

1.Adjustment Manual

Issue	Y M D	Azden Adjustment Standard	Category	
Adjusted date	Y M D	33-543-01 (2000XT) Adjustment Manual	No.	

Power supply:3.0V

Channel and Frequency List used on the adjustment

Channel	Frequency
42-01	638.125MHz
43-47	649.875MHz
45-47	661.875MHz

1. Adjustment of VCO

- 1) Set the channel to 42-01
- 2) Connect the DC voltmeter to TP201
- 3) Confirm the DC voltmeter indicates 1.3V
- 4) Set the channel to 45-47 and confirm the voltage is 2.1V on the DC voltmeter

2. Adjustment of the RF output power

- 1) Set the channel to CH43-47
- 2) Connect the power meter to CN201
- 3) Adjust the power to 50mW by VR201
- 4) Connect the spectrum analyzer to CN201
- 5) Confirm that the difference of the RF Level between carrier and spurious is at least 40dB.

3. Adjustment of the transmitting frequency

- 1) Set the frequency to CH43-47
- 2) Connect the frequency counter to CN201
- 3) Adjust VC201 so that the frequency counter shows 649.875MHz

4. Confirm the tone frequency and adjustment of the deviation level.

- 1)Connect the frequency counter to TP101 and confirm the frequency is 32.768kHz.
- 2)Connect TP102 and GND.
- 3)Connect the linear detector to CN201.
- 4)Adjust VR3 so that the deviation level is plus-minus 3.0kHz.

5. Adjustment of the AF modulation

- 1)Set SW201:OFF SW2:ON
- 2) Connect the RC Oscillator to TP11(HOT),SHORT TP10(COLD) and GND.
- 3) Set the oscillator output level -35dBu(The frequency is 1kHz)
- 4) Connect the AC voltmeter to TP101.
- 5) Adjust the VR100 so that the voltmeter shows -17dBu.
- 6) Connect the linear detector to CN201.
- 7) Adjust VR202 so that the deviation level of AF&TONE is plus-minus 23kHz
- 8)Connect TP102 and GND.Readjust the deviation level of TONE is plus-minus 3.0kHz.
- 9)Set the oscillator output level to -60dBu(The frequency is 1kHz)
- 10)Adjust VR2 so that the first AF Level indicator appears.

6. Confirming of the battery indicator

- 1) Supply 2.5V to the transmitter and confirm that the battery status indicates 3 levels .
- 2) Supply 2.0V to the transmitter and confirm that the first indicator is flashing.

7. Other confirming points

- 1) Set up the receiver for communication check
- 2) Connect the lavalier microphone to the transmitter and send the audio to check whether it operates correctly
- 3) Make an impact on the body and check whether the unit does not show any abnormal sound
- 5) Factory default conditions
[Power]:OFF, [Channel]:42-01,[Audio SW]:OFF,[Phantom Power]:OFF

2.Voltage and current at RF part

1.Voltage and current at RF part

	Low(CH42-01)	Mid(CH43-47)	High(CH45-47)
Vce	3.5V	3.5V	3.4
Ic	25mA	26mA	28mA

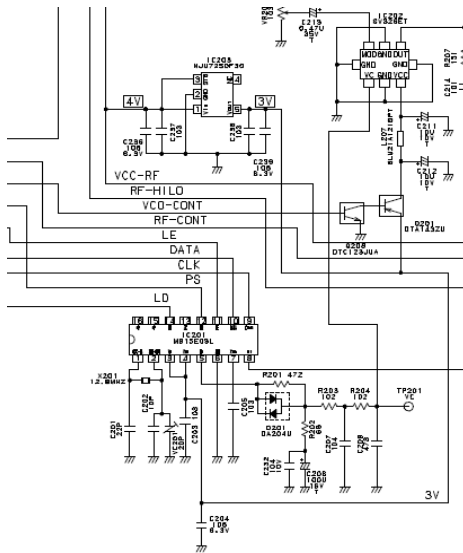
2.Description of main feature of circuit

(1)Stabilization of frequency

Oscillation method :PLL synthesized

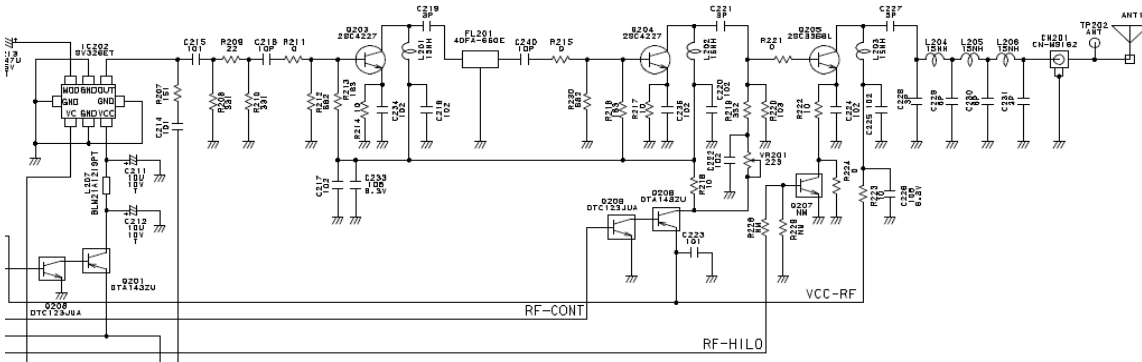
The stabilization of this oscillation method relies on crystal oscillator performance.

Its accepting range is frequency deviation plus-minus 10ppm or less,under -10 degree to +60 degree temperature by using Tokyo Denpa made crystal oscillator.



(2)How to reduce the spurious radiation

In order to suppress the radiation,LC filter is positioned after current amplification part. It is low passed filter which forms pie shape with third layered.



(3)Restriction of Audio modulation

In order to restrict audio modulation,diode limiter circuit(ZD101,ZD102) is put into pre-emphasis circuit.

