The KA7OEI FT-817 pages
EEPROM Memory Map

***Important notice:** This document details aspects of CAT interface commands that are specific to the FT-817. Furthermore, some of these parameters (specifically memory locations) may be pertinent only to the version of the software in my radio and may not apply to other software versions! Finally, careless use of these commands may result in an unusable radio, requiring complete recalibration! You have been warned!*

***Comment:** The Japanese domestic version of the FT-817 apparently has a **different** CPU which is "hardcoded" to limit its frequency coverage. It would be interesting to know if the EEPROM addresses below are the same for this (and other) versions.*

If you find information that you believe to be incorrect, or if you have more information to add, please report it via email.

Please refer to the CAT (tm) Interface Programming with the FT-817 page for more information about using the data on this page.

Memory Map by Address (preliminary)

Note: Numbers in parentheses are the number of the corresponding menu item.

Byte Address (HEX)	Bit(s) Used (7-0)	Function *(Menu item number in parentheses where appropriate)*	Remarks
0-3	(all)	EEPROM integrity checksum	If the contents of these addresses are changed, the '817 may detect a checksum fault and completely wipe EEPROM contents, erasing ***all*** "soft calibration" parameters, configuration settings, and memories. ***You have been warned!***
4-5	(all)	Radio "version" configuration	The values at this address indicate which "version" of '817 this is. These are loaded when a "hard reset" is done with their values based on the configuration of J4001-J4009. For J4005-J4009 jumpered, the values are D8 and BF (HEX) respectively.
6	?	?	Possibly related to bytes 0-5?
7	(all)	01 HF1RXG *(See Soft Cal. Menu page)*	Values 0-255 as displayed
8	"	02 HF2RXG *(See Soft Cal. Menu page)*	"
9	"	03 HF3RXG *(See Soft Cal. Menu page)*	"

A	"	04 50MRXG *(See Soft Cal. Menu page)*	"
B	"	05 VHFRXG *(See Soft Cal. Menu page)*	"
C	"	06 UHFRXG *(See Soft Cal. Menu page)*	"
D	"	07 SSB-S9 *(See Soft Cal. Menu page)*	"
E	"	08 SSB-FS *(See Soft Cal. Menu page)*	"
F	"	09 FM-S1 *(See Soft Cal. Menu page)*	"
10	"	10 FM-FS *(See Soft Cal. Menu page)*	"
11	"	11 DISC-L *(See Soft Cal. Menu page)*	"
12	"	12 DISC-H *(See Soft Cal. Menu page)*	"
13	"	13 FM-TH1 *(See Soft Cal. Menu page)*	"
14	"	14 FM-TH2 *(See Soft Cal. Menu page)*	"
15	"	15 FM-TI1 *(See Soft Cal. Menu page)*	"
16	"	16 FM-TI2 *(See Soft Cal. Menu page)*	"
17	"	17 VCC *(See Soft Cal. Menu page)*	"
18	"	18 HF1-IC *(See Soft Cal. Menu page)*	"
19	"	19 HF2-IC *(See Soft Cal. Menu page)*	"
1A	"	20 HF3-IC *(See Soft Cal. Menu page)*	"
1B	"	21 50M-IC *(See Soft Cal. Menu page)*	"
1C	"	22 VHF-IC *(See Soft Cal. Menu page)*	"
1D	"	23 UHF-IC *(See Soft Cal. Menu page)*	"
1E	"	24 HF1-HI *(See Soft Cal. Menu page)*	"
1F	"	25 HF1-L3 *(See Soft Cal. Menu page)*	"
20	"	26 HF1-L2 *(See Soft Cal. Menu page)*	"
21	"	27 HF1-L1 *(See Soft Cal. Menu page)*	"

22	"	28 HF2-HI *(See Soft Cal. Menu page)*	"
23	"	29 HF2-L3 *(See Soft Cal. Menu page)*	"
24	"	30 HF2-L2 *(See Soft Cal. Menu page)*	"
25	"	31 HF2-L1 *(See Soft Cal. Menu page)*	"
26	"	32 HF3-HI *(See Soft Cal. Menu page)*	"
27	"	33 HF3-L3 *(See Soft Cal. Menu page)*	"
28	"	34 HF3-L2 *(See Soft Cal. Menu page)*	"
29	"	35 HF3-L1 *(See Soft Cal. Menu page)*	"
2A	"	36 50M-HI *(See Soft Cal. Menu page)*	"
2B	"	37 50M-L3 *(See Soft Cal. Menu page)*	"
2C	"	38 50M-L2 *(See Soft Cal. Menu page)*	"
2D	"	39 50M-L1 *(See Soft Cal. Menu page)*	"
2E	"	40 VHF-HI *(See Soft Cal. Menu page)*	"
2F	"	41 VHF-L3 *(See Soft Cal. Menu page)*	"
30	"	42 VHF-L2 *(See Soft Cal. Menu page)*	"
31	"	43 VHF-L1 *(See Soft Cal. Menu page)*	"
32	"	44 UHF-HI *(See Soft Cal. Menu page)*	"
33	"	45 UHF-L3 *(See Soft Cal. Menu page)*	"
34	"	46 UHF-L2 *(See Soft Cal. Menu page)*	"
35	"	47 UHF-L1 *(See Soft Cal. Menu page)*	"
36	"	48 HF1TXG *(See Soft Cal. Menu page)*	"
37	"	49 HF2TXG *(See Soft Cal. Menu page)*	"
38	"	50 HF3TXG *(See Soft Cal. Menu page)*	"

39	"	51 50MTXG *(See Soft Cal. Menu page)*	"
3A	"	52 VHFTXG *(See Soft Cal. Menu page)*	"
3B	"	53 UHFTXG *(See Soft Cal. Menu page)*	"
3C	"	54 HF1POM *(See Soft Cal. Menu page)*	"
3D	"	55 HF2POM *(See Soft Cal. Menu page)*	"
3E	"	56 HF3POM *(See Soft Cal. Menu page)*	"
3F	"	57 50MPOM *(See Soft Cal. Menu page)*	"
40	"	58 VHFPOM *(See Soft Cal. Menu page)*	"
41	"	59 UHFPOM *(See Soft Cal. Menu page)*	"
42	"	60 ALC1-M *(See Soft Cal. Menu page)*	"
43	"	61 ALC-M *(See Soft Cal. Menu page)*	"
44	"	62 HF1-RV *(See Soft Cal. Menu page)*	"
45	"	63 HF2-RV *(See Soft Cal. Menu page)*	"
46	"	64 HF3-RV *(See Soft Cal. Menu page)*	"
47	"	65 50M-RV *(See Soft Cal. Menu page)*	"
48	"	66 VHF-RV *(See Soft Cal. Menu page)*	"
49	"	67 UHF-RV *(See Soft Cal. Menu page)*	"
4A	"	68 CW-CAR *(See Soft Cal. Menu page)*	"
4B	"	69 AM-CAR *(See Soft Cal. Menu page)*	"
4C	"	70 DEV-W *(See Soft Cal. Menu page)*	"
4D	"	71 DEV-N *(See Soft Cal. Menu page)*	"
4E	"	72 M-MTR *(See Soft Cal. Menu page)*	"
4F	"	73 CTCSS *(See Soft Cal. Menu page)*	"

50	"	74 DCS *(See Soft Cal. Menu page)*	"
51	"	75 LSB-CP *(See Soft Cal. Menu page)*	8 bit signed number with MSB as sign. 0=0, 1=1, 0xff = -1
52	"	76 USB-CP *(See Soft Cal. Menu page)*	"
53	"	Voltmeter Calibration Factor	This is an "internal" value used to calibrate the voltmeter display.
54	(all)	Memory select?	This location often contains the number of the currently-selected memory, but it cannot be reliably used to determine it. (Exact purpose unknown.)
55	0	VFO A/B	0 = VFO-A, 1 = VFO-B
55	1	MTQMB Select	0 = (Not MTQMB), 1 = MTQMB ("Memory Tune Quick Memory Bank")
55	2	QMB Select	0 = (Not QMB), 1 = QMB ("Quick Memory Bank")
55	3	?	?
55	4	Home Select	0 = (Not HOME), 1 = HOME memory
55	5	Memory/MTUNE select	0 = Memory, 1 = MTUNE
55	6	?	?
55	7	MEM/VFO Select	0 = Memory, 1 = VFO (A or B - see bit 0)
56	?		
57	1-0	AGC Mode	00 = Auto, 01 = Fast, 10 = Slow, 11 = Off
57	2	DSP On/Off	0 = Off, 1 = On (Display format)
57	3	?	?
57	4	PBT On/Off	0 = Off, 1 = On (Passband Tuning)
57	5	NB On/Off	0 = Off, 1 = On (Noise Blanker)
57	6	Lock On/Off	0 = Off, 1 = On (Dial Lock)
57	7	FST (Fast Tuning) On/Off	0 = Off, 1 = On (Fast tuning)
58	1-0	Pwr Meter Mode	00 = PWR, 01 = ALC, 10 = SWR, 11 = MOD
58	2	CW Paddle Normal/Reverse (#19)	0 = Normal, 1 = Reverse
58	3	?	?
58	4	KYR On/Off	0 = Off, 1 = On (CW Keyer)
58	5	BK On/Off	0 = Off, 1 = On (Semi Break-In)
58	6	VLT On/Off	0 = Off, 1 = On (Voltmeter Display)
58	7	VOX On/Off	0 = Off, 1 = On
59	3-0	VFO A Band Select	0000 = 160 M, 0001 = 75 M, 0010 = 40 M, 0011 = 30 M, 0100 = 20 M, 0101 = 17 M, 0110 = 15 M, 0111 = 12 M, 1000 = 10 M, 1001 = 6 M, 1010 = FM BCB, 1011 = Air, 1100 = 2 M, 1101 = UHF, 1110 = (Phantom)
59	7-4	VFO B Band Select	(Same as VFO A Band Select)
5A	?	?	?
5B	3-0	Contrast (1-12) (#16)	0010 = 1 through 1101 = 12
5B	4	Color (Color1/Color2) (#15)	0 = Color1 (Blue), 1 = Color2 (Amber)
5B	5	?	?

5B	7-6	Backlight Off/On/Auto (#10)	00 = Off, 01 = On, 10 = Auto
5C	6-0	Beep Volume (0-100) (#13)	Contains 0-100 as displayed
5C	7	Beep Freq (#12)	0 = 440 Hz, 1 = 880 Hz
5D	1-0	Resume (Scan) (#41)	00 = Off, 01 = 3 Sec, 10 = 5 Sec, 11 = 10 Sec
5D	2	Pkt Rate (#40)	0 = 1200, 1 = 9600
5D	3	Scope (#43)	0 = Cont, 1 = Chk
5D	4	CW ID Off/On (#18)	0 = Off, 1 = On
5D	5	Main Step (#33)	0 = Fine, 1 = Coarse
5D	7-6	ARTS Beep Off/Range/All (#9)	00 = Off, 01 = Range, 10 = All
5E	3-0	CW Pitch (300-1000 Hz) (#20)	From 0 to E (HEX) with 0 = 300 Hz and each step representing 50 Hz
5E	5-4	Lock Mode (#32)	00 = Dial, 01 = Freq, 10 = Panel
5E	7-6	Op Filter (#38)	00 = Off, 01 = SSB, 10 = CW
5F	4-0	CW Weight (1.:2.5-1:4.5) (#22)	From 0 to 14 (HEX) with 0 = 1:2.5, incrementing in 0.1 weight steps
5F	5	420 ARS (#2)	0 = Off, 1 = On
5F	6	144 ARS (#1)	0 = Off, 1 = On
5F	7	Sql/RF-G (#45)	0 = Off, 1 = On
60	(all)	CW Delay (10-2500 ms) (#17)	From 1 to 250 (decimal) with each step representing 10 ms
61	6-0	Sidetone (Volume) (#44)	Contains 0-100 (decimal) as displayed
61	7	?	?
62	5-0	CW Speed (4-60 WPM) (#21)	From 0 to 38 (HEX) with 0 = 4 WPM and 38 = 60 WPM (1 WPM steps)
62	7-6	Batt-Chg (6/8/10 Hours (#11)	00 = 6 Hours, 01 = 8 Hours, 10 = 10 Hours
63	6-0	VOX Gain (#51)	Contains 1-100 (decimal) as displayed
63	7	Disable AM/FM Dial (#4)	0 = Enable, 1 = Disable
64	4-0	VOX Delay (#50)	0 = 100 Ms with each step representing 100 Ms. 24 = 2500 Ms
64	5	Emergency (#28)	0 = Off, 1 = On
64	7-6	CAT Rate (4800, 9600, 38400) (#14)	00 = 4800, 01 = 9600, 10 = 38400 Baud
65	2-0	APO Time (#8)	000 = Off, 001 = 1 Hour, 010 = 2 Hours, etc. (i.e. 3 bits with values from 0 to 6)
65	3	?	?
65	4	Mem Group (#34)	0 = Off, 1 = On
65	7-5	Dig Mode (#26)	000 = RTTY, 001 = PSK31-L, 010 = PSK31-U, 011 = USER-L, 100 = USER-U
66	4-0	TOT Time (#49)	Contains 0-20 (0 = TOT off)
66	5	?	?
66	7-6	DCS INV (#53)	00 = Tn-Rn, 01 = Tn-Riv, 10 = Tiv-Rn, 11 = Tiv-Riv
67	6-0	SSB Mic (#46)	Contains 0-100 (decimal) as displayed
67	7	?	?

68	6-0	AM Mic (#5)	Contains 0-100 (decimal) as displayed
68	7	Mic Key (#36)	0 = Off, 1 = On
69	6-0	FM Mic (#29)	Contains 0-100 (decimal) as displayed
69	7	Mic Scan (#37)	0 = Off, 1 = On
6A	6-0	Dig Mic (#25)	Contains 0-100 (decimal) as displayed
6A	7	?	?
6B	6-0	Pkt Mic (#39)	Contains 0-100 (decimal) as displayed
6B	?	?	?
6C	6-0	9600 Mic (#3)	Contains 0-100 (decimal) as displayed
6C	7	?	?
6D-6E	(all)	Dig Shift (#27)	6 is MSB, 6E is LSB with the sign in bit 7 of the MSB, in 10 Hz steps. I.e. 0000 = o Hz, 0001 = +10 Hz, FF01 = -10 Hz, 012c = +3000 Hz, FED4 = -3000 Hz
6F-70	(all)	Dig Disp (#24)	6F is MSB, 70 is LSB. Same format as Dig Shift (above)
71	(all)	R LSB Car (#54)	Each step represents 10 Hz with the MSB indicating a negative value. (From -300 to +300 Hz)
72	(all)	R USB Car (#55)	Same format as R LSB Car (above)?
73	(all)	T LSB Car (#56)	Same format as R LSB Car (above)
74	(all)	T USB Car (#57)	Same format as R LSB Car (above)
75	5-0	Submenu item # selection (displayed by holding the "F" key)	Ranges from 0 to 38 (HEX) for menu items 1-57
75	7-6	?	?
76	3-0	Display Menu selection (toggled using the "F" key)	0000 = VFO A/B, A=B, SPL; 0001 = MW, MC, TAG; 0010 = STO, RCL, PMS; 0011 = RPT, REV, TON; 0100 = SCN, PRI, DW; 0101 = SSM, SCH, ART; 0110 = IPO, ATT, NAR; 0111 = NB, AGC; 1000 = PWR, MTR; 1001 = VOX, BK, KYR; 1010 = CHG, VLT, DSP; 1011 = TCH, DCH
76	7-4	?	?
77	?	?	?
78	?	?	?
79	1-0	TX Power (All bands)	00 = High, 01 = L3, 10 = L2, 11 = L1
79	2	?	?
79	3	PRI On/Off	0 = Off, 1 = On
79	4	DW On/Off	0 = Off, 1 = On
79	6-5	SCN (Scan) Mode	00 = No scan, 10 = Scan up, 11 = Scan down
79	7	ART On/Off	0 = Off, 1 = On
7A	0	HF Antenna Select	0 = Front, 1 = Rear
7A	1	6 M Antenna Select	0 = Front, 1 = Rear
7A	2	FM BCB Antenna Select	0 = Front, 1 = Rear
7A	3	Air Antenna Select	0 = Front, 1 = Rear
7A	4	2 M Antenna Select	0 = Front, 1 = Rear

7A	5	UHF Antenna Select	0 = Front, 1 = Rear
7A	6	?	?
7A	7	SPL On/Off	0 = Off, 1 = On
7B	3-0	Chg mode	6 = 6 Hours, 8 = 8 Hours, A (HEX) = 10 Hours (used when charging - does not set charging time)
7B	4	Chg On/Off	0 = Off, 1 = On
7B	7-5	?	?
7C	?	?	?
7D	-	Base address of VFO A, 160 M	Refer to "VFO Memory Record" table on the referring page
97	-	Base address of VFO A, 75 M	"
B1	-	Base address of VFO A, 40 M	"
CB	-	Base address of VFO A, 30 M	"
E5	-	Base address of VFO A, 20 M	"
FF	-	Base address of VFO A, 17 M	"
119	-	Base address of VFO A, 15 M	"
133	-	Base address of VFO A, 12 M	"
14D	-	Base address of VFO A, 10 M	"
167	-	Base address of VFO A, 6 M	"
181	-	Base address of VFO A, FM BCB	"
19B	-	Base address of VFO A, Air	"
1B5	-	Base address of VFO A, 2 M	"
1CF	-	Base address of VFO A, UHF	"
1E9	-	Base address of VFO A, (Phantom)	" Note: The "Phantom" band is that which allows tuning outside HF amateur bands
203	-	Base address of VFO B, 160 M	"
21D	-	Base address of VFO B, 75 M	"
237	-	Base address of VFO B, 40 M	"
251	-	Base address of VFO B, 30 M	"
26B	-	Base address of VFO B, 20 M	"
285	-	Base address of VFO B, 17 M	"
29F	-	Base address of VFO B, 15 M	"
2B9	-	Base address of VFO B, 12 M	"
2D3	-	Base address of VFO B, 10 M	"
2ED	-	Base address of VFO B, 6 M	"
307	-	Base address of VFO B, FM BCB	"
321	-	Base address of VFO B, Air	"
33B	-	Base address of VFO B, 2 M	"
355	-	Base address of VFO B, UHF	"
36F	-	Base address of VFO B, (Phantom)	" Note: The "Phantom" band is that which allows tuning outside HF amateur bands

389	-	Base address of HF "Home" Memory	Refer to "Memory Record" table on the referring page
3A3	-	Base address of 6 M "Home" Memory	"
3BD	-	Base address of 2 M "Home" Memory	"
3D7	-	Base address of UHF "Home" Memory	"
3F1	-	Base address of the "QMB" Memory	"
40B	-	Base address of the "MTQMB" VFO	"
425	-	Base address of "MTUNE" VFO	"
44F	(all)	"Current" Memory Channel saved in EEPROM. This is the memory channel that will be "remembered" when the radio is powered-up next time.	0 = Memory 1, C7 (HEX) = Memory 200, M-PL = C8, M-PU = C9
450	(all)	Bitmap showing which memories are used.	Map starts at address 0x0450 with one bit per memory location, the bit must be set for the memory to be visible, clear if hidden (see below.)
484	-	Base address of Memory 1	Refer to Memory Record table on the referring page
-	-	Each memory record consists of 26 bytes	There are 202 memories: 1-200 plus M-PL and M-PU
-	-	***If you find more information, please let me know at the email address below.***	

Please refer to the CAT (tm) Interface Programming with the FT-817 page for more information about using the data on this page.

Format of "memory use" bitmap beginning at 0x450:

- The corresponding bit must be set (1) for memory to be used, and cleared (0) to be hidden.
- Memory 1 is bit 0 at 0x450, Memory 2 is bit 1 at 0x450, etc.

Work continues on this page - please revisit soon!

Note: CAT (in this context) is a trademark of Yaesu/Vertex Standard Co. Ltd.

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Any comments or questions? Send mail to: ka7oei@arrl.net

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