

FT2000 Alignment Menu Settings - K6JRF

Rev:9/22/20

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](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 | NEW |
| A01 | FSC | Analog Mtr | | 212 | 211 |
| A02 | SFt | Sft/Wtd Cntr | | 123 | |
| A03 | udt | IF BW Cntr | | 122 | |
| A04 | udd | vdd mtr adj | | 218 | |
| A05 | biS | - - - | | 000 | |
| A06 | tHo | - - - | | 000 | |
| A07 | FAn | fan speed | | 190 | 180 |
| A08 | L18 | 160mtr adj | | 070 | |
| A09 | L35 | 80mtr adj | | 076 | 073 |
| A10 | L7 | 40mtr adj | | 095 | 091 |
| A11 | L14 | 20mtr adj | | 076 | 072 |
| A12 | L21 | 15mtr adj | | 052 | 049 |
| A13 | L28 | 10mtr adj | | 077 | 062 |
| A14 | L50 | 6mtr adj | | 111 | 118 |
| A15 | FrE | 2 nd LO adj | | 159 | 187 |
| | | | | | <- Sep 22, 2020 |
| 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 |
| B12 | iGn | IF AGC 80m | | 096 | 096 |
| 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 | |

Values in 'aqua' are changes to alignment data due to repair of SWR & Protection ckts at Yaesu in Cypress, CA

Values in 'yellow' represent changes due to user preferences

118 <- -15db
111 <- -15db

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----- Fac Def -----

| <u>Item#</u> | <u>Name</u> | <u>Desc</u> | <u>CLAR</u> | <u>VFO-B</u> | <u>VRF</u> | <u>New</u> |
|--------------|-------------|-------------|-------------|--------------|------------|------------|
| 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 |
| 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 |

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----- Fac Def -----

| <u>Item#</u> | <u>Name</u> | <u>Desc</u> | <u>CLAR</u> | <u>VFO-B</u> | <u>VRF</u> | <u>New</u> | | |
|--------------|-------------|------------------|-------------|--------------|------------|------------|-----|-----|
| 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 | | | | |

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| Item# | Name | Desc | ----- Fac Def ----- | | VFO-B | |
|-------|------|------------------|---------------------|-----|-------|---------|
| | | | 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>