Header format of EAR (New)

Int.	Position	Name	Contents
1	1–4	LNBLK	Length of a data block
2	5–8	NTBLK	Number of total blocks
			(Header, spectra & parameters)
3	9–12	NDBLK	Number of data blocks (Spectra only)
4	13–16	LNSEG	Length of segment
5	17–20	NHBLK	Number of header blocks
6	21–24	NPBLK	Number of parameter blocks
7	25–32	ISTA	Record start time (s) (since epoch) (8 bytes)
9	33–40	IEND	Record end time (s) (since epoch) (8 bytes)
11	41–44	IREC	Record number
			(since observation program started)
12	45–48	ITIME	Pure observation time (ms)
13	49–52	MOBS	Observation mode
			0: Raw data
			1: FFT-spectra only
			10: FFT-parameters only
			11: FFT-spectra & parameters
			2: FFT-complex spectra (Reserved)
			100: Rainfit
			999: Unknown
14	53–56	MTYPE	Data type (Reserved)
15	57–60	NCOH	Number of coherent integrations (Ch.1)
16	61–64	NCOH2	Number of coherent integrations (Ch.2)
17	65–68	NCOH3	Number of coherent integrations (Ch.3)
18	69–72	NCOH4	Number of coherent integrations (Ch.4)
19	73–76	NDATA	Number of recorded data points
20	77–92	NFFT	Number of FFT points (4 words)
24	93–96	NICOH	Number of incoherent integrations
25	97–100	IPP	IPP (μs)
26	101–104	JBWDTH	Receiver bandwidth (kHz)
27	105–108	MRASS	RASS mode (1 byte x 4)
			0: Wind observation
			1: RASS observation
28	109–124	RXFREQ	RX frequency offset for each channel (4 words)
32	125–128	NHIGH	Number of height points
33	129–132	NBEAM	Number of beam directions
34	133–164	IAZ	Azimuth angle (deg $\times$ 10) (8 beams)
42	165–196	IZE	Zenith angle (deg $\times$ 10) (8 beams)
50	197–200	NCHAN	Number of channels

Int.	Position	Name	Contents
51	201–216	ICHAN	Channel number in analogue combine (32 bits×4) ... Memo.
55	217–220	MSTART	Sampling start range (m) (for Beam 1)
56	221–252	ISTART	Sample start time (unit of sub-pulse/4) (8 beams)
64	253–256	MSINT	Sampling interval (m)
65	257–260	NFIT	Number of fitting points
66	261–264	LSUBP	Length of a sub-pulse (us) (−1: 0.5μs)
67	265–268	NSUBP	Number of sub-pulse (1, 2, 4, 8, or 16)
68	269–272	IPDUTY	Sub-pulse duty ratio (100, 80, 67, 57, 50 %)
69	273–276	NPSEQ	Number of pulse sequencies (1–64)
70	277–532	ITXCOD	Transmit pulse pattern (32 bits×64)
134	533–536	NTXFRQ	Number of TX frequencies
135	537–556	TXFREQ	TX frequency offset (5 words)
140	557–560	MREMOV	Unnecessary scattering wave removal mode on(1)/off(0)
141	561–564	ITXATT	TX attenuator ... Memo.
142	565–580	IRXATT	RX attenuator (4 words) ... Memo.
146	581–584	ITXON	TX on(1)/off(0) (24 bits) ... Memo.
147	585–588	IRNGZR	Range zero correction (ns)
148	589–592	IBSHAP	Beam shape (Reserved)
149	593–596	IGAIN	Gain correction of TX source signal
150	597–660	IRXFIR	FIR coefficient in RX for Ch.1 (2 bytes×2×16)
166	661–692	ITXFIR	FIR coefficient in TX (2 bytes×16)
174	693–696	IGAFIR	Gain adjustment of FIR filter in RX for each channel (4 bits×2×4)
175	697–700	INTPTN	CIC interpolation pattern in TX (0–15)
176	701–704	INTRAT	CIC interpolation rate in TX (15–1920)
177	705–708	NTXCIC	Number of CIC filter in TX (1–12)
178	709–712	IGACIC	Gain adjustment of CIC filter in TX
179	713–716	NRXCIC	Number of CIC filter in RX for each channel (1 byte×4)
180	717–720	ICRRAT	CIC cropping rate in RX for each channel (1 byte×4)
181	721–732	IGRCIC	Gain adjustment of CIC filter in RX (1 byte×12)
184	733–736	PLATIT	Latitude (°) ... Memo.
185	737–740	PLONGI	Longitude (°) ... Memo.
186	741–744	SEALVL	Above sea level (m) ... Memo.
187	745–776	PN	Noise power density (Relative value) (8 beams for Ch.1)
195	777–780	IHEADF	Header flag 0x1: RX FIR coefficient 0x2: Pulse decoding pattern etc. 0x4: TX pulse pattern 0x8: TX/RX enable/disable and phase
196	781–804	RECSTA	Record start time [DD-MMM-YYYY hh:mm:ss]
202	805–816	RECEND	Record end time [hh:mm:ss]
205	817–848	PARNAM	Parameter-file name (32 bytes)
213	849–864	PRGNAM	Signal processing program name (16 bytes)

Int.	Position	Name	Contents
217	865–896	PLACE	Place name (32 bytes) ... Memo.
225	897–928	RDRNAM	Radar name (32 bytes) ... Memo.
233	929–1008	COMENT	Comment by user (80 bytes) ... Memo.
253	1009–1024	USRHDR	User header
1	1–64	IRFIR2	FIR coefficient in RX for Ch.2 (2 bytes×2×16)
17	65–128	IRFIR3	FIR coefficient in RX for Ch.3 (2 bytes×2×16)
33	129–192	IRFIR4	FIR coefficient in RX for Ch.4 (2 bytes×2×16)
49	193–1024		Reserved for future
1	1–4	LDCD1	Decoding code length for Ch.1
2	5–8	NPSQ1	Number of pulse decoding sequencies for Ch.1
3	9–776	IDCD1	Pulse decoding pattern for Ch.1 (32 bits×64(192))
			(When MREMOV = 1, 32 bits×32×6 beams)
195	777–1024		Reserved for future (1)
1	1–4	LDCD2	Decoding code length for Ch.2
2	5–8	NPSQ2	Number of pulse decoding sequencies for Ch.2
3	9–776	IDCD2	Pulse decoding pattern for Ch.2 (32 bits×64)
			(When MREMOV = 1, 32 bits×32×6 beams)
195	777–1024		Reserved for future (2)
1	1–4	LDCD3	Decoding code length for Ch.3
2	5–8	NPSQ3	Number of pulse decoding sequencies for Ch.3
3	9–776	IDCD3	Pulse decoding pattern for Ch.3 (32 bits×64)
			(When MREMOV = 1, 32 bits×32×6 beams)
195	777–1024		Reserved for future (3)
1	1–4	LDCD4	Decoding code length for Ch.4
2	5–8	NPSQ4	Number of pulse decoding sequencies for Ch.4
3	9–776	IDCD4	Pulse decoding pattern for Ch.4 (32 bits×64)
			(When MREMOV = 1, 32 bits×32×6 beams)
195	777–1024		Reserved for future (4)
1	1–4096	ITXPTN	TX pulse on/off pattern (512 bits×64)
1025	4097–8192	ITXPHS	TX pulse phase pattern (512 bits×64)
			(When MREMOV = 1, 64 bits×8 beams×64)
1	1–4608	MTXPHS	TX enable(1)/disable(0) (MSB) and phase for each module
			(unit of 5.625 deg) (1 byte×8 beams×576)
			1-X is corresponding to Pre Module
1153	4609–5120		Reserved for future (1)
1	1–4608	MRXPHS	RX enable(1)/disable(0) (MSB) and phase for each module
			(unit of 5.625 deg) (1 byte×8 beams×576)
			1-X is corresponding to Pre Module
1153	4609–5120		Reserved for future (2)