

# ADJUSTMENT

## 1) Required Test Equipment

### 1. Digital Multimeter

### 2. Regulated Power Supply

Supply voltage: 13.8VDC  
Current: 15A or more

### 3. Oscilloscope

Measurable frequency: Audio Frequency

### 4. Spectrum Analyzer

Measuring range: Up to 2GHz or more

### 5. Tracking Generator

Output frequency: Up to 2GHz or more

### 6. Dummy Load

Measurable frequency: Up to 500MHz  
Impedance: 50Ω  
Power: 60W or more

### 7. Speaker

Impedance: 8Ω

### 8. SSG

Output frequency: Up to 1GHz  
Output level: -20dB/0.1μV to 120dB/1V  
Modulation: AM/FM

### 9. Transceiver Tester

Up to 500MHz

#### a. Frequency Counter

#### b. Power Meter

Impedance: 50Ω  
Measuring range: 60W or more

#### c. Audio Voltmeter

Measurable frequency: 50Hz ~ 10kHz  
Sensitivity: 1mV ~ 10V

#### d. Distortion Meter

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

#### e. Audio Generator

Output frequency: 1kHz ~ 10kHz  
Output impedance: 600Ω

#### f. Linear Detector

## Test Equipment

1. All SSG output is indicated by EMF.
2. Audio Output level: 50mW~100mW at 8Ω
3. Power supply voltage: 13.8V
3. Test frequency can be variable ±100kHz.

## 2) PLL Adjustment

Item	Condition	Measurement		Adjustment		Specifications
		Equipment	Terminal	Parts	Method	
Reference Frequency	f=145.00MHz (T, E, TE1) f=162.00MHz (TE2) TX	Freq. Counter Power Meter	ANT	TC1	145.00MHz (T, E, TE1) 162.00MHz (TE2)	± 100Hz
VCO	f=173.99MHz RX	Digital Multimeter	PD	VCO L302	7.0V	± 0.1V

## 3) TX Adjustment

High Power	f=145.00MHz (T, E, TE1) f=162.00MHz (TE2) High TX	Power Meter Current Meter	ANT	VR5	52W (T, E) 36W (TE1, TE2)	± 1.0W 10.5A or below (T, E) 8.5A or below (TE1,2)
Low Power	f=145.00MHz (T, E, TE1) f=162.00MHz (TE2) Low TX			VR6	5.5W	5.5 ± 0.5W
Deviation	f=145.00MHz (T,E,TE1) f=162.00MHz (TE2) Low TX AG: 1kHz 40mV emf	Linear Det. Oscilloscope Power Meter AG		VR4	4.7kHz/DEV	4.7kHz ± 0.2kHz/DEV
MIC Gain	AG: 1kHz 4mV emf			VR3	3.0kHz/DEV	3.0kHz ± 0.2kHz/DEV
CTCSS Tone Level	f=145.00MHz (T,E,TE1) f=162.00MHz (TE2) Low TX AG: OFF TONE SW: ENC 88.5Hz				Check	0.6 ~ 1.1kHz/DEV
Tone Burst	TBST ON 1750Hz				Check	2.5 ~ 3.9kHz/DEV

## 5) Adjustment Points

