ADJUSTMENT FLOW CHART

- 1. Disconnect the antenna from the receiver or transceiver.
- 2. Adjust R4 (50K) to get 4 Volts at IC LM324 Pin 3.
- 3. Adjust R3A (50K) to see full scale deflection on VU Meter.
- 4. Now Adjust R5 (5K) to get the VU Meter to show ZERO.
- 5. Now connect the antenna. Tune for a strong signal. Adjust R3A(50K) to show Full Scale on meter.
- 6. Now Adjust AGC level with R7 for a comfortable level of audio
- 7. Finally, Adjust R3 (10K) for VU Meter movement that should show a steady movement of meter level and not a wide variation in meter movement.

A 3 PIN Connector is provided to either use berg pins with jumper or a switch, for slow OR fast AGC

It is suggested not to directly solder the VU meter on the PCB. Connect VU meter with PCB with wires, this is suggested as sometimes the VU meter can get faulty and soldering and de soldering on the pcb pads may damage the pcb.













AGC 12 Volts From uBitx RX TX RELAY. 12 Volts From 12 V Always On





First IF Stage Q10. AGC Line

AGC Circuit with uBitx Wiring Connections.



AGC Line Connected with uBitx First IF



AUDIO FROM UBITX TO AGC

AGC Circuit with uBitx Wiring Connections.



Audio from ubitx to AGC Audio in

NEW BITX AGC Adjustments Updates

August 09, 2016

Lately many Hams who purchased the AGC kit with our Bitx Kit were having some problem in adjusting the

VU meter to get a deflection. After observing the problem sometimes at my end too i decided to study what would be the correct sequence to set the VU meter.

The setting of 2 trimmers R3A And R5 were found determining the initial settings of the VU meter.

After doing some adjustments with R3A And R5 the correct settings were found as to my way, there can be other ways too.

Below I have provided a silkscreen picture of AGC and short notes to be followed in sequence.

I hope this should help many struggling with setting their meter to move and complete their AGC.

Any one can contact to me if he find still his AGC is not working.

Now Please follow the setting of AGC Meter as below.



AGC ADJUSTMENTS UPDATED

First disconnect antenna from the transceiver or any receiver being used with the AGC module. Also switch the AGC module off from the power source.

Now follow the steps below in sequence to adjust the AGC settings below:

STEP

1:

Set point A and B as shown in Fig 1: AGC silkscreen with trimmer R5 (5K) to 4.9k by tuning the trimmer anti clockwise, use any DMM for this setting. The multi meter leads to be connected between point A and B. We need more adjustment with this trimmer later on. Steps to be followed in sequence leave it at this setting for now.



STEP

2:

Set point C and D as shown in Fig 1: with trimmer R3A 50K to ZERO 0 ohms by tuning the trimmer clockwise, use any DMM for this setting. The multi meter leads to be connected between point C and D, we need more adjustment with this trimmer later in steps to be followed in sequence.



STEP 3:

Now connect +12 Volts power to AGC, and adjust trimmer R4 (50K)

To get 4V at IC LM324 PIN 3. Power off the AGC, we shall switch power on later.

STEP 4:

Now connect meter pads positive and negative as indicated in the Fig 1: Silkscreen Layout of AGC with wire's to the VU Meter negative and positive terminals.

STEP 5:

Now as the meter is connected with the AGC circuit, power on the AGC, As the AGC is powered the meter will now show full scale deflection towards forward even crossing the scale, now adjust trimmer R3A (50K) so that the meter is within the scale limits to the maximum possible.





The meter is at max forward position

STEP 6:

Now adjust R5 (5K) to get meter to show near to zero reading on the meter, but not absolute zero reading, this setting can be adjusted later to see how the meter responds to a signal. If you see a slack movement moves the setting above a bit zero. This can be tried with trail and error to see at which point the meter is excited best.





The meter setting has been bought near to zero with adjusting R5 (5)

Optimum Zero position for VU meter set

STEP 7:

Now is the time to connect the antenna to your set, tune for a strong signal and adjustR3A (50K) to show Full Scale meter reading.

STEP 8:

Now adjust AGC level with R7 (2.2K) for a Comfortable Audio.

STEP 9:

Finally Adjust R3 (10K) for VU Meter movement NOT to jump, but show rather Steady levels.

AND THAT'S IT

AGC AND S. METER COMPONENTS LIST

VALUE	ТҮРЕ	QUANTITY	CODE
100 E	RESISTOR 0.25 W	1	BROWN BLACK BROWN
10K	RESISTOR 0.25 W	4	BROWN BLACK ORANGE
100K	RESISTOR 0.25 W	1	BROWN BLACK YELLOW
150K	RESISTOR 0.25 W	2	BROWN GREEN YELLOW
270K	RESISTOR 0.25 W	1	RED VIOLET YELLOW
1M2	RESISTOR 0.25 W	1	BROWN RED GREEN
15K	RESISTOR 0.25 W	1	BROWN GREEN ORANGE
1K	RESISTOR 0.25 W	1	BROWN BLACK RED
5K PRESET	PRESET	1	502
2K PRESET	PRESET	1	202
50K PRESET	PRESET	2	503
10K	PRESET	1	103
100nF (0.01)	CAPACITOR	1	103
IN4148	SILICON DIODE	3	
2.2 uF	ELECTROYTIC CAP	2	25V
47uF	ELECTROYTIC CAP	2	25V
LM324	IC	1	
IC SOCKET	14 PIN DIL	1	
BC 547	TRANSISTOR	1	PNP
LED 1	LED	1	WHITE

BERG PIN AND COVER		1 SET	
PCB AGC 1		1	GLASS EPOXY
CONNECTORS	2 PIN	3	WITH WIRE
VU METER	250UAMoving coil movement	1	