	Number of pixels per row (/where/xsize)
			0	30	22	Number of pixels per column (/where/ysize)
			2	1	0	
			3	1	21	Latitude/longitude of top left corner of the image (/where/UL_lon, /where/UL_lat)
			3	1	21	Latitude/longitude of top right corner of the image (/where/UR_lon, /where/UR_lat)
			3	1	21	Latitude/longitude of bottom right corner of the image (/where/LR_lon, /where/LR_lat)
			3	1	21	Latitude/longitude of bottom left corner of the image (/where/LL_lon, /where/LL_lat)
			3	21	204	List of radars contributing to the composite as their node name (see table 3 of ODIM 2.1 specification); type of station identifier is always NOD
			1	5	0	Delayed replication of 5 descriptors
			0	31	1	Number of parameters
			3	21	209	ODIM how attributes set /dataset?/how
			3	21	205	Time period (/dataset?/what/startdate,/dataset?/what/starttime, /dataset?/what/enddate and /dataset?/what/endtime)
			0	30	199	ODIM product (table 14)
			0	30	200	ODIM quantity (table 16)
			3	21	206	ODIM compressed array
						ODIM how attributes set
3	21	209	1	2	0	Delayed replication of 2 descriptors
			0	31	1	Delayed descriptor replication factor
			0	30	201	ODIM how attribute name
			0	30	202	ODIM how attribute string value
			1	2	0	Delayed replication of 2 descriptors
			0	31	1	Delayed descriptor replication factor
			0	30	201	ODIM how attribute name
			0	30	203	ODIM how attribute double value
						List of radars included in a composite
3	21	250	1	4	0	Delayed replication of 4 descriptors
			0	31	1	Replication factor
			0	1	1	WMO block number
			0	1	2	WMO station number
			0	31	31	Data present indicator
			0	33	3	Quality information