

# QP-750 Adjustment Content

## 1 Required Test Instrument

Radio Communication Test Set 1 set
Scanner 1 set
3A/10V Power Supply 1 set
Digital Voltmeter 1 set
3A Ammeter 1 set

## 2 Adjustment process

### VCO

Item	Condition	Measurement		Adjustment		Specification/
		Test	Terminal	Parts	Method	Remarks
		Instrument				
1. Setting	Power supply					
	voltage					
2.Transmit	1. CH: TX high	Digital	CV	TC301	adjustment	
VCO lock	2. CH:TX Low	Voltmeter			Check	
voltage						
3.Receive	1. CH: RX high					
VCO lock	2. RX low			TC302	Check	
voltage						

### **Transmitter**

Item		Condition	Test Instrument	Method	Purpose
	Adjust a	Enter the adjust	Radio	Adjust VR1	Frequency Error≤
Group	channel	mode; Turn to CH1;	Communication		100Hz
1		TX mode.	Test Set;		
			TX Test		
	1. TX	Enter the adjust		PTT key	Adjust power to:
	power Low	mode. Turn to CH1.		(increase)	1W±0.1W
		Adjust at 5 point		SK1 key	
		(wideband).		(decrease)	



2. CDCSS	Enter the adjust		PTT key	
balance	mode. Turn to CH3.		(increase)	
	Adjust at 3 point		SK1 key	
	(wideband), 1 point	Radio	(decrease)	
	(medium band) and	Communication		
	1 point	Test Set		
	(narrowband)	TX TEST		
	respectively.	HPF: 20HZ		
3. CDCSS	Enter the adjust	LPF: 300HZ	PTT key	Adjust deviation to
deviation	mode. Turn to CH3.		(increase)	750Hz (wideband),
	Adjust at 3 point		SK1 key	600Hz (medium
	(wideband), 1 point		(decrease)	band) and 400Hz
	(medium band) and		,	(narrowband)
	1 point			respectively.
	(narrowband)			. ,
	respectively.			
4. CTCSS	Enter the adjust		PTT key	
(67.0Hz)	mode. Turn to CH4.		(increase)	
deviation	Adjust at 3 point		SK1 key	
Low	(wideband), 1 point		(decrease)	
	(medium band) and		(400.0400)	
	1 point			
	(narrowband)			
	respectively.			
5. CTCSS	Enter the adjust		PTT key	
(136.5Hz)	mode. Turn to CH5.		(increase)	
deviation	Adjust at 3 point		SK1 key	
Center	(wideband), 1 point		(decrease)	
	(medium band) and		(400.0400)	
	1 point			
	(narrowband)			
	respectively.			
6. CTCSS	Enter the adjust		PTT key	
(254.1Hz)	mode. Turn to CH6.		(increase)	
deviation	Adjust at 3 point		SK1 key	
High	(wideband), 1 point		(decrease)	
i ligii	(medium band) and		(accidase)	
	1 point			
	•			
	(narrowband)			
	respectively.			



	7. Transmit	Enter the adjust	Radio	PTT key	Adjust deviation to
	Audio	mode. Turn to CH7.	Communication	(increase)	4KHz (wideband),
	Deviation	Adjust at 3 point	Test Set	SK1 key	3.2KHz (medium
		(wideband), 1 point	HPF: 20Hz	(decrease)	band) and 2KHz
		(medium band), 1	LPF: 15KHz		(narrowband)
		point (narrow band).	1KHz		respectively.
			120mV		
	8. 2 Tone	Enter the adjust	Radio	PTT key	Adjust deviation to
	deviation	mode. Turn to CH8.	Communication	(increase)	3.2KHz (wideband),
		Adjust at 1 point	Test Set	SK1 key	2.5KHz (medium
		(wideband), 1 point	TX Test	(decrease)	band) and 1.8KHz
		(medium band), 1	HPF: 20Hz		(narrowband)
		point (narrow band).	LPF: 15KHz		respectively.
	9. DTMF	Enter the adjust	No modulation	PTT key	Adjust deviation to
	deviati	mode. Turn to CH9.	signal.	(increase)	3.2KHz (wideband),
	on	Adjust at 1 point		SK1 key	2.5KHz (medium
		(wideband), 1 point		(decrease)	band) and 1.8KHz
		(medium band), and			(narrowband)
		1 point (narrow			respectively.
		band).			
	10. MSK	Enter the adjust		PTT key	Adjust deviation to
	deviati	mode. Turn to		(increase)	3.2KHz (wideband),
	on	CH10. Adjust at 3		SK1 key	2.5KHz (medium
		point (wideband), 1		(decrease)	band) and 1.8KHz
		point (medium			(narrowband)
		band), 1 point			respectively.
		(narrow band).			·
	11. VOX	Enter the adjust	Radio	Save	Modulation signal:
	GAIN1	mode. Turn to	Communication		1KHz, 45mv
		CH11. Adjust at 1	Test Set		Press PTT to save;
		point (wideband).	TX TEST		
	12. VOX	Enter the adjust	HPF: 20HZ	Save	Modulation signal:
	GAIN5	mode. Turn to	LPF: 15KHZ		1KHz, 15mv
		CH12. Adjust at 1			Press PTT to save;
		point (wideband).			
	13. TX	Enter the adjust	D. F.	PTT key	Adjust power to
	power	mode. Turn to	Radio	(increase)	5W(4W)±0.1W
	HIGH	CH13. Adjust at 5	Communication	SK1 key	VHF: 5W,
		point (wideband).	Test Set	(decrease)	UHF: 4W
		,	TX TEST	,	
L	l	l	l	1	



14. TX	Enter the adjust	Save	Adjust voltage to
voltage	mode. Turn to		Adjust voltage to
Low	CH14. Adjust at 1		5.8V,press PTT to
	point (wideband).		save

### Receiver

Item		Condition	Test Instrument	Method	Purpose
Group 2	RX sensitivity  2. RX volume	Enter the adjust mode. Turn to CH1. Adjust at 5 point (wideband). Enter the adjust mode. Turn to CH2. Adjust 1 point at wideband, medium		PTT key SK1 key  PTT key (Increase) SK1 key (Decrease	Adjust level to 119dBm. SINAD≥12dB  When Max. volume is set, adjust AC level to 1W (16 Ω), single
		band and narrowband respectively.			input 2.5V, dual
	3. Squelch Level 3 (OPEN)	Enter the adjust mode. Turn to CH3. Adjust at 5 point (wideband), 1 point (medium band) and 1 point (narrowband) respectively.	Radio Communication Test Set RX TEST HPF: 300HZ LPF: 3KHZ	Save	Adjust level to -123dBm, press PTT to save
	4. Squelch Level 3 (SQUELCH)	Enter the adjust mode. Turn to CH4. Adjust at 5 point (wideband), 1 point (medium band) and 1 point (narrowband) respectively.		Save	Adjust level to -125dBm, press PTT to save
	5. Squelch Level 9 (OPEN)	Enter the adjust mode. Turn to CH5. Adjust at 5 point (wideband), 1 point (medium band) and 1 point (narrowband) respectively.		Save	Adjust level to -117dBm, press PTT to save



## **Design Document**

6. Squelch	Enter the adjust	Save	Adjust level to
Level 9	mode. Turn to CH6.		-119dBm, press
(SQUELCH)	Adjust at 5 point		PTT to save
	(wideband), 1 point		
	(medium band) and		
	1 point (narrowband)		
	respectively.		
7. RX voltage	Enter the adjust	Save	Adjust power
Low	mode. Turn to CH7.		supply voltage to
	Adjust at 1 point		6.3V, press PTT to
	(wideband).		save

Note: AF deviation of the receiver is 3KHz (wideband), 2.5KHz(medium band) and 1.5KHz (narrowband)