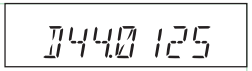
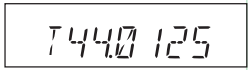
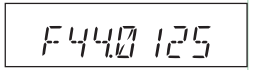
When first bit of Exa byte in frequency displays "D",it indicates DTMF function enable.



When first bit of Exa byte in frequency displays "T",it indicates 2Tone function enable.



When first bit of Exa byte in frequency displays " F ",it indicates 5Tone function enable.



This function can be temporarily used in channel mode. Once the radio is turned off or switched to another channel, the temporary setting will be erased and back to initial settings.

Scan Skip

In Channel mode,press FUNC then press 3 ON/F SKP ,decimal point displayed between frequency's ten digit and unit digit,it means current channel is scan skip. Repeat above operation to set scan or scan skip in currentchannel.

1. decimal point displayed between frequency's ten digit and unit digit,it means current channel is scanned skip.
2. decimal point is not displayed between frequency's ten digit and unit digit,it means current channel is scanned.

Frequency/Channel scan

In corresponding mode,press FUNC then press 4 SET SCN key to enter into scanning.

In scanning mode,press **UP** / **DOWN** to change scan direction.

Busy Channel Lockout

BCLO is to disable transmitting while RX signal is received. Once the channel is busy and you press PTT, the radio will beep as warning and get back to receiving.

1. In standby,press FUNC ,then press 5 BTL BCL to enter into Busy Channel Lockout.
2. Press [**UP** / **DOWN**] to select the desired value.

BU: Enable BCLO, Carrier lockout, transmitting is inhibited when current channel receives a matching carrier;press [PTT] to emit error voice prompt.

RL: Enable BTLO, transmitting is inhibited when current channel receives a matching carrier but dis-matching CTCSS/DCS.press [PTT] to emit error voice prompt It can transmit in any receiving status.

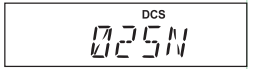
OFF: Busy channel lockout is disabled.

3. Press number keys to confirm and exit.

NOTE: This function can be temporarily used in Channel mode . Once the radio is turned off or switched to another channel, the temporary setting will be erased and back to initial settings.

Reverse TX/RX

TX frequency turns to RX frequency & RX frequency changes to TX frequency. The signaling will also be reversed if CTCSS/DCS signaling exited in this channel.



1. In standby,press FUNC ,then press 6 ON/F REV ,LCD displays "REV–OF".
2. Press [**UP** / **DOWN**] to select the desired value.

ON:Enable Frequency Reverse

OFF:Disable Frequency Reverse

3. Press number keys to confirm and exit.

NOTE: This function can be temporarily used in Channel mode . Once the radio is turned off or switched to another channel, the temporary setting will be erased and back to initial settings.

TOT (Time-out timer)

The time-out timer limits the amount of transmitting time. When you reach the time limit which has been programmed by your dealer, your transmission will be cut off. In order to transmit again, you must release PTT button to reset the timer.

1. In standby,press [FUNC] ,then press [7 SET TOT] ìLCD displays "TOT-X".
2. Press [UP / DOWN] to select the desired value.
3. Press number keys to confirm and exit.

CTCSS/DCS Encode and Decode

1. In standby,press [FUNC] ,then press [8 SET DC/T] to enter into CTCSS/DCS Encode and Decode.
2. Repeat above operation to set as below:

LCD displays T icon,it indicates CTCSS encode set in current channel.

LCD displays T and SQ icon,it indicates CTCSS encode and decode set in current channel.

LCD displays DCS icon,it indicates DCS encode and decode set in current channel.

3. In corresponding icon,press [UP / DOWN] to select the desired CTCSS/DCS encode and decode.

4. Press [* MON BEP] 、 P3 or [8 SET DC/T] to confirm and exit.

NOTE:This function can be temporarily used in Channel mode. Once the radio is turned off or switched to another channel, the temporary setting will be erased and back to initial settings.

Talk Around

By Talk Around function,you can directly communicate with other radios in your group in case the repeater is not activated or when you are out of the repeater range. The transceiver will transmit by RX frequency with its CTCSS/DCS signaling.

1. In standby,press [FUNC] ,then press [9 ON/F RPT] key,LCD displays "TALK–OF".
2. Press [UP / DOWN] to select the desired setting .

ON:Enable Talk Around

OFF:Disable Talk Around

3. Press number keys to confirm and exit.

NOTE: This function can be temporarily used in Channel mode . Once the radio is turned off or switched to another channel, the temporary setting will be erased and back to initial settings.

Voice Prompt

The prompting tone provides confirmation of entry, error status or malfunctions of the transceiver. You can enable or disable this function.

1. In standby,press [FUNC] ,then press [* MON BEP],LCD displays "BEEP--XX".
2. Press [UP / DOWN] to turn on/off BEEP voice prompt.

BEEP--OF :turn off voice prompt

BEEP--ON :turn on voice prompt

3. Press number key to exit and store.

HIGH/MID/LOW Power Selection

1. In standby,press [FUNC] ,then press [0 POW H/L] LCD displays"POW-XX".
2. Press [UP / DOWN] to select the desired power.

HI:High Power

MI:Middle Power

LOW:Low Power

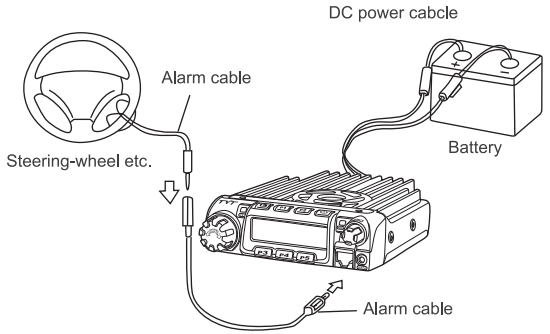
3. Press number keys to exit and store.

LCD Backlight

1. In standby status,press [FUNC] , then press [# FRE LAM] LCD displays"LAMP- XX" .
2. Press [UP / DOWN] to select desired backlight brightness(1-32 levels).
3. Press number keys to confirm and exit.

Long-distance Anti-theft Alarm

This function is mainly use for simple anti-theft alarm device in vehicles. When the transceiver be removed in an improper manner,the transceiver will emit and transmit alarming and background voice to system and other transceiver of the same frequency.



Connect DC power cable with car battery.

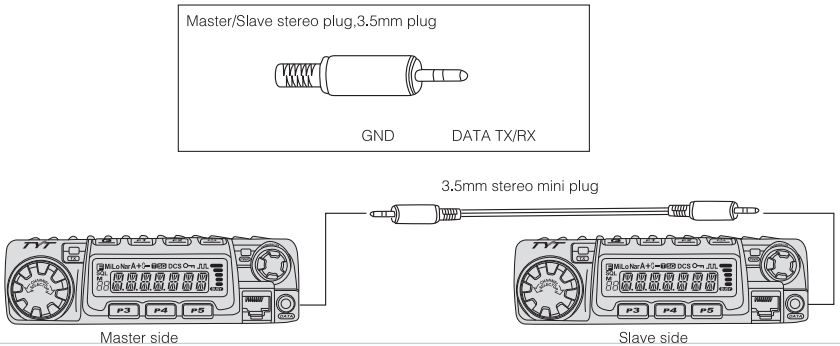
1. Connect the optional alarm cable to the data jack on the front panel as shown. Secure the other end of the cable to an object that stays fixed in vehicle.(Note: if alarm cable is not enough long, you can choose optional alarm cable to extend).
2. When transceiver power off by press [⏻] key ,the long-distance anti-theft alarm enable.
3. Note:The long-distance anti-theft alarm only available when transceiver power off .

4. When the alarm cable or is removed from the DATA jack or cut by improper sequence, the alarm function enable and will alarm as programmed. In alarming,the transceiver will stop alarm once receiving a matching signal. And alarm again when a matching signal disappeared.
5. Restart radio to cancel anti-theft alarming.Reconnect with alarm cable and turn off radio, the system will return to alarm mode.

Cable Clone

This feature will copy the programmed data and parameters in the master unit to slave units. It copies the parameters and memory program settings.

1. Use optional cloning cable, connect the cable between the data jacks on both master and slave.
2. Press and hold F key, then press P1 key to enter into cloning mode, LCD displays "CLONE".



3. Press master unit's [PTT] key, LCD displays "SD XXX", "XXX" indicates data volume in transmitting. Slave unit displays "LD XXX", "XXX" indicates received data volume. When the transmission is successfully finished, the master and slave unit both display "PASS". Turn off the power, disconnect the cable and repeat step 2 to step 3 operations to clone the next slave unit.

NOTE: If the data is not successfully transmitted, turn off both units, make sure the cable connection is correct and repeat the entire operation from the beginning.

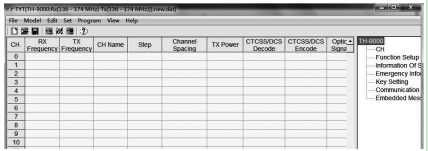
Programming Software Installing and Starting (in windows XP system)

Double click "TYT TH-9000", then follow the installing instruction.

Install USB Cable Driver Programme

1. Click start menu in computer, under "ALL PROGRAMS" menu, choose and click "USB To Com port" in TH-9000 program, install "USB To Com port" driver by indication.
2. Connect the optional USB Programming cable to USB port in PC with transceiver. (As pic 1)
3. Double click TH-9000 shortcut or click TH-9000 in procedure index of start menu, choose serial com port as indicated then click OK to start programming software. (As pic 2)
4. According to instruction,select correct"COM Port"(As pic 3),then click "OK" to start programming software.

(As pic 1)



(As pic 2)

(As pic 3)

NOTE: Even in same computer,the selective COM Port is different when USB cable connects with different USB port.

You shall install software before connecting the USB cable line. Switch on transceiver before writing frequency.You had better not switch on or off the power supply of transceiver when it is connected with computer, otherwise, it will make transceiver unable to read or write frequency. In this case, you have to turn off programming software, pull out USB cable. then reinsert USB cable and open software, then rechoose COM Port, it will turn into normal operation. Therefore, please connect transceiver with computer after switching on the transceiver. Don't restart transceiver power when it is connected with computer.

NOTE: This software has productidentify system, so when firstly installing the software, you have to connect the products, otherwise you can not start the software.

Maintenance

Default Setting after Resetting(VHF)

	TH–9000	DCS encode and decode	–
VFO frequency	145.00MHz	DCS code	023N
Memory channel 0–199	–	Output power	HI
Offset direction	–	Key–lock setting	OFF
Offset frequency	600KHz	TOT	OFF
Channel step	12.5KHz	APO	OFF
CTCSS encode and decode	–	Squelch Level	4
CTCSS frequency	88.5Hz		

Default Setting after Resetting(UHF)

	TH–9000	DCS encode and decode	–
VFO frequency	435.00MHz	DCS code	023N
Memory channel 0–199	–	Output power	HI
Offset direction	–	Key–lock setting	OFF
Offset frequency	600KHz	TOT	OFF
Channel step	12.5KHz	APO	OFF
CTCSS encode and decode	–	Squelch Level	4
CTCSS tone frequency	88.5Hz		

Trouble Shooting

Problem	Possible Causes and Potential Solutions
(a) Power is on, nothing appears on Display.	+ and – polarities of power connection are reversed. Connect red lead to plus terminal and black lead to minus terminal of DC power supply.
(b) Fuse is blown.	Check and solve problem resulting in blown fuse and replace fuse with new fuse.
(c) Display is too dim.	Dimmer setting is "LAMP–L". Please make the dimmer setting "LAMP–H".
(d) No sound comes from speaker.	Squelch is muted. Decrease squelch level. Tone or CTCSS/DCS squelch is active. Turn CTCSS or DCS squelch off.
(e) Key and Dial do not function.	Key–lock function is activated. Cancel Key–lock function.
(i) Rotating Dial will not change memory channel.	Transceiver is in CALL mode. Press the VFO or memory mode.
(g) PTT key is pressed but transmission does not occur.	Microphone connection is poor. Connect microphone properly. Antenna connection is poor. Coonect antenna properly.

Specifications

General

Frequency Range	VHF:136 ~ 174MHz 245 ~ 245.9875MHz(220 ~ 260MHz) UHF:400 ~ 490MHz
Number of Channels	200 channels
Channel Spacing	25K (Wide Band) 20K(Middle Band) 12.5K (Narrow band)
Phase-locked Step	5KHz、6.25KHz、8.33KHz、10KHz、12.5KHz、15KHz、20KHz、25KHz、30KHz、50KHz
Operating Voltage	13.8V DC ± 15%
Squelch	Carrier/CTCSS/DCS/5Tone/2Tone/DTMF
Frequency Stability	± 2.5ppm
Operating Temperature	-20 ~ +60℃
Dimensions(WxHxD)	145(W)x47(H)x190(D)mm
Weight	about 1.2kg

NOTE: Specifications are subject to change without notice due to advancements in technology.

Receiver (ETSI EN 300 086 standard testing)

	Wide band	Narrow band
Sensitivity (12dB Sinad)	≤0.25μV	≤0.35μV
Adjacent Channel Selectivity	≥70dB	≥60dB
Intermodulation	≥65dB	≥60dB
Spurious Rejection	≥70dB	≥70dB
Audio Response	+1 ~ -3dB(0.3 ~ 3KHz)	+1 ~ -3dB(0.3 ~ 2.55KHz)
Hum & Noise	≥45dB	≥40dB
Audio distortion	≤5%	
Audio power output	> 2W@10%	

Transmitter (ETSI EN 300 086 standard testing)

	Wide band	Narrow band
Power Output	60W/25W/10W(VHF)	45W/25W/10W(UHF)
Modulation	16KΦF3E	11KΦF3E
Adjacent Channel Power	≥70dB	≥60dB
Hum & Noise	≥40dB	≥36dB
Spurious Emission	≥60dB	≥60dB
Audio Response	+1 ~ -3dB(0.3 ~ 3KHz)	+1 ~ -3dB(0.3 ~ 2.55KHz)
Audio Distortion	≤5%	

Attached Chart

50 groups CTCSS Tone Frequency(Hz)

67.0	79.7	94.8	110.9	131.8	156.7	171.3	186.2	203.5	229.1
69.3	82.5	97.4	114.8	136.5	159.8	173.8	189.9	206.5	233.6
71.9	85.4	100.0	118.8	141.3	162.2	177.3	192.8	210.7	241.8
74.4	88.5	103.5	123.0	146.2	165.5	179.9	196.6	218.1	250.3
77.0	91.5	107.2	127.3	151.4	164.9	183.5	199.5	225.7	254.1

1024 groups DCS Code.

000	001	002	003	004	005	006	007
010	011	012	013	014	015	016	017
020	021	022	023	024	025	026	027
030	031	032	033	034	035	036	037
040	041	042	043	044	044	046	047
050	051	052	053	054	055	056	057
060	061	062	063	064	065	066	067
070	071	072	073	074	075	076	077
100	101	102	103	104	105	106	107
110	111	112	113	114	115	116	117
120	121	122	123	124	125	126	127
130	131	132	133	134	135	136	137
140	141	142	143	144	145	146	147
150	151	152	153	154	155	156	157
160	161	162	163	164	165	166	167
170	171	172	173	174	175	176	177
180	181	182	183	184	185	186	187
190	191	192	193	194	195	196	197
200	201	202	203	204	205	206	207
210	211	212	213	214	215	216	217

230	231	232	233	234	235	236	237
240	241	242	243	244	245	246	247
250	251	252	253	254	255	256	257
260	261	262	263	264	265	266	267
270	271	272	273	274	275	276	277
300	301	302	303	304	305	306	307
310	311	312	313	314	315	316	317
320	321	322	323	324	325	326	327
330	331	332	333	334	335	336	337
340	341	342	343	344	345	346	347
350	351	352	353	354	355	356	357
360	361	362	363	364	365	366	367
370	371	372	373	374	375	376	377
400	401	402	403	404	405	406	407
410	411	412	413	414	415	416	417
420	421	422	423	424	425	426	427
430	431	432	433	434	435	436	437
440	441	442	443	444	445	446	447
450	451	452	453	454	455	456	457
460	461	462	463	464	465	466	467
470	471	472	473	474	475	476	477

500	501	502	503	504	505	506	507
510	511	512	513	514	515	516	517
520	521	522	523	524	525	526	527
530	531	532	533	534	535	536	537
540	541	542	543	544	545	546	547
550	551	552	553	554	555	556	557
560	561	562	563	564	565	566	567
570	571	572	573	574	575	576	577
600	601	602	603	604	605	606	607
610	611	612	613	614	615	616	617
620	621	622	623	624	625	626	627
630	631	632	633	634	635	636	637
640	641	642	643	644	645	646	647
650	651	652	653	654	655	656	657
660	661	662	663	664	665	666	667
670	671	672	673	674	675	676	677
700	701	702	703	704	705	706	707
710	711	712	713	714	715	716	717
720	721	722	723	724	725	726	727
730	731	732	733	734	735	736	737
740	741	742	743	744	745	746	747

750	751	752	753	754	755	756	757
760	761	762	763	764	765	766	767
770	771	772	773	774	775	776	777

NOTE: N is positive code, is negative code, total: 232groups.