

Subsection

2.983(d)(9): Factory Tune-up Procedure

Test Equipment

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| 1. BNC-P Coaxial RF cable | Audio Technica custom RF cable |
| 2. DC Power Supply | Kenwood PR-18 |
| 3. Audio Signal Generator | Leader LAG126 |
| 4. Modulation Meter (FM linear detector) | Anritsu MS61A |
| 5. Spectrum Analyzer | Advantest R3261A |
| 6. Pre amplifier | Anritsu MH648A |
| 7. Oscilloscope | Iwatsu SS-5705 |
| 8. DC Volt Meter | Advantest TR6845 |
| 9. AC Millivolt Meter | National VP9680A |

Adjustment of T101 circuit board

1. Connect the audio circuit board and RF circuit board of ATW-T101 and install it in to the PCB fixture.
2. Supply 9V from DC power supply to the power supply terminal (CNP 6 and 7) of T101
3. Connect BNC-P coaxial RF cable with input connector of Spectrum analyzer.
4. Connect BNC-P coaxial RF cable to CNP101 terminal of T101
5. Set T101 to channel "50".
6. Set the center frequency of Spectrum analyzer to oscillation frequency of T101, and set frequency span to 3.5GHz.
7. Set the power switch of T101 (SW1) to ST-BY position.
8. Make sure that RF signal appears on Spectrum analyzer and no parasitic oscillation observed.
9. Adjust and set the VR4 where Maximum RF output (10 +/- 3dBm) could obtainable as well as power supply current not exceeded 55mA.
10. Adjust and set the VC100 where Maximum RF output could obtainable as well as spurious level could set minimum (less than 50dB).
11. Set frequency span of the Spectrum analyzer to 100KHz.
12. Set RF signal on the Spectrum analyzer to a desired Oscillating frequency by turning the VC1 onT101.
13. Gradually reduce power supply voltage from 9 V to 6.5V and make sure that Oscillating frequency stay same.
14. Check the power indicator LED start to lights when power supply voltage reached to 6.5V.
15. Set frequency span to "3.5GHz".
16. Gradually move power supply voltage from 9 V to 6.5V and make sure that no parasitic oscillation observed.
17. Set the Power supply voltage back to 9V.
18. Remove the BNC-P coaxial RF cable from the input connector of Spectrum analyzer, and connect it to the Preamplifier.
19. Make sure that the Preamplifier and Modulation Meter (FM linear detector) are connected together.
20. Input -28.3dBV at 1kHz signal from the Audio signal generator to the Mic input of T101 by checking the level of the signal on AC milli voltmeter.
21. Set T101 gain trimmer VR1 to maximum.
22. Set T101 to channel "50" and set the frequency range of the Modulation meter (FM linear detector) to the oscillation frequency of T101
23. Make sure that Oscilloscope has no irregular wave. Then, set the modulation levels appeared on the Modulation meter (FM linear detector) to ± 30 KHz by turning VR3 on T101.
24. Set T101 to channel "00" and "99". Make sure that Deviation of the each cannel stays same.
25. Switch signal input of T101 from Mic to LINE, set Gain trimmer VR1 to maximum.

26. Input -28.5dB at 1kHz signal from audio signal generator to LINE input of T101 by checking the level of the signal on AC millivolt meter.
27. Set T101 to channel "00", "50" and "99". Make sure that deviation on each channel stays $15\text{kHz} \pm 2\text{kHz}$.