KENWOOD

TK-2402V16P/TK-3402U16P ProTalk®

Operating Manual

FCC License Information

Your **KENWOOD** transceiver operates on communications frequencies which are subject to FCC (Federal Communications Commission) Rules & Regulations. FCC Rules require that all operators using Private Land Mobile radio frequencies obtain a radio license before operating their equipment. Application for license must be made on FCC form 601, schedules D and H, and Remittance form 159.

FAX: Forms can be obtained by fax from the FCC Fax-On-Demand system. Call 1-202-418-0177 from your fax machine and request document number 000601 for the form, schedules, and instructions.

MAIL: Forms can be ordered by telephone, and will be sent to you by first class mail. Call the FCC Forms Hotline at 1-800-418-FORM (1-800-418-3676).

INTERNET: Form 601 and instructions can be downloaded from the FCC Forms website at *http://www.fcc.gov/formpage.html*
Before filling out your Form 601 application Technical Data section, you must decide on which frequencies you will operate. See the frequency tables below.

QUESTIONS? Call the FCC for license application questions at 1-888-CALL-FCC (1-888-225-5322).

CHANNEL SETUP MODE

This transceiver allows you to reprogram each of the channels with different frequencies and QT (Quiet Talk)/ DQT (Digital Quiet Talk) settings. The table below lists the default channel settings.

■ TK-2402V16P Frequencies

Channel Number	Table Number	Frequency (MHz)	Code (Hz)	Channel Number	Table Number	Frequency (MHz)	Code (Hz)
1	1	151.6250	67.0	9	2	151.9550	179.9
2	1	151.6250	77.0	10	2	151.9550	100.0
3	1	151.6250	88.5	11	20	154.4900	67.0
4	1	151.6250	179.9	12	21	154.5150	67.0
5	1	151.6250	100.0	13	10	151.5125	67.0
6	2	151.9550	67.0	14	12	151.6850	67.0
7	2	151.9550	82.5	15	5	151.7000	67.0
8	2	151.9550	94.8	16	6	151.7600	67.0

■ TK-3402U16P Frequencies

Channel Number	Table Number	Frequency (MHz)	Code (Hz)	Channel Number	Table Number	Frequency (MHz)	Code (Hz)
1	1	464.5000	67.0	9	2	464.5500	179.9
2	1	464.5000	77.0	10	2	464.5500	100.0
3	1	464.5000	88.5	11	22	461.3625	74.4
4	1	464.5000	179.9	12	30	464.4875	79.7
5	1	464.5000	100.0	13	32	464.5375	85.4
6	2	464.5500	67.0	14	34	466.0375	91.5
7	2	464.5500	82.5	15	36	466.0875	97.4
8	2	464.5500	94.8	16	38	466.1375	103.5

CHANNEL OPERATING FREQUENCIES

To change the operating frequency of a Channel:

[1] With the transceiver power OFF, press and hold the **PTT** switch and **Side 1** key while turning the transceiver power ON.
  • Continue to hold the **PTT** switch and **Side 1** key until the LED lights orange and the transceiver announces "Self".

[2] Release the **PTT** switch and **Side 1** key.
  • The transceiver announces "Channel".
  • Pressing the **Side 1** key or **Side 2** key will toggle between QT, DQT, and Channel setup.

[3] Press and release the **PTT** switch, then rotate the **Channel** selector to your desired channel.
  • Upon pressing and releasing the **PTT** switch, a beep will sound and the transceiver announces "Table zero".

[4] Press the **Side 1** or **Side 2** key to increment/decrement the Table number, to select the new channel frequency.
  • Press and hold the **Side 1** or **Side 2** key to Increment / decrement the number by 5 at a time.
  • Table numbers and their corresponding operating Frequencies are provided in the tables on right.
  • A voice announcement will inform you of the currently selected Table number.

[5] Press the **PTT** switch to save the setting.
  • A beep will sound.
  • Repeat steps 3 to 5 to set up another channel.

[6] Turn the transceiver power OFF and then ON again to activate the new settings.

Note: The transceiver will automatically return to normal operation if no action is performed for 20 seconds.

■ TK-2402V16P Table Number:

Table Number	Frequency (MHz)	Table Number	Frequency (MHz)
0	OFF	14	151.7450
1	151.6250	15	151.7750
2	151.9550	16	151.8650
3	152.8850	17	151.8950
4	152.9150	18	151.9250
5	151.7000	19	152.9000
6	151.7600	20	154.4900
7	152.9450	21	154.5150
8	151.8350	22	154.5275
9	151.8050	23	154.5400
10	151.5125	24	153.0050
11	151.6550	25	154.5475
12	151.6850	26	158.4000
13	151.7150	27	158.4075

■ TK-3402U16P Table Number:

Table Number	Frequency (MHz)	Table Number	Frequency (MHz)
0	OFF	46	466.3375
1	464.5000	47	466.3625
2	464.5500	48 *	467.7875
3 *	467.7625	49 *	467.8375
4 *	467.8125	50 *	467.8625
5 *	467.8500	51 *	467.8875
6 *	467.8750	52 *	467.9125
7 *	467.9000	53	469.4875
8 *	467.9250	54	469.5125
9	461.0375	55	469.5375
10	461.0625	56	469.5625
11	461.0875	57	462.1875
12	461.1125	58	462.4625
13	461.1375	59	462.4875
14	461.1625	60	462.5125
15	461.1875	61	467.1875
16	461.2125	62	467.4625
17	461.2375	63	467.4875
18	461.2625	64	467.5125
19	461.2875	65	451.1875
20	461.3125	66	451.2375
21	461.3375	67	451.2875
22	461.3625	68	451.3375
23 *	462.7625	69	451.4375
24 *	462.7875	70	451.5375
25 *	462.8125	71	451.6375
26 *	462.8375	72	452.3125
27 *	462.8625	73	452.5375
28 *	462.8875	74	452.4215
29 *	462.8125	75	452.5125
30	464.4875	76	452.7625
31	464.5125	77	452.8625
32	464.5375	78	456.1875
33	464.8625	79	456.2375
34	466.0375	80	456.2875
35	466.0625	81	468.2125
36	466.0875	82	468.2625
37	466.1125	83	468.3125
38	466.1375	84	468.3625
39	466.1625	85	468.4125
40	466.1875	86	468.4625
41	466.2125	87	468.5125
42	466.2375	88	468.5625
43	466.2625	89	468.6125
44	466.2875	90	468.6625
45	466.3125		

(*) Frequency is limited to Low Power (2 Watts or less output power).

Note: The transceiver will automatically return to normal operation if no action is performed for 20 seconds.

QT / DQT SETTINGS

Quiet Talk (QT) and Digital Quiet Talk (DQT) are functions that reject undesired signals on your channel. You will hear a call only when you receive a signal that contains a matching QT tone or DQT code. If a call containing a different tone or code is received, squelch will not open and you will not hear the call. Likewise, when transmitting using QT or DQT, the receiving station must have a matching tone or code to hear your call.

Be aware that other parties can still hear your calls if they set up their transceiver with the same tone or code.

To change the QT/DQT settings of a channel:
(*The same steps as Channel Setup, but make sure to select QT or DQT in step [2].)

[1] With the transceiver power OFF, press and hold the **PTT** switch and **Side 1** key while turning the transceiver power ON.
  • Continue to hold the **PTT** switch and **Side 1** key until the LED lights orange and the transceiver announces "Self".

[2]* Release the **PTT** switch and **Side 1** key.
  • The transceiver announces "Channel".
  • Pressing the **Side 1** key or **Side 2** key will toggle between QT, DQT, and Channel setup.

[3] Press and release the **PTT** switch, then rotate the **Channel** selector to your desired channel.
  • Upon releasing the **PTT** switch, the transceiver announces "QT One" or "DQT One", depending on your selection.

[4] Press the **Side 1** or **Side 2** key to increment/decrement the Tone number, to select the new tone or code.
  • Tone numbers and their corresponding tones/codes are provided in the tables on right.
  • Press and hold the **Side 1** or **Side 2** key to Increment / decrement the QT or DQT number by 5 at a time.
  • A voice announcement will inform you of the currently selected QT or DQT number.

[5] Press the **PTT** switch to save the setting.
  • A beep will sound.
  • Repeat steps 3 to 6 to set up another channel.

[6] Turn the transceiver power OFF and then ON again to activate the new settings.

Note: The transceiver will automatically return to normal operation if no action is performed for 20 seconds.

CHANNEL CONFIRMATION MODE

To confirm your channel settings:

[1] With the transceiver power OFF, press and hold the **PTT** switch while turning the transceiver power ON.
  • Continue to hold the **PTT** switch until the LED lights orange and the transceiver announces "Confirm".

[2] Release the **PTT** switch.
  • Transceiver announces the channel table number, tone number, scrambler and VOX settings of the selected channel.

[3] Rotate the **Channel** selector to your desired channel within 5 seconds, otherwise the operation will cancel.
  • Transceiver announces the channel table number, tone number, scrambler and VOX settings of the selected channel.

Note: The transceiver will automatically return to normal operation if no action is performed for 5 seconds.

■ QT Channel Settings:

QT Number	QT Frequency	QT Number	QT Frequency
1	67.0 Hz	24	151.4 Hz
2	71.9 Hz	25	156.7 Hz
3	74.4 Hz	26	162.2 Hz
4	77.0 Hz	27	167.9 Hz
5	79.7 Hz	28	173.8 Hz
6	82.5 Hz	29	179.9 Hz
7	85.4 Hz	30	186.2 Hz
8	88.5 Hz	31	192.8 Hz
9	91.5 Hz	32	203.5 Hz
10	94.8 Hz	33	210.7 Hz
11	97.4 Hz	34	218.1 Hz
12	100.0 Hz	35	225.7 Hz
13	103.5 Hz	36	233.6 Hz
14	107.2 Hz	37	241.8 Hz
15	110.9 Hz	38	250.3 Hz
16	114.8 Hz	39	69.3 Hz
17	118.8 Hz	40	Customized
18	123.0 Hz	41	Customized
19	127.3 Hz	42	Customized
20	131.8 Hz	43	Customized
21	136.5 Hz	44	Customized
22	141.3 Hz	45	Customized
23	146.2 Hz	Off	OFF

■ DQT Channel Settings:

DQT Number	DQT Code	DQT Number	DQT Code
1	D023N	89	D032I
2	D025N	90	D043I
3	D026N	91	D047I
4	D031N	92	D051I
5	D032N	93	D054I
6	D043N	94	D065I
7	D047N	95	D071I
8	D051N	96	D072I
9	D054N	97	D073I
10	D065N	98	D074I
11	D071N	99	D114I
12	D072N	100	D115I
13	D073N	101	D116I
14	D074N	102	D125I
15	D114N	103	D131I
16	D115N	104	D132I
17	D116N	105	D134I
18	D125N	106	D143I
19	D131N	107	D152I
20	D132N	108	D155I
21	D134N	109	D156I
22	D143N	110	D162I
23	D152N	111	D165I
24	D155N	112	D172I
25	D156N	113	D174I
26	D162N	114	D205I
27	D165N	115	D223I
28	D172N	116	D226I
29	D174N	117	D243I
30	D205N	118	D244I
31	D223N	119	D245I
32	D226N	120	D251I
33	D243N	121	D261I
34	D244N	122	D263I
35	D245N	123	D265I
36	D251N	124	D271I
37	D261N	125	D306I
38	D263N	126	D311I
39	D265N	127	D315I
40	D271N	128	D331I
41	D306N	129	D343I
42	D311N	130	D346I
43	D315N	131	D351I
44	D331N	132	D364I
45	D343N	133	D365I
46	D346N	134	D371I
47	D351N	135	D411I
48	D364N	136	D412I
49	D365N	137	D413I
50	D371N	138	D423I
51	D411N	139	D431I
52	D412N	140	D432I
53	D413N	141	D445I
54	D423N	142	D464I
55	D431N	143	D465I
56	D432N	144	D466I
57	D445N	145	D503I
58	D464N	146	D506I
59	D465N	147	D516I
60	D466N	148	D532I
61	D503N	149	D546I
62	D506N	150	D565I
63	D516N	151	D606I
64	D532N	152	D612I
65	D546N	153	D624I
66	D565N	154	D627I
67	D606N	155	D631I
68	D612N	156	D632I
69	D624N	157	D654I
70	D627N	158	D662I
71	D631N	159	D664I
72	D632N	160	D703I
73	D654N	161	D712I
74	D662N	162	D723I
75	D664N	163	D731I
76	D703N	164	D732I
77	D712N	165	D734I
78	D723N	166	D743I
79	D731N	167	D754I
80	D732N	168	D645I
81	D734N	169	Customized
82	D743N	170	Customized
83	D754N	171	Customized
84	D645N	172	Customized
85	D023I	173	Customized
86	D025I	174	Customized
87	D026I	Off	OFF
88	D031I		

KEY ASSIGNMENT MODE

This transceiver allows you to reprogram the **Side 1** and **Side 2** keys with any of the functions listed in the table below.

Table Number	Function Name
0	**None (no function)**
1	**Calling Alert**
2	**Key Lock**
3	**Key Lock with Status Memory**
4	**Monitor**
5	**Monitor Momentary**
6	**Scan**
7	**Scan + Temporary Delete** (Side 2 key default)
8	**Scrambler**
9	**Squelch Off**
10	**Squelch Off Momentary**
11	**Super Lock** (Side 1 key default)
12	**Low Transmit Power**
13	**RX/TX Frequency Scan***

*** To use this function, the Repeater Mode must be activated by Programming Software.**

To change the functions of the **Side 1** and **Side 2** keys:

[1] With the transceiver power OFF, press and hold the **Side 1** and **Side 2** keys while turning the transceiver power ON.
• Continue to hold the **Side 1** and **Side 2** keys until the LED lights orange and the transceiver announces "Setup".

[2] Continue to press and hold the key to be reprogrammed (either the **Side 1** or **Side 2** key), while releasing the remaining key.
• The transceiver will announce "Table zero".
• If you continue to hold both keys, or if you release both keys, the operation will cancel in 5 seconds.
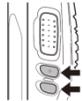
[3] Release the key.

[4] Press the **Side 1** or **Side 2** key to increment/ decrement the table number to select the new key function.
• A voice announcement will inform you of the currently selected Table number.
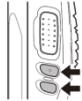
[5] Press the **PTT** switch to save the setting.
• A beep will sound and the transceiver will announce the new Table number.

[6] Turn the transceiver power OFF and then ON again to activate the new settings.

Note: The transceiver will automatically return to normal operation if no action is performed for 20 seconds.

PROGRAMMABLE FUNCTIONS

■ Calling Alert
Calling alert tone helps alerting party members that you are calling. To make a call, press the key programmed as Calling Alert.
• Release the key to end the tone, and press and hold PTT to transmit and speak into the microphone.

■ Key Lock
Press and hold this key for 1 second to lock/ unlock the transceiver keys. The following keys/ functions can still be used when Key Lock is active: **Calling Alert**, **Key Lock**, **Monitor**, **Monitor Momentary**, **PTT**, **Squelch Off**, **Squelch Off Momentary**, and **Volume**.
• When the transceiver power is turned OFF and then ON again, the Key Lock function will be cancelled.

■ Key Lock with Status Memory
This operates the same as Key Lock except that when the transceiver power is turned OFF and then ON again, the keys remain locked. Without Status Memory, when the transceiver power is turned OFF and then ON again, the Key Lock function will be cancelled.

■ Monitor
Momentarily press this key to deactivate QT or DQT signaling. Press the key again to return to normal operation.

■ Monitor Momentary
Press and hold this key to deactivate QT or DQT signaling. Release the key to return to normal operation.

■ Scan
Scan is useful for monitoring signals on the transceiver channels. When scanning, the transceiver checks for a signal on each channel and only stops if a signal is present. If the QT/DQT matches, the transceiver stops at the channel and opens the squelch so you can listen to the call. If the QT/DQT does not match, the call is ignored and scanning continues.

■ Scan + Temporary Delete (Side 2 key default)
Press this key to start scanning the transceiver channels. When Scan pauses at an undesired channel, you can remove that channel from the scanning sequence by pressing and holding this key for 3 seconds.

■ Scrambler
Press this key to activate (a single beep sounds) and deactivate (a double beep sounds) the scrambler function of the selected channel. The Scrambler function allows you to hold a conversation in complete privacy. When the Scrambler function is activated, any other party that is listening to your channel will be unable to understand your conversation.

■ Squelch Off
Press this key to hear background noise. Press the key again to return to normal operation.

■ Squelch Off Momentary
Press and hold this key to hear background noise. Release the key to return to normal operation.

■ Super Lock (Side 1 key default)
Super Lock locks the same keys as Key Lock. Press and hold this key for 4 seconds to lock the transceiver keys. To deactivate Super Lock, with the transceiver power OFF, press and hold the **Side 2** key for 2 seconds while turning the transceiver power ON.
• When the LED lights orange, release the **Side 2** key. A confirmation tone will sound.

■ Low Transmit Power
Press this key to change the transmit power to low power. Each time you press this key, the transmit power toggles between high and low.

ALL RESET MODE

At some point in time, you may desire to reset the transceiver settings to their default values. This function will reset all channels to their default frequencies and QT/DQT, the VOX function to its default status, and all keys to their default functions.

To reset the transceiver:

[1] With the transceiver power OFF, press and hold the **PTT** switch, the **Side 1** key, and the **Side 2** key while turning the transceiver power ON.
• Continue to hold the keys for 2 seconds, until the LED lights orange.

[2] Release the keys.
• The keys must be released within 1 second after the LED lights orange, otherwise All Reset Mode will cancel.
• The transceiver announces "Confirm" and returns to normal operation.

TROUBLESHOOTING GUIDE

Problem	Solution
Cannot Turn the transceiver power ON.	**The battery pack may be dead. Recharge or replace the battery pack.** **The battery pack may not be installed correctly. Remove the battery pack and install again.**
Battery power dies shortly after charging	**The battery pack life is finished. Replace the battery pack with a new one.**
Cannot talk to or hear other members in your group.	**Make sure you are using the same frequency and QT/DQT settings as the other members in your group.** **Other group members may be using the Scrambler function. Turn on your transceiver's Scrambler.** **Other group members may be too far away. Make sure you are within range of the other transceivers.**
Other voices (besides group members') are present on the channel.	**Change the QT/DQT settings. Make sure all group members change the settings on their transceivers to match the new QT/DQT setting.**