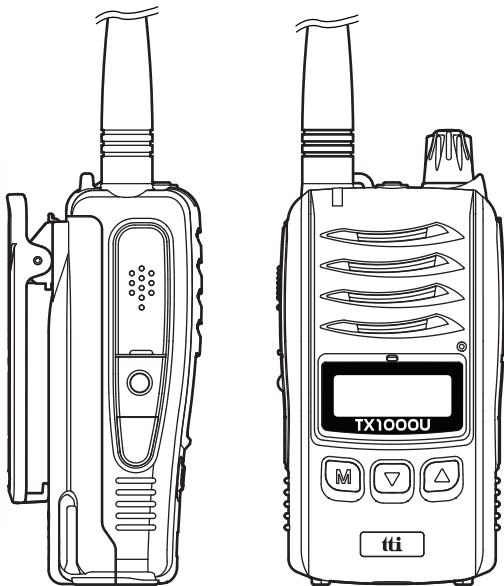


TX1000U

TX1000UBT (Bluetooth Compatible)



PMR446 TRANSCEIVER INSTRUCTION MANUAL



www.ttikorea.co.kr

Thank you for purchasing this radio.

All our products are built to offer excellent value by combining advanced features, great design and manufacturing quality.

To ensure you are familiar with the operation and features of your radio, and in order to obtain the best performance, please read this manual carefully before operation.

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Caution

IMPORTANT - READ ALL INSTRUCTIONS carefully and completely before operating your radio and retain this manual for future reference.

NEVER connect the radio to a power source other than the supplied battery. This may damage your product.

NEVER operate your radio with the antenna less than 5cm from exposed parts of the body.

NEVER use the radio in or near a mining facility or other area which uses remotely triggered explosives or an area labelled "Blasting Area".

NEVER use or charge your radio in a potentially explosive atmosphere.

DO NOT place your radio in front of a vehicle airbag.

DO NOT operate your radio on board an aircraft.

DO NOT use your radio with a damaged antenna.

DO NOT attempt to modify your radio in any way.

ALWAYS charge your radio at normal room temperature.

ALWAYS switch off your radio where notices restrict the use of two-way radio or mobile telephones.

ALWAYS replace the accessory jack cover (if applicable) when the jack is not in use.

ONLY use TTI approved rechargeable batteries with the supplied charger.

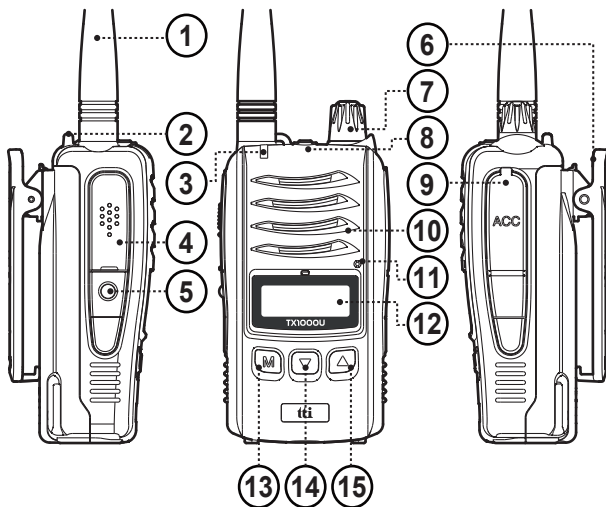
AVOID charging your radio or battery pack while is it wet.

AVOID storing or charging your radio in direct sunlight.

AVOID storing or using your radio where temperatures are below -20°C or above +60°C

1. Radio Controls

① Antenna	⑧ Lock Button
② Strap Hole	⑨ Accessory Jack
③ TX/RX Indicator	⑩ Speaker
④ PTT Button	⑪ Microphone
⑤ Monitor Button	⑫ LCD Display
⑥ Belt Clip	⑬ Function / Menu Button
⑦ Power ON/Off & Volume Control Knob	⑭ Down Button
	⑮ Up Button

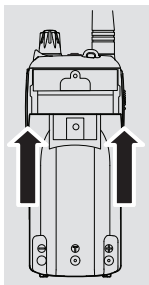


2. Equipment and Accessories Supplied

1. TX1000U (or TX1000UBT) Radio with Antenna	1 Unit
2. Li-Ion Battery Pack	1 Unit
3. Charging Cradle	1 Unit
4. Power Adaptor	1 Unit
5. Belt Clip	1 Unit

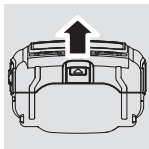
3. Fitting the Battery pack

Fitting



1. Ensure that your radio is switched off.
2. Align the battery pack with the battery guide at the back of the radio.
3. Slide the battery pack up to the top until you hear the snapping sound.

Removal

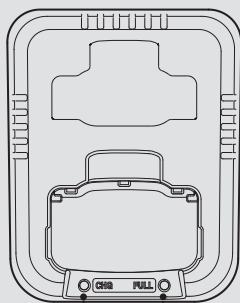


1. Ensure that your radio is switched off.
2. Press down on the battery release catch and separate the battery pack from the radio.

4. Battery Charging

To charge your radio, carefully follow these instructions:

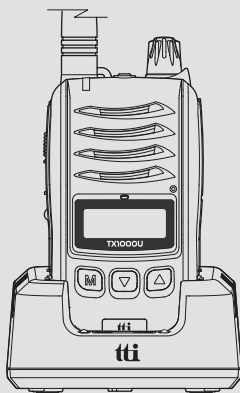
1. Connect the power adaptor to the mains power supply and connect the adaptor charger jack to the charging cradle.
2. Disconnect any radio accessories and ensure the radio is switched off.
3. Insert the radio into the charging cradle until it 'Clicks' home.
The charger LED will glow red and charging will start. If the charger LED blinks red or green or the charger LED does not light, re-insert the radio into the charging cradle.
4. The battery charging time is about 4~5 hours. When the battery is fully charged the green LED(Full) will be turned on.



LED

Power Adaptor

-Input : 230VAC
-Output : 12VDC 1Ah



5. Radio Controls

1. Power On/Off/Volume Control



Turn the knob clockwise to switch on and increase the volume and counter-clockwise to decrease the volume and switch off the radio. The radio will emit a confirmation tone when it switches on.

2. Push-To-Talk (PTT) Button



Press and hold this button to speak (transmit) and release the button to hear (receive) messages. You can only communicate with other radios when the channel and privacy code are the same as that of yours. The red LED lights during the PTT press.

Note : The green or orange LED lights during receive. The green lights on the basic channels and the orange lights on the channel with privacy codes.

3. Monitor Button



Momentarily press this button to activate the monitor function. To deactivate this function, momentarily press this button again.

4. Function / Menu(Mode) Button



Function Momentarily press this button to activate the function mode. There appears "F" icon on the display. While "F" icon is on the display, press the second key to activate or deactivate the functions (Scan and Scan Memory).

Menu Press and hold for about 2 seconds to enter the menu mode. Then briefly press to step down through the menus.

5. Down Button



Pressing this button will decrease the channel number. In some modes this button is used to adjust the function setting.

6. Up Button



Pressing this button will increase the channel number. In some modes this button is used to adjust the function setting.

7. Keypad Lock / Scan & Scan Memory Button

Keypad Lock : Press and hold this button to activate the Keypad Lock.

Scan : Briefly pressing this button following the function button press will start scanning.

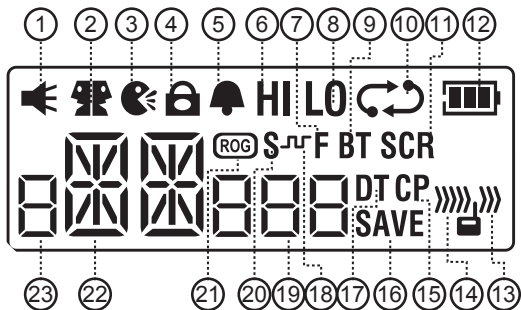
To deactivate press the function button briefly and press this button again.

Scan Memory : As factory default your radio has all channels memorized for channel scanning.

To delete a certain channel stay on the channel and press the function button followed by long press of this button.

The scan icon will disappear on the LCD and the channel is now deleted from the scanning list.

6. LCD Display



No.	Description	No.	Description
1	Squelch Monitor	13	Transmit
2	Dual Watch	14	Receive
3	Vox	15	Compander
4	Keypad Lock	16	Power Save Mode
5	Key Tone	17	DTMF Tone
6	Power High	18	DCS Tone
7	Function	19	CTCSS / DCS Channel
8	Power Low	20	CTCSS Tone
9	Bluetooth (Option)	21	Roger Tone
10	Scan / Scan Memory	22	Channel Indicator
11	Scrambler	23	Group
12	Battery Balance Indecator		

7. Menu mode

The menu mode allows you to set-up and edit the basic functions. To access this menu mode press and hold the menu button. Each press of this button steps the radio sequentially through the different functions. The radio display indicates the current functions. The current setting and associated icon display. Use the up or down button, to change the value of any selected menu. Press the PTT button or wait for about 5 seconds to confirm the change.

Display	Function	Setting
	Change Privacy Tone Code (CTCSS)	1 to 73, OFF
	Change Digital Privacy Tone code (DCS)	1 to 208, OFF
	Output Power Selection	Hi (High), Lo (Low)
	DTMF Tone On / Off	ON, OFF
	Compander On / Off	ON, OFF
	Scramble On / Off	ON, OFF
	Vox Activation and Level Selection	1, 2, 3, OFF
	Squelch level Selection	AUT, OFF, 1, 2, 3, 4, 5

Display	Function	Setting
RG ^{RO} OF	Roger Beep On/Off	ON , OF
KT [▲] ON	Key Tone On/Off	ON , OF
CL OF	Call(Page) Tone Selection	OF, 1, 2, 3, 4, 5
BT ^{BT} OF	Bluetooth Compatible Function On/Off (Optional)	ON , OF
DW OF	Dual Watch Activation & Channel Selection	1 to 8 , OF
BC OF	BCLO (Busy Channel Lock Out) Selection	CALL, CL, OF

8. Basic Radio Operation

The PMR-446 Radio service which this radio uses shares channels on a 'take turns' basis. This means that other users and groups may be using any channel and privacy code combination.

To communicate with other PMR-446 radios, all units must be switched to the same frequency and privacy code.

If the combination you have chosen is already in use, please make an alternative selection.

1. Switch on your radio.
2. Check and if necessary change the channel or frequency and privacy code settings.
3. To speak, hold the radio upright, about 10cm from your mouth and press the PTT. Speak slowly and clearly towards the radio.

Release the PTT when you finish speaking.

You will hear messages from other radios that are within range and have the same channel and privacy code setting.

The appropriate icon will appear in the radio display when you receive or transmit a message.

9. Radio Features Explained

Privacy Codes (CTCSS and DCS Tone Codes)

This radio is fitted with 73 Analogue Privacy codes (also known as CTCSS, sub-codes or sub-channels) and 208 Digital Privacy codes (also known as DCS codes).

Only one type of Privacy code can be used on each channel.

Selecting a Digital Privacy code will override any Analogue Privacy code settings. If the other unit(s) do not have privacy codes ensure your units privacy codes (analogue and digital) are set to 'Off'.

Please note that privacy codes do not prevent other radio users from hearing your conversation. They simply allow you to ignore messages that are using a different privacy code.

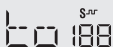
Selecting an Analogue Privacy Code



To change the Analogue Privacy Code, press the MODE(Menu) button until the CTCSS icon and privacy code number flash. Use the UP or DOWN

button to select the desired code. Press the PTT or MODE button or wait for 5 seconds to store your choice. The CTCSS icon will appear when an Analogue Privacy Code is selected.

Selecting a Digital Privacy Code



To change the Digital Privacy Code, press the MODE(Menu) button until the DCS icon and privacy

code number flash. Use the UP or DOWN button to select the desired code. Press the PTT or MODE button or wait for 5 seconds to store your choice. The DCS icon will appear when a Digital Privacy Code is selected.

Once a CTCSS or DCS code has been selected, you can conveniently deactivate or re-activate the tone function.

Press and hold the monitor key to deactivate or re-activate the tone function. The tone function can only be activated if a tone code has been selected.

Power High / Low

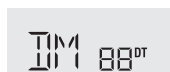


This feature permits selection of the transmit power level to High or Low.

To change the Power Level setting, press the MODE button until the Power Level icon appears. Use the UP or DOWN button to change the setting. Press the PTT or MODE button or wait for 5 seconds to store your choice.

The High or Low icon will appear.

DTMF TONE



The DTMF tone is a kind of combinations of short tones. The DTMF tone can preamble to the message upon every press of the PTT button.

Selecting this allows the other party never to miss your initial message that might arrive before the audio of the other party's is open to receive. This can be activated or de-activated.

Compander



If the compander is activated, your radio will eliminate the background noise and generate clearer sound by cutting off the high and low

frequencies. The users who prefer the unrefined sound are recommended to use the radio with this compander unactivated.

To change the setting, press the MODE button until the Compander icon and current setting display. Use the UP or DOWN button to change the setting. Press the PTT or MODE button or wait for 5 seconds to store your choice.

The Compander icon will appear when Compander is active.

Scrambler



Your radio incorporates a voice scrambler using band inversion method.

The scrambler is compatible with many a scrambler used by other manufacturers, allowing you to enjoy scrambled communications with radios. This can be activated or deactivated.

To change the scrambler icon appears. Use the UP or DOWN button to change the setting. Press the PTT or MODE button or wait for 5 seconds to store your choice.

The scrambler icon will appear.

VOX(Handsfree) Mode



When Hands Free(VOX) MODE is selected the radio will automatically transmit when the microphone detects your voice (or other noise).

It can be used with the internal microphone or a suitable audio accessory (available separately). To avoid accidental operation and reduce the effect of background noise, there are 3 microphone sensitivity settings and off.

To select the VOX sensitivity level, press the MODE button until the VOX icon and current setting. Use the UP or DOWN button to

change the sensitivity level (3 is the most sensitive). Press the PTT or MODE button or wait for 5 seconds to store your choice.

Squelch Level Adjustment



This function allows you to adjust the squelch level of your radio.

To change the squelch level, press the MODE button until the squelch mode displays.

The current squelch setting will flash. Use the UP or DOWN button to change the setting. Press the PTT button or wait for 5 seconds to store your choice.

There are 5 squelch levels. Level 1 is the most sensitive (open) and level 5 is the least sensitive (closed). Auto is the optimum factory setting and 'Off' is fully open, with constant static noise.

Roger Beep



The Roger Beep is a short tone that is automatically added to the end of your transmissions to tell other users that you have finished speaking. You can activate or deactivate the Roger Beep as required.

To change the Roger Beep setting, press the MODE button until the Roger Beep icon and current setting displays. Use the UP or DOWN button to change the setting. Press the PTT or FUNCTION button or wait for 5 seconds to store your choice.

The Roger Beep icon will appear when Roger Beep is active.

Key Tone



If the Key Beep is activated, your radio will emit a confirmation tone whenever you use the keypad. You can activate or deactivate the key Beep as

required. To change the Key Beep setting, press the MODE button until the Key Beep icon appears. Use the UP or DOWN button to change the setting. Press the PTT or FUNCTION button or wait for 5 seconds to store your choice.

The Key Beep icon will appear when Key Beep is active.

Call Tone

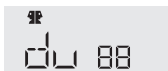


To alert other users to your message and gain their attention you can send a Call Alert melody by pressing the PTT button twice in quick succession. There are five different call alert tones and off.

To change the Call Alert melody, press the MODE button until the Call icon displays.

Use the UP or DOWN button to change the setting. Press the PTT or FUNCTION button or wait for 5 seconds to store your choice.

Dual Watch Mode



Dual Watch mode allows you to monitor two channels; a primary channel and the dual watch channel. When a signal is received on either channel the unit will pause for 5 seconds before resuming the dual watch. To activate the dual watch mode, first select a radio channel as the primary channel.

To select the dual watch channel press the MODE button until the Dual Watch icon and current setting appear. Use the UP or DOWN button to select the desired dual watch channel. Press the PTT or MODE button or wait for 5 seconds to store your choice and activate the dual watch.

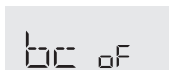
The radio display will alternate between the primary and dual watch channels and the dual watch icon will appear.

To deactivate the dual watch press the SCAN button after

the FUNCTION button press.

If you press the PTT button whilst receiving a signal in Dual Watch Mode the radio will transmit on the currently displayed channel. If you press the PTT button when no signal is present the radio will transmit on the primary channel.

Busy Channel Lock Out (BCLO) Mode



Busy Channel Lock Out prevents you from transmitting when another signal is present. Three modes are available.

a. Carrier only (CA)

This will prevent your radio from transmitting when a signal is present on the same channel, regardless of the privacy code.

b. Correct Tone (CT)

This will prevent your radio from transmitting when a signal is present on the same channel, using the same privacy code as your current setting.

c. Different Tone (DT)

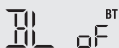
This will prevent your radio from transmitting when a signal is present on the same channel, using a different privacy code setting.

To activate and select the BCLO mode. press the MODE button until the BCLO icon and current setting appear. Use the UP or DOWN button to change the setting. Press the PTT or MODE button or wait for 5 seconds to store your choice. A setting of 'Off' will de-activate this mode.

The radio display will alternate between the current channel and one of the BCLO Mode(CA, CT or DT).

10. Bluetooth Compatible Operation(Optional)

Most of the market available Bluetooth headphones are compatible with your radios. The audio quality does mostly rely on the headphone itself that you select. So, please get a well known qualified headphone to enjoy clear and good audio.



Pairing Mode Pairing with your headphone(not supplied with this radio) is firstly required to use the Bluetooth operation. Press the MODE button until the Bluetooth(BL) icon appears. To activate this function, use the Up or DOWN button. Press the PTT button or wait for 5 seconds to store your choice.



Now pressing the monitor button, turn on your radio. The Bluetooth icon(BT) displays and two digit bars will blink. Put your headphone near your radio and enter the pairing mode. The Ln(Linked) icon is displayed and the pairing has been done. Your radio returns to the standby

mode and ready to use for the Bluetooth. you can use the Bluetooth operation. When you turn off your radio and turn it on again, the Bluetooth icon(BT) flashes. Your radio is going to be linked with your headphone. Wait until the flashing stops before use the headphone. It may take about 20-30 seconds.

11. Troubleshooting

If you experience problems with your TX1000U first check the battery power level as low batteries can cause problems such as poor transmission, weak reception and reduced sound quality.

Then check the manual and radio display to ensure that a function

(such as VOX or Lock) has not been activated by accident.

In case of further difficulty please consult your dealer or visit our websites at www.ttikorea.co.kr.

12. CE Declaration

CE 0648

CE version of the TX1000U which displays the CE symbol on the product label, complies with the essential requirements of the European Radio and Telecommunications Terminal Directive 1999/5/CE.

This radio can be used without license and charges in; Austria, Belgium, Cyprus, Czech, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and U.K.

13. Safety Requirements

For charging the rechargeable batteries, only a CE approved AC adaptor complying with the following specifications must be used :

INPUT : 230VAC 50Hz

OUTPUT : 12VDC 1AH

14. Technical Specifications

1) Operating Frequencies (frequency shown in MHz):

Channel	Frequency	Channel	Frequency
1	446.00625	5	446.05625
2	446.01875	6	446.06875
3	446.03125	7	446.08125
4	446.04375	8	446.09375

2) Channel Spacing: 12.5kHz

3) Power Source: 1 x Li-Ion battery

4) Privacy Codes (CTCSS Tone Codes) Table (in Hz):

No.	Freq.	No.	Freq.	No.	Freq.	No.	Freq.	No.	Freq.
1	67.0	16	114.8	31	192.8	46	229.1	61	110.7
2	71.9	17	118.8	32	203.5	47	254.1	62	120.0
3	74.4	18	123.0	33	210.7	48	165.5	63	131.1
4	77.0	19	127.3	34	218.1	49	171.3	64	141.1
5	79.7	20	131.8	35	225.7	50	177.3	65	150.7
6	82.5	21	136.5	36	233.6	51	60.7	66	160.8
7	85.4	22	141.3	37	241.8	52	62.5	67	171.4
8	88.5	23	146.2	38	250.3	53	64.7	68	181.4
9	91.5	24	151.4	39	69.3	54	40.8	69	190.6
10	94.8	25	156.7	40	159.8	55	51.0	70	201.3
11	97.4	26	162.2	41	183.5	56	61.0	71	211.6
12	100.0	27	167.9	42	189.9	57	71.2	72	221.5
13	103.5	28	173.8	43	196.6	58	80.8	73	230.3
14	107.2	29	179.9	44	199.5	59	91.1		
15	110.9	30	186.2	45	206.5	60	101.3		

5) Digital Privacy Codes Table (DCS Tone Codes):

No.	Code	No.	Freq.	No.	Freq.	No.	Freq.	No.	Freq.
1	023	30	162	59	346	88	606	117	1071
2	025	31	165	60	351	89	612	118	1072
3	026	32	172	61	356	90	624	119	1073
4	031	33	174	62	364	91	627	120	1074
5	032	34	205	63	365	92	631	121	1114
6	036	35	212	64	371	93	632	122	1115
7	043	36	223	65	411	94	654	123	1116
8	047	37	225	66	412	95	662	124	1122
9	051	38	226	67	413	96	664	125	1125
10	053	39	243	68	423	97	703	126	1131
11	054	40	244	69	431	98	712	127	1132
12	065	41	245	70	432	99	723	128	1134
13	071	42	246	71	445	100	731	129	1143
14	072	43	251	72	446	101	732	130	1145
15	073	44	252	73	452	102	734	131	1152
16	074	45	255	74	454	103	743	132	1155
17	114	46	261	75	455	104	754	133	1156
18	115	47	263	76	462	105	1023	134	1162
19	116	48	265	77	464	106	1025	135	1165
20	122	49	266	78	465	107	1026	136	1172
21	125	50	271	79	466	108	1031	137	1174
22	131	51	274	80	503	109	1032	138	1205
23	132	52	306	81	506	110	1036	139	1212
24	134	53	311	82	516	111	1043	140	1223
25	143	54	315	83	523	112	1047	141	1225
26	145	55	325	84	526	113	1051	142	1226
27	152	56	331	85	532	114	1053	143	1243
28	155	57	332	86	546	115	1054	144	1244
29	156	58	343	87	565	116	1065	145	1245

No.	Code	No.	Freq.	No.	Freq.	No.	Freq.	No.	Freq.
146	1246	159	0325	172	1423	185	1506	198	1654
147	1251	160	0331	173	1431	186	1516	199	1662
148	1252	161	1332	174	1432	187	1523	200	1664
149	1265	162	1343	175	1445	188	1526	201	1703
150	1261	163	1345	176	1446	189	1532	202	1712
151	1263	164	1351	177	1452	190	1546	203	1723
152	1265	165	1356	178	1454	191	1565	204	1731
153	1266	166	1364	179	1455	192	1606	205	1732
154	1271	167	1365	180	1462	193	1612	206	1734
155	1274	168	1371	181	1464	194	1624	207	1743
156	1306	169	1411	182	1465	195	1627	208	1754
157	0311	170	1412	183	1466	196	1631		
158	0315	171	1413	184	1503	197	1632		

15. Declaration of Conformity

We, TTI Tech Co., Ltd. (4F, Juwon Bldg, 1188, Gaepo-dong, Gangnam-gu, Seoul, Korea) declare on our sole responsibility that this equipment complies with the essential requirements of the Radio and Telecommunications Terminal Equipment Directive, 1999/5/EC, and that any applicable Essential Test Suite measurements have been performed.

Kind of equipment: PRIVATE MOBILE RADIO 446

Type-designation: **TX1000U**

Version (where applicable):

This compliance is based on conformity with the following harmonised standards, specifications or documents:

EN 300 296-1 V1.1.1 (2001-03)
EN 300 296-2 V1.1.1 (2000-08)
EN 301 489-1 V1.9.2 (2011-09)
EN 301 489-5 V1.3.1 (2002-08)
EN 60950-1 : 2006+A11+A1+A12 : 2011
EN 62311 : 2008 : EN62209-2 : 2010

CE 0648 !

Seoul, Oct. 13, 2012

Place and date of issue

J. S. Lee
Senior Manager



Signature



The WEEE Regulations

Waste electrical products must not be disposed of with household waste. This equipment should be taken to your local recycling center for safe treatment.

Des produits électriques de rebut ne doivent pas être débarassés avec la perte de ménage. Cet équipement devrait être pris à votre centre de réutilisation local pour le traitement sûr.

Die Elektronik-Schrottverordnung verlangt, dass elektronische Geräte, wenn sie nicht mehr gebraucht werden, nicht über den normalen Hausmüll entsorgt werden, sondern bei öffentlichen Sammelstellen abgegeben werden sollen.

Sollten Sie Ihr Gerät einmal nicht mehr benötigen, dann geben Sie es z.B. bei den kommunalen Sammelstellen zum kostenlosen Recycling ab. Sie helfen damit dem Umweltschutz und ermöglichen die Wiederverwendung wertvoller Stoffe aus dem Elektronik-Recycling. Nicht mehr benötigte Batterien oder Akkus entsorgen Sie bitte entleert!

I prodotti elettrici non più utilizzabili non devono essere deposti nei rifiuti domestici. E' importante consegnare tutti i materiali ad un appropriato centro di riciclaggio per un trattamento sicuro.

Los productos eléctricos inútiles no se deben disponer con la basura de la casa. Este equipo se debe llevar su centro de reciclaje local para el tratamiento seguro

Os produtos eléctricos irrecuperáveis não devem ser colocados juntamente com o lixo doméstico. Estes, deverão ser colocados em locais destinados a reciclagem para tratamento seguro e apropriado