MENU 9-1 Setting (Before and After INRAD Mod)

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Alignment: IF Gain (Procedure from Yaesu Technical Supplement)
1: Turn the transceiver off, then press and hold the FAST and LOCK buttons (near main VFO knob), and turn the transceiver on again.
2: Push FAST then ENT to get into the menus
3: Connect an RF signal generator to the antenna jack, and inject +8dbu. (this is +11dbu in some Technical Supplements)
4: Select menu function 9-1, and adjust the main VFO knob for a 1-segment S-meter deflection

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Problem: There have been a lot of questions about where to set Menu 9-1, before or after the INRAD Mod ie:

"I just installed the INRAD mod for receiver sensitivity, in my 1000MP the value of menu 9-1 was set to 9, I lowered it to 7,is that the correct value, the reason I am asking is the scale on that menu item will go as high as 16, I bought the rig used and I am not sure what the default value is."

Solution 1: The Yaesu Technical Supplement states the following:> Turn the transceiver off, then press and hold the **FAST** and **LOCK** buttons (near main VFO know), and turn the transceiver on again. > Connect the RF signal generator to the antenna jack, and inject +8dBu. Select menu function 9-1, and adjust the main VFO know for 1-segment S-meter deflection.

Solution 2: Menu item 9-1 will go as high as 31, not 16. The "default" value is whatever the factory set it at during final alignment. This will vary among radios.

Installation of the INRAD front end mod increases the gain, so you should decrease menu item 9-1 by 2 or 3 to bring the total gain back to what it was before installing the mod. Before installation of the mod, you should find a steady signal (like a local BC station) and note its S-meter reading. After installing the mod, set menu item 9-1 to the same reading on that steady signal as it was before the mod.

Another method is, after installing the mod, tune in any signal and set menu item 9-1 so that the S-meter reading on the main receiver is the same as its S-meter reading on the sub receiver. Menu item 9-1 only affects the gain of the main receiver.

73, de Earl, K6SE

Solution 3 MARK V:

I just came across my notes from the installation of the INRAD noise reduction mod. in my Mark V. I thought I would pass them on to this list.

I used an IFR1500 as my calibrated signal generator.

All of my S meter readings are set for flicker at the S level as you can go a few dB either side of a LED mark point without moving, but the flicker is good to 0.5 dB. Analog meters do not have this issue.

Prior to the install I set the IFR for a S5 signal (that is the S5 flicker point). After the mod was installed the same signal was now S8. Which is a difference of +10 dB. My Mark V had menu item 9-1 set for 13. Setting it at 9

reduced the signal level to S6. Going to 8 reduced the signal to S3.5. I left the level at 9 which reduced the gain by 8 dB. If I would have gone to 8 it
would have reduced the gain by 13 dB which is too much. Here are S meter readings for 3.8 MHz, IPO off, LSB SSB and in the Tuned front end mode.

S0 -97 dBm
S1 -95
S2 -94
S3 -93
S4 -92
S5 -90
S6 -88
S7 -85
S8 -80
S9 -72 (-73 dBm is 50 uV which is the magic Collins calibration point
for S meters)
+10 -62
+20 -52
+40 -32
+60 -12

S9 in the Flat mode is -78 dBm or a gain reduction from Flat to Tuned of 6 dB.So you can see the S meter isn't very good below S9, but above S9 it tracks perfect.Going from S0 to S9 is only 25 dB. Convention says each S unit should be 5 or 6 dB per unit.So the lower end could be expanded which would allow for S0 at -127 dBm. This would make it perfect for 6 dB steps up to -73 at S9 assuming the LED generator tracks.The INRAD mod performance is outstanding.

I hope this information is useful to Mark V owners. I never made these same notes when I did my MPs, so I cannot offer any comparisons.

73,
Tim K3LR