

ALIGNMENT PROCEDURE

MODEL: CB25LTD _____

REVISION: _____

DATE : _____

PREPARED BY: _____

CHECKED BY: _____

APPROVED BY: _____

total page: 5 pages

CB29WNW ALIGNMENT INSTRUCTION

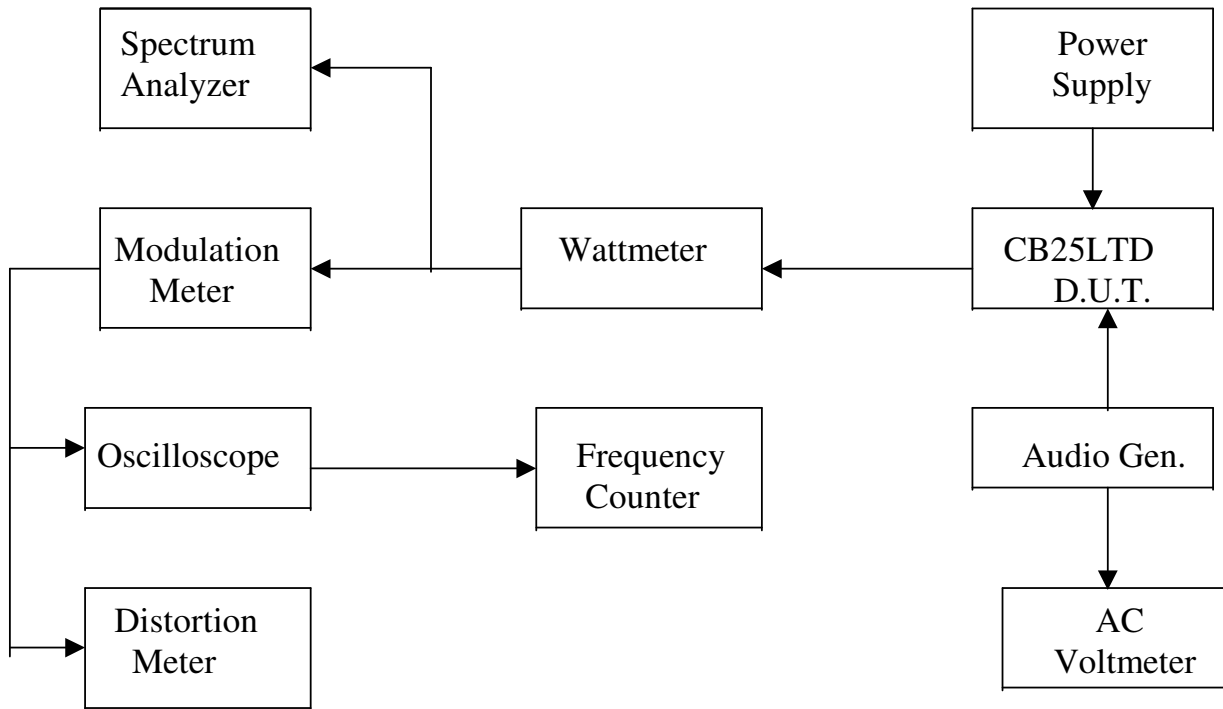
1.0 TEST CONDITION:

1.1. STANDARD DC POWER:	EXT.DC	13.8VDC
1.2. MEASUREMENT CHANNEL:	CB	CH19 (27.185MHz)
1.3. STANDARD AUDIO LOADING:	CB	8 Ω
1.4. ANTENNA IMPEDANCE:	CB	50 Ω
1.5. STANDARD REF. MODULATION:	CB	30% (AM)
1.6. STANDARD REF. AUDIO OUTPUT:	CB	0.5W
1.7. FREQUENCY TABLE:		

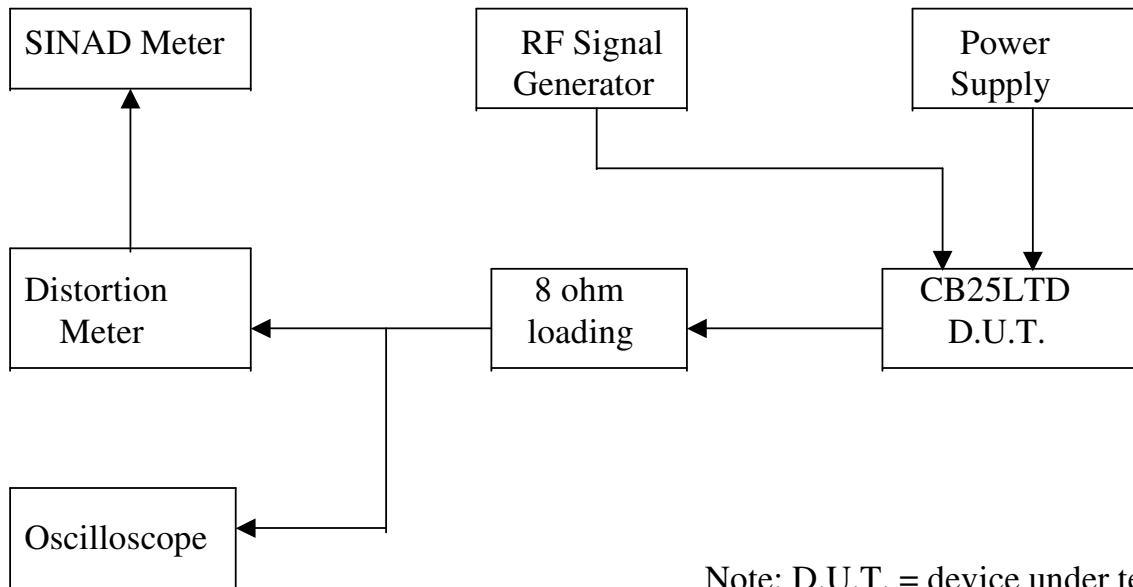
CH NO.	FREQ. (MHz)
1	26.965
2	26.975
3	26.985
4	27.005
5	27.015
6	27.025
7	27.035
8	27.055
9	27.065
10	27.075
11	27.085
12	27.105
13	27.115
14	27.125
15	27.135
16	27.155
17	27.165
18	27.175
19	27.185
20	27.205
21	27.215
22	27.225
23	27.255
24	27.235
25	27.245
26	27.265
27	27.275
28	27.285
29	27.295
30	27.305
31	27.315
32	27.325
33	27.335
34	27.345
35	27.355
36	27.365
37	27.375
38	27.385
39	27.395
40	27.405

1.8. TEST EQUIPMENT SETUP AS BELOW:

A. TX test equipment setup:



B. RX test equipment setup:



Note: D.U.T. = device under test

2.0 Alignment of P.L.L. portion.

2.1 Equipment required:

A: Oscilloscope (0 – 50MHz)

B: DC voltage meter .

2.2 Alignment procedure:

TEST ITEM	TEST CONDITION & PROCEDURE	PURPOSE
1. TX VCO voltage @ CH40	2. Connect the DC volt. Meter to the junction point of R59 and R60.	1. Adjust L15 to obtain approximately 3.5V \pm 0.2V reading.
2. TP3 OUTPUT @ TX mode	1. Connect the oscilloscope to the junction point of R6 and JP14.	1. Adjust L16 for maximum output on the oscilloscope.

3.0 Alignment of CB receiver portion.

3.1 Equipment required:

A: Signal generator

B: AC voltmeter.

C: Oscilloscope.

D: Dummy load (8 ohm, 5 watts, resistive.)

E: DC power supply (13.8 v. 2Amp.)

3.2 Alignment procedure:

TEST ITEM	TEST CONDITION & PROCEDURE	PURPOSE
1. AUDIO OUTPUT	1. Set channel 19. 2. Set the S.G. on 27.185MHz with 1KHz, 30% mod. and 1mV output level. 3. Set NB/OFF SW to OFF, Squelch to min. (CCW), PA-CB TO CB, ANL SW to CB/ANL, RF GAIN to max. Volume approximately Center.	1. Adjust L1,2,3,4,5,6 & 7 for maximum audio output & minimum distortion on the distortion meter.
2. RX Sensitivity	1. Same as above step 1 and 3. 2. Set the S.G. on 27.185MHz with 1KHz, 30% mod. RF output level 1.0uV.	1. Adjust L1,2,3,4,5,6 & 7 for more than 12dB t the Sinad meter. 2. Repeat as needed. 3. Set RF S.G. output level 0.4uV, the adj. VR2 to 2V on the AC voltmeter.
3. NB	1. Set NB/OFF SW to NB. 2. Set the level of S.G. to 1.0uV. 3. Noise generator to on. 4. Adjusted then revert item 1 setup.	1. Turn the volume to obtain 2V reading on AC voltmeter. 2. Adjust L19 for minimum reading on AC voltmeter.
4. Tight Squelch	1. Set Squelch volume to maximum (CW). 2. Set the level of S.G. to 1500uV. 3. Adjusted then revert item 1 setup.	1. Slowly turn VR4 to a position that the audio output waveform at the scope just appears from no output.
5. "S-9" and +30 meter indicator.	1. Set the level of S.G. to 100uV. 2. Adjusted then revert item 1 setup.	1. Adjust VR1 for "S-9" reading on analogue meter.

4.0 Alignment of Transmitter portion.

4.1 Equipment Required:

A: VTVM (full scale: 1V DC with RF probe).

B: RF power meter.

C: Spectrum analyzers.

D: Frequency counter.

E: DC power supply.

F: 50 ohm load and attenuator.

G: Oscilloscope.

H: AF generator.

4.2 Alignment procedure:

TEST ITEM	TEST CONDITION & PROCEDURE	PURPOSE
1. TP4 output	1. Connect the oscilloscope to the TP4(R46 & 47). 2. Set TX mode , Channel 19.	1. Adjust L18, 17 for maximum output on the oscilloscope.
2. TX power	1. Set TX Channel 19.	1. Adjust L18,17,14 for maximum output on the RF power meter. 2. Turn L10 to obtain 4.0W on the RF meter reading.
3. TX carrier frequency	1. Set TX Channel 19.	1. Adjust VC1 to obtain 27.185MHz on the frequency counter.
4. Second harmonic	1. Set TX Channel 19.	1. Adjust L20 for a min. 2 nd harmonic (54MHz) output on the Spectrum anal.
5. "P4" indicator	1. Set TX Channel 19.	1. Adjust VR7 for "P4" display at the TX Signal meter of the analogue meter.
6. Modulation	1. Set TX Channel 19. 2. AF GEN. Output 30mV.	1. Adjust VR5 for 90% on the modulation Meter.