

ADJUSTMENT

1) Required Test Equipment

1. Regulated Power Supply

Supply voltage: DC11V~DC17V
Current: 15A or more

2. Digital Multimeter

Voltage range: FS = 20V or so
Current: 10A or more
Input resistance: High Impedance

3. Oscilloscope

Measurable frequency: Audio Frequency

4. Audio Dummy Load

Impedance: 8Ω
Dissipation: 3W or more
Jack: 3.5ø

5. SSG

Output frequency: 1GHz or more
Output level: -20dB/0.1 μ V to 120dB/1V
Moduration: AM/FM

6. Spectrum Analyzer

Measuring range: Up to 2GHz or more

7. Tracking Generator

Output frequency: Up to 2GHz or more

8. Power Meter

Measurable frequency: Up to 500MHz
Impedance: 50Ω , unbalanced
Measuring range: 0.5W~60W

9. Audio Voltmeter

Measurable frequency: ~100kHz
Sensitivity: 1mV ~ 10V

10. Audio Generator

Output frequency: 67Hz~10kHz
Output impedance: 600Ω , unbalanced

11. Distortion Meter/SINAD Meter

Measurable frequency: 1kHz
Input level: Up to 40dB
Distortion level: 1% ~100%

12. Frequency Counter

Measurable frequency: Up to 500MHz
Measurements stability: +/-0.1ppm or so

13. Linear Detector

Measurable frequency: Up to 500MHz
Characteristics: Flat
CN: 60dB or more

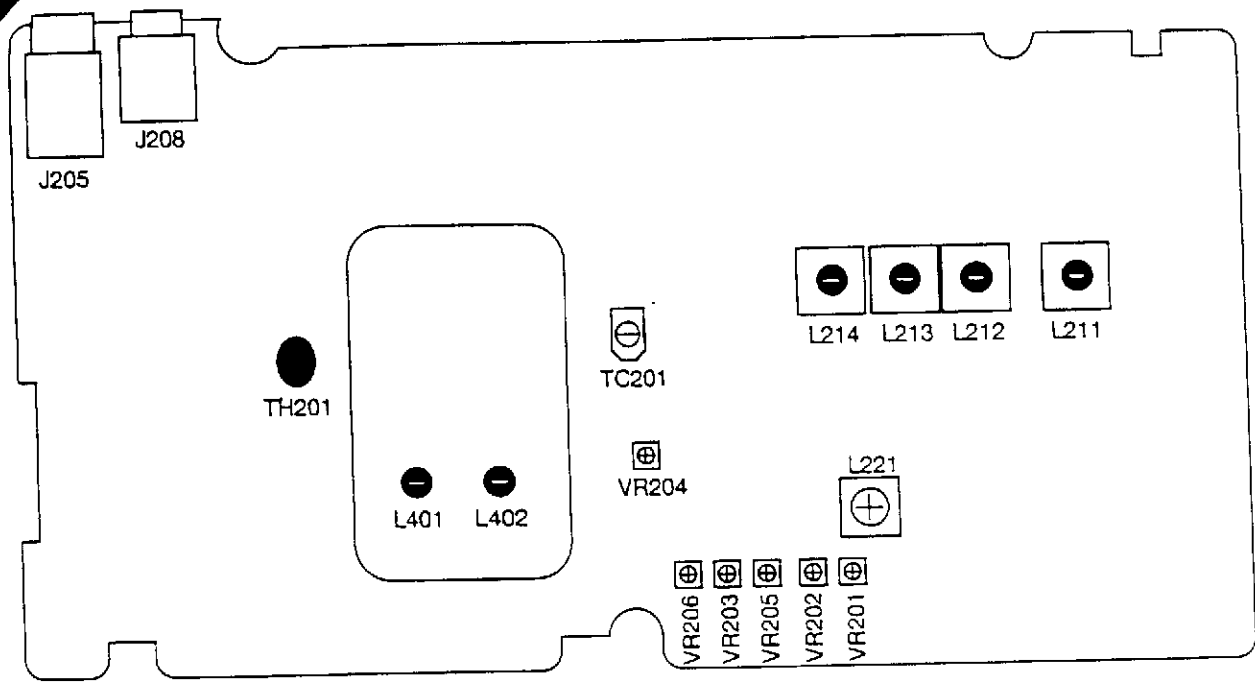
Note

1. Standard Modulation: 1kHz +/- 3.5kHz/DEV
2. Reference Sensitivity: 12dB SINAD
3. Specified Audio Output level: 1.5W at 8Ω
4. Standard Audio Output level: 0.75W at 8Ω
5. Use the following RF cable for the test equipment:
5D2W x1m
6. Attach the fuse to the RF test equipment.
7. All SSG output is indicated by EMF.

Adjustment for DR-150T/E

Item	Condition		Measurement			Adjustment			Specifications
		TX/RX	Equipment	Unit	Terminal	Unit	Parts	Method	
Reference Frequency	f=145.00MHz	TX LOW	Freq. Counter Power Meter	Back	ANT	Main	TC201	145MHz	145MHz +/- 50Hz
PLL VCV	f=145.00MHz	RX	Digital Multimeter	Main	VCV	VCO	L402	DC4.6V	DC4.6V+/-0.1V
	f=145.00MHz	TX					—	Check	DC2.7V+/-0.8V
	f=433.00MHz	RX					L401	DC1.5V	DC1.5V+/-0.1V
Sensitivity	f=144.03MHz Std. Mod. Std. Audio output SSG OUT: -9.5dBμ	RX	SSG Dist. Meter	Main	ANT	Main	L211 L212 L214	SINAD MAX	Turn the coils L211, L212, L214 to the max order
	f=173.97MHz SSG OUT: +8dBμ						L213	SINAD MAX	SINAD is above 12dB.
S Meter	f=145.03MHz (E) f=146.03MHz (T) Mod: OFF SSG OUT: 20dBμ	RX	SSG	S Meter	ANT	Main	VR206	"Full"	
	SSG OFF						—	Check	Does not light.
Distortion	f=145.03MHz (E) f=146.03MHz (T) Std. Mod. SSG OUT: 60dBμ	RX	SSG Dist. Meter	Main	ANT	Main	L221		Below 3%
High Power	f=144.98MHz (E) f=145.98MHz (T)	TX High	Power Meter	Back	ANT	Main	VR202	50W	50W+/-1W
		TX MID					VR201	25W	25W+/-1W
DEV	f=144.98MHz (f=145.98MHz) Mod: 1kHz Mic: -33dBm	TX LOW	Linear Det. Oscilloscope Power Meter	Back	ANT	Main	VR204	4.3kHz /DEV	4.3kHz +/-0.1kHz /DEV
Mic Gain	f=144.98MHz (E) f=145.98MHz (T) Mod: 1kHz Mic: -53dBm						VR203	3.5kHz /DEV	3.5 kHz +/-0.1kHz /DEV
CTCSS TONE 88.5Hz	f=144.98MHz (E) f=145.98MHz (T) Mod: OFF ENC Tone ON						VR205	0.7kHz /DEV	0.7kHz +/-0.1kHz /DEV

Adjustment Points



4) Adjustment Quick Reference

Parts	Item	Specifications
L211	RX Sensitivity	-9.5dB μ V (12dB SINAD)
L212	RX Sensitivity	-9.5dB μ V (12dB SINAD)
L213	RX Sensitivity	+8dB μ V (12dB SINAD)
L214	RX Sensitivity	-9.5dB μ V (12dB SINAD)
L221	RX Distortion	below 3%
L401	433MHz VCO Freq.	1.5V +/-0.1V
L402	145MHz VCO Freq.	4.6V +/-0.1V
TC201	Reference Frequency	145.00MHz +/-50Hz
VR201	TX Mid Power	25W +/-1.0W
VR202	TX High Power	50W +/-1.0W
VR203	Mic Gain	3.5kHz +/-0.1kHz
VR204	Deviation	4.3kHz +/-0.1kHz
VR205	CTCSS Tone	0.7kHz +/-0.1kHz
VR206	S Meter	20dB μ "Full"