FT2000 Alignment Menu Settings – K6JRF

Rev:1/9/18

The following are settings taken from my FT2000D can be used to restore operation to a "damaged" radio due to an inadvertent reset or operator error. The factory default [F/Def] settings were taken from the radio and were the settings when the radio was new. As you should know, each radio has different settings so these may not be correct for your radio but should get you into the ballpark.

There are some parameters that are can be changed but you should not if you don't know what you're doing! These settings are accessible for maintenance by a qualified technician and it's MANDATORY that you write down ALL the settings in this menu BEFORE you change any of them! If something goes wrong with a parameter, you can go back to the original settings.

Note you will need to download the FT2000 alignment manual to use along with this document http://www.k6jrf.com/FT-2000(D)_Alignment_Manual_jrf.pdf The detailed procedures are described along w/ bench test equipment required to perform the alignment. As always, all of the described setting modifications are at your own risk.

HOW TO ACCESS THE HIDDEN/SERVICE MENU

Switch the radio OFF
Push the 1 + 2 + 3 frequency buttons on the front panel while POWER ON
This brings the service menu onto the screen.

Every changes made to this menu will be saved exactly the same way as the normal MENU accessible with a button from the front panel. Push this MENU button for 2 seconds until you hear the 'beep' to save and exit the hidden service menu.

The next three (3) topics represent operating changes that can be made w/o special test equipment and can be restored if you're not happy with them.

1) Changing Fan Speed

You can reduce (or increase) the fan speed in the radio. Mine was a bit on the noisy side that caused it to exhibit a high-pitched noise when running at high speed.

My default value was 190 and it has been reduced to 180 in item #A07. Be careful not to slow down too much the fan or you will raise the internal temperature that may cause failure in the power amp's output FETs! Never reduce this value too far since the blower will not be very effective if the speed is too slow.

2) Reducing IF Gain - Lower Noise Floor

This is a very easy modification to do and as with the previous change, there is no need to have laboratory test equipment.

In the FT-2000 you can change the IF gain for each band from 160m to 6m. If you're happy with the noise floor of your rig, don't modify this. If you're curious, then you can play with these values and always keep the original values on a sheet of paper in order to return to factory settings. Operation on the lower bands such as 160m and 80m shows a very high noise floor that can be attenuated by the settings given here.

B11 thru B20 represent the radio's IF Gain for 160m, 80m, 40m, 30m, 20m, 17m, 15m, 12m, 10m and 6m bands respectively.

If B11 = 096 [K6JRF F/Def], turning the VFO B knob clockwise will increases the value by 1 which equals apx 1db. A higher number will reduce the IF Gain on that band by 1dB at a time. Some have found that the receiver is apx 10dB 'too-hot' on each band, so increasing the value by "10" is a good starting point. Some users have increased the values by as much as "15" meaning the rcvr's noise floor has been reduced by 15dB! Don't forget to save your new settings pushing the MENU button for 2 seconds.

To look at the each band in detail, do the following;

Put the rig in the first band in question, say 160mtrs, while listening to the weakest signal that you can find on that band. Now POWER OFF the FT-2000. Then POWER ON while pushing the 1 + 2 + 3 buttons to gain access the hidden service menu.

Go to B11 IF Gain for the 160m band and when you are there, observe the screen, you will see that AMP1 is ON. Press IPO button until it shows ON to bypass both preamps. Adjust the VFO B knob until the signal to noise ratio is what you want. This will be apparent by listening to the speaker noise. Save the value by pressing MENU for 2 secs.

The new settings effect the S Meter calibration b/c a received signal will register a lower reading due to the reduced IF gain. Reducing the noise floor doesn't increase the signal/noise ratio but there will less noise to your 'ears' and this will help during long hours of operating or for SWLing. On 160m and 80m, the radio's sensitivity is excessive so reducing is in order. Try it and see what you think.

I have found that 10dB to 15dB gain reduction is useful for the 160m and 80m

3) The Complete Hidden/Service Menu

The default values are only valid for MY rig but these are offered as is. As you see, there are two (2) columns that represent "Factory" [Fac Def] settings for my radio. The "New" settings are changes to the default settings. "CLAR" is the third window that is part of factory default settings.

Remember that each radio is different so there will be different settings for your radio when compared to mine depending on the electronic component's gain and offset. Do not take MY default values as *the* default values for all FT-2000s.

After accessing the hidden service menu you'll browse a huge list of parameters. Change one parameter at a time and write down any changes on this document, so you can revert to the original settings.

			---------- K6JRF----------			
			----- Fac Def -----			
Item#	Name	Desc	CLAR	VFO-B VRF	NEW	
A01	FSC	Analog Mtr		212	211	Values in 'aqua' are
A02	SFt	Sft/Wtd Cntr		123		changes to alignment data
A03	udt	IF BW Cntr		122		due to repair of SWR &
A04	udd	vdd mtr adj		218		Protection ckts at Yaesu in
A05	biS	- - -		000		Cypress, CA
A06	tHo	- - -		000		
A07	FAn	fan speed		190	180	
A08	L18	160mtr adj		070		
A09	L35	80mtr adj		076	073	Values in 'yellow' repre-
A10	L7	40mtr adj		095	091	sent changes due to user
A11	L14	20mtr adj		076	072	preferences
A12	L21	15mtr adj		052	049	
A13	L28	10mtr adj		077	062	
A14	L50	6mtr adj		111	118	
A15	FrE	2nd LO adj		159	167	<- Jan 9, 2018
B01	rGc	RF AGC 160m		207	172	
B02	rGc	RF AGC 80m		207	173	
B03	rGc	RF AGC 40m		207	170	
B04	rGc	RF AGC 30m		207	171	
B05	rGc	RF AGC 20m		207	169	
B06	rGc	RF AGC 17m		207	175	
B07	rGc	RF AGC 15m		207	176	
B08	rGc	RF AGC 12m		207	176	
B09	rGc	RF AGC 10m		207	185	
B10	rGc	RF AGC 6m		207	205	
B11	iGn	IF AGC 160m		096	103	118 <- -15db
B12	iGn	IF AGC 80m		096	096	111 <- -15db
B13	iGn	IF AGC 40m		095	097	
B14	iGn	IF AGC 30m		096		
B15	iGn	IF AGC 20m		096	097	
B16	iGn	IF AGC 17m		096		
B17	iGn	IF AGC 15m		095		

			---------- K6JRF ----------			
			----- Fac Def -----			
Item#	Name	Desc	CLAR	VFO-B	VRF	New
B18	iGn	IF AGC 12m		094		
B19	iGn	IF AGC 10m		090		092
B20	iGn	IF AGC 6m		092		
B21	S-1	S-mtr adj		010		
B22	S-5	S-mtr adj		077		
B23	S-7	S-mtr adj		105		
B24	S-9	S-mtr adj		130		
B25	S10	S-mtr adj		151		
B26	S20	S-mtr adj		170		
B27	S30	S-mtr adj		190		
B28	S40	S-mtr adj		211		
B29	S50	S-mtr adj		233		
B30	S60	S-mtr adj		255		
B31	FiL	- - -		255		
B32	FnG	FM Gn 10m		095		
B33	FnG	FM Gn 6m		091		
C01	iGn	IF Gn 160m		030		
C02	iGn	IF Gn 80m		030		
C03	iGn	IF Gn 40m		030		
C04	iGn	IF Gn 30m		029		
C05	iGn	IF Gn 20m		029		
C06	iGn	IF Gn 17m		028		
C07	iGn	IF Gn 15m		028		
C08	iGn	IF Gn 12m		028		
C09	iGn	IF Gn 10m		031		
C10	iGn	IF Gn 6m		034		
C11	S-0	S mtr adj		221		
C12	S-1	S mtr adj		200		
C13	S-5	S mtr adj		191		
C14	S-7	S mtr adj		183		
C15	S-9	S mtr adj		173		
C16	S-10	S mtr adj		158		
C17	S-20	S mtr adj		143		
C18	S-30	S mtr adj		132		
C19	S-40	S mtr adj		123		
C20	S-50	S mtr adj		117		
C21	S-60	S mtr adj		112		
C22	L-C	Rx Car Pnt		012		
C23	U-C	Ex Car Pnt		112		
C24	LnC	Rx Car Pnt		026		
C25	UnC	Rx Car Pnt		053		
d01	Pdb	PreDrv Idle		195		
d02	db1	Drv Idle		168		
d03	db2	Drv Idle		000		
d04	Fb1	Fin Idle		174		
d05	Fb2	Fin Idle		177		
d06	F1a	- - -		218		
d07	F2a	- - -		220		
d08	iAL	ALC 160m		080	073	
d09	iAL	ALC 80m		081	068	071
d10	iAL	ALC 40m		079	074	
d11	iAL	ALC 30m		076	095	
d12	iAL	ALC 20m		083	093	
d13	iAL	ALC 17m		079	073	
d14	iAL	ALC 15m		068	080	
d15	iAL	ALC 12m		098	100	
d16	iAL	ALC 10m		074	079	
d17	iAL	ALC 6m		085	066	

			---------- K6JRF ----------					
			----- Fac Def ------					
Item#	Name	Desc	CLAR	VFO-B	VRF	New		
d18A	P2h	Tx Pwr 160m 200W	118	231	232	112	233	233
d18b	P1h	Tx Pwr 160m 100W	109	153	165	105	155	165
d18c	P50	Tx Pwr 160m 50W	104	101	119	100	101	120
d18d	P20	Tx Pwr 160m 20W	094	056	078	090	054	077
d18E	P10	Tx Pwr 160m 10W	088	030	056	083	034	057
d19A	P2h	Tx Pwr 80m 200W	114	228	233	114	228	233
d19b	P1h	Tx Pwr 80m 100W	107	153	165	102	152	165
d19c	P50	Tx Pwr 80m 50W	100	102	119	095	098	120
d19d	P20	Tx Pwr 80m 20W	093	056	078	084	054	077
d19E	P10	Tx Pwr 80m 10W	085	036	058	079	035	057
d20A	P2h	Tx Pwr 40m 200W	116	229	233	111	225	233
d20b	P1h	Tx Pwr 40m 100W	110	151	165	105	148	165
d20c	P50	Tx Pwr 40m 50W	103	102	119	098	096	120
d20d	P20	Tx Pwr 40m 20W	093	055	078	089	054	077
d20E	P10	Tx Pwr 40m 10W	089	035	058	082	034	057
d21A	P2h	Tx Pwr 30m 200W	111	225	232	106	221	233
d21b	P1h	Tx Pwr 30m 100W	104	148	165	099	146	165
d21c	P50	Tx Pwr 30m 50W	098	079	120	094	094	120
d21d	P20	Tx Pwr 30m 20W	089	055	078	082	053	077
d21E	P10	Tx Pwr 30m 10W	082	033	058	075	033	057
d22A	P2h	Tx Pwr 20m 200W	116	226	234	106	219	233
d22b	P1h	Tx Pwr 20m 100W	106	146	165	098	143	165
d22c	P50	Tx Pwr 20m 50W	098	095	121	085	092	120
d22d	P20	Tx Pwr 20m 20W	084	051	078	075	049	077
d22E	P10	Tx Pwr 20m 10W	075	032	058	067	030	057
d23A	P2h	Tx Pwr 17m 200W	107	215	233	102	210	233
d23b	P1h	Tx Pwr 17m 100W	098	142	166	091	137	165
d23c	P50	Tx Pwr 17m 50W	090	091	120	083	087	120
d23d	P20	Tx Pwr 17m 20W	080	050	078	072	047	077
d23E	P10	Tx Pwr 17m 10W	070	030	058	064	028	057
d24A	P2h	Tx Pwr 15m 200W	122	211	234	111	205	233
d24b	P1h	Tx Pwr 15m 100W	090	137	166	093	134	165
d24c	P50	Tx Pwr 15m 50W	092	090	121	084	083	120
d24d	P20	Tx Pwr 15m 20W	082	048	078	073	044	077
d24E	P10	Tx Pwr 15m 10W	071	028	058	065	027	057
d25A	P2h	Tx Pwr 12m 200W	114	216	233	108	198	233
d25b	P1h	Tx Pwr 12m 100W	103	131	165	097	128	165
d25c	P50	Tx Pwr 12m 50W	096	085	120	091	081	120
d25d	P20	Tx Pwr 12m 20W	086	045	078	079	043	077
d25E	P10	Tx Pwr 12m 10W	079	026	058	072	026	057
d26A	P2h	Tx Pwr 10m 200W	108	197	233	105	195	233
d26b	P1h	Tx Pwr 10m 100W	099	125	165	096	124	165
d26c	P50	Tx Pwr 10m 50W	091	079	120	087	078	120
d26d	P20	Tx Pwr 10m 20W	082	041	078	079	041	077
d26E	P10	Tx Pwr 10m 10W	075	024	058	070	024	057
d27A	P2h	Tx Pwr 6m 200W	110	138	229	107	141	233
d27b	P1h	Tx Pwr 6m 100W	101	084	162	099	091	165
d27c	P50	Tx Pwr 6m 50W	094	050	117	089	050	120
d27d	P20	Tx Pwr 6m 20W	084	024	078	081	024	079
d27E	P10	Tx Pwr 6m 10W	076	013	058	071	013	057
d28	TCA	Tx AM Aln		090				
d29	P1h	Tx AM Aln		054				

			---------- K6JRF ----------			
			----- Fac Def -----		VFO-B	
Item#	Name	Desc	CLAR	VRF	New	
d30	CLA			126		
d31	CLA			127		
d32	CLA			126		
d33	CLA			124		
d34	CLA			121	119	
d35	CLA			114		
d36	CLA			110		
d37	CLA			105		
d38	CLA			100		
d39	CLA			066		
d40	rAC	Rev-ALC 160m		041		
d41	rAC	Rev-ALC 80m		045		
d42	rAC	Rev-ALC 40m		043		
d43	rAC	Rev-ALC 30m		041		
d44	rAC	Rev-ALC 20m		037		
d45	rAC	Rev-ALC 17m		034		
d46	rAC	Rev-ALC 15m		032		
d47	rAC	Rev-ALC 12m		034		
d48	rAC	Rev-ALC 10m		029		
d49	rAC	Rev-ALC 6m		022		
d50	ALC	Tx ALC Mtr 20m		148	186	
d51	F45	FM 4.5Khz		111	117	
d52	F23	FM 2.25Khz		063		
d53A	515	Tx SWR 1.5		060	128	062	128
d53b	520	Tx SWR 2.0		092	128	101	128
d53c	530	Tx SWR 3.0		132	131		
d54A	515	Tx SWR 1.5		060	128		
d54b	520	Tx SWR 2.0		092	128	102	128
d54c	530	Tx SWR 3.0		132	131		
d55A	515	Tx SWR 1.5		060	128		
d55b	520	Tx SWR 2.0		092	128	101	128
d55c	530	Tx SWE 3.0		132	131		
d56	ldd	Tx Final Current		185		
d57	C10	Comp Mtr 10db		137	140	
d58	C20	Comp Mtr 20db		221		
d59	C30	Comp Mtr FS		255		

These values will not 'calibrate' your FT2000(D) but will get it close and make good starting points.

73, K6JRF
Web: https://www.k6jrf.com