

INHOUD

BEKENDSTELLING

Dankie dat u een van ons produkte gekies het. Behalwe vir die kenmerkende kompakte ontwerp, alluminium gegote onderstel en hoë weerstand teen allerlei krap- en skuurmerke, is die **RTS Vratvark DV-4400** 'n robuus industriële, tweevoudige draagbare radio (Privaat Mobiele Gelisensieërd en Lisensievrye band), besonder geskik vir raserige omgewing en kan maksimum krag waarborg. Die eenheid is 'n vooraf geprogrammeerde op die Lisensievrye bande. Om die Privaat Mobiel Gelisensieerde band te verkry, skakel bloot met u handelaar om u radio tot op 4W te programmeer. Ons wys u egter daarop dat die Privaat Mobiel Gelisensieerde band onderworpe is aan individuele lisensie verkrygbaar by ICASA. U kan gerus u naaste radiohandelaar kontak vir hulp in die verband.

RTS Vratvark DV-4400 kan in rowwe werksomstandighede gebruik word, en voldoen die **RTS Vratvark DV-4400** aan die MIL 810 C,D,E,F standaard, met klas IP54. Hierdie ontwerp bied ook ware innoverende kenmerke soos byvoorbeeld die 101 kanale. Hierdie kanale kan aangewend word om verskeie kombinasies van radio/toon frekwensies te stoor. Die **RTS Vratvark DV-4400** opereer in ope of geslote verkeer. Van die 101 kanale is 77 fabrieks vooraf-geprogrammeerd.

- 8 PMR 446 – Lisensievrye kanale verwys na oop verkeer.
- 69 LPD – Privaat Mobiel Gelisensieërde kanale verwys na oop verkeer.

2. VEILIGHEIDSINLIGTING

WAARSKUWING

Lees asseblief alle instruksies van toepassing op hierdie handleiding en die plakkers sorgvuldig deur.

Die vervaardiger het alle moontlike stappe geneem om te verseker dat alle informasie soos vervat in hierdie handleiding volledig, akkuraat en teenswoordig is.

Derhalwe sal RTS Trust nie verantwoordelik gehou kan word vir skade waarvoor hy nie direk verantwoordelik is nie. Modifikasies uitgevoer deur ongemagtigde persone mag die geldigheid affekteer van inligting vervat in hierdie handleiding.

Hierdie radio is 'n goedgekeurde produk deur ICASA. Alvorens u hierdie produk gebruik, verwys altyd eers na die ingeslote handleiding.

Maak altyd gebruik van die verkose radio in ooreenstemming met die regulasies daar gestel, en weerhou u daarvan om dit te gebruik as die gebruik daarvan verbied word, of as die gebruik daarvan belemmering kan veroorsaak of ernstige gevaar kan inhou.

Aandag

Die **RTS Vratvark DV-4400** draagbare radio is spesifiek ontwerp om veiligheid en

betroubaarheid te waarborg

Vir optimale en veilige werksverrigting, volg altyd die basiese voorsorg soos vir alle elektroniese toerusting voorgeskryf:

Moet nooit u draagbare radio aan die antenna optel nie. U kan u antenna beskadig, en die gebruik van 'n beskadigde antenna op u radio kan u radio ernstige krag uitsendingsskade veroorsaak. Moet nie die antenna van u radio te naby u lyf hou tydens uitsending nie. Gebruikers met pasaangeërs, gehoorinplantings of mediese middele behoort altyd hulle geneeshere of die vervaardigers van die middele te raadpleeg om te verseker dat hulle genoegsaam beskerm is teen enige RF energie. Moet nie die radio naby plofstowwe gebruik nie.

Hoewel die radio ontwerp is om in gure omstandighede te werk, is dit altyd raadsaam om die radio nie bloot te stel aan baie hoë of lae temperature nie (temperature onder -20°C of bo $+55^{\circ}\text{C}$). Moet nie u radio blootstel aan oormatige vibrasie, stof of reën nie. Moet nie poog om die radio of battery uitmekaar te haal of te herstel (behalwe vir roetine onderhoud soos voorgeskryf in die handleiding).

Gebruik slegs oorspronklike toebehore om radio beskadiging te vermy. Moenie u radio langs waterbronne gebruik nie, of vloeistowwe op u radio mors nie. Sou u radio nat word, droog dit onmiddellik af met 'n sagte droë lap.

Skakel altyd eers u radio af alvorens u die battery verwyder.

Maak seker dat die kragtoevoer ooreenstem met spesifikasies van die battery-laaier.

Moet geen voorwerpe bo-op die battery-laaier en/of kables plaas nie, om beskadiging te voorkom.

2.3 Tegniese hulp

Skryf die serie nommer van u radio in hierdie spasie. Die nommer is op die naamplaatjie binne die battery kompartement van die radio en moet verskaf word vir tegniese hulp en/of in geval van diefstal van u radio.

VRATVARK DV-4400 transceiver - Serial Number _____

UITPAK EN NAGAAN VAN TOERUSTING

Maak seker die inhoud van u aankope bevat die volgende:

Parte	Eenheid	Hoeveelheid
Antenna	Een	1
Beltnip	Een	1
Li-on batterypak	Pak	1
Batterylaaier	Een	1
Kragbron	Een	1
Voertuig batterylaaier	Een	1
Gebruikershandleiding	Een	1

VLAKVARK REEKS DV-440 - GEBRUIKERSHANDLEIDING

I. KENMERKE

- 1、 Frekwensieband vanaf 400 – 470 mHz
- 2、 101 kanale
- 3、 Vloeibare Kristal Vertoonvenstertjie (LCD) vir maklik lees van inligting.
- 4、 Verstelbare Hoë/Lae krag
- 5、 Hoë kapasiteit battery (1200mAh)
- 6、 40 Kanaalbeskermingstone / 166 Digitale geraasvrye kodes / Beskerming teen hinderlike geraasvlakke
- 7、 Sagteware en kabel opsioneel beskikbaar by RTS ..
- 8、 Outomatiese krag besparing
- 9、 Handvrye spraak funksie (VOX)
- 10、 Sleutel-sluit funksie
- 11、 Geraasvrye funksie
- 12、 Aan/af stem-sleutel funksie
- 13、 Lae batterykrag alarm

II. SPESIFIKASIES : ALGEMEEN

Frekwensieband:	400.000MHz---470.000MHz
Geheuekanale:	101
Kanaal spasieëring	12.5kHz
Operasionele temperatuur	-20°C --- +60°C
Volts	7.2V
Bystandsstroom:	ongeveer 25mA
Grootte:	112(L) × 52(B) × 30.5(H)
Gewig:	ongeveer 220g

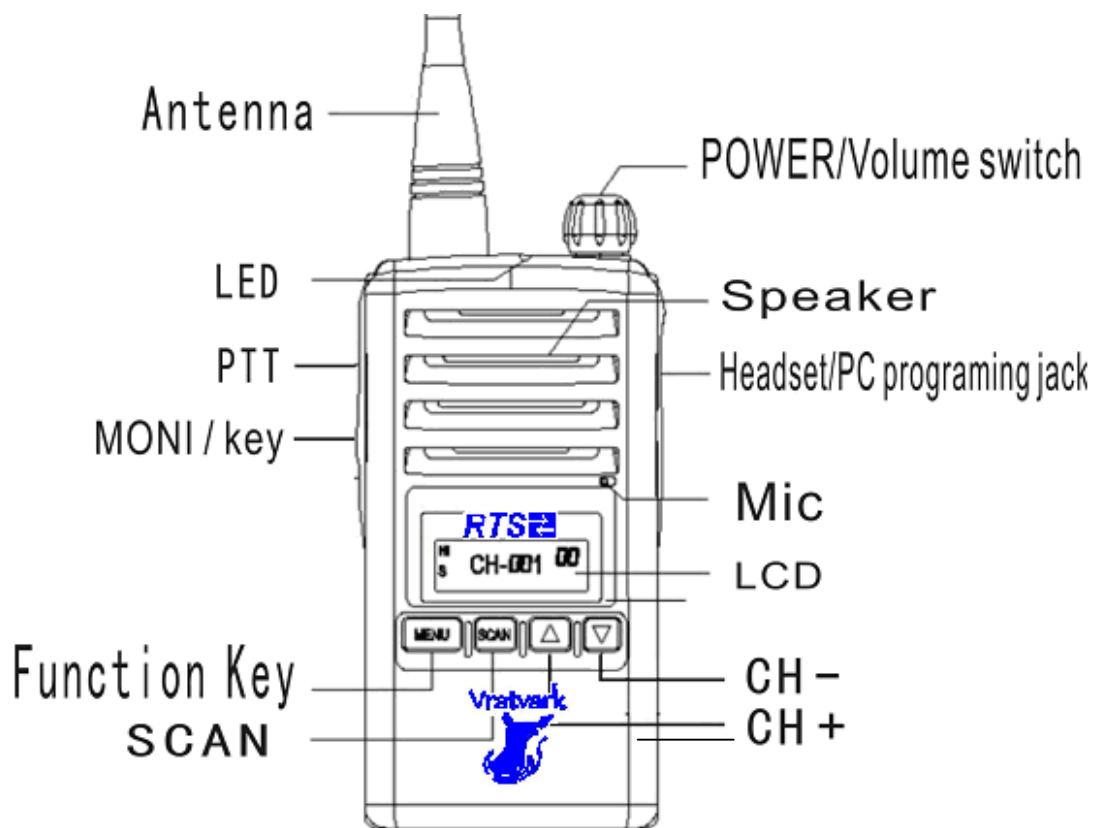
UITSETTING

RF Kraguitset	teen 7.2V	HOOG=4W±0.5dB	LAAG ongeveer 0.500W±1dB
Uitsetstroom:		HOOG ongeveer 1.6A	LAAG ongeveer 300mA
Modulasie		frekwensies modulasie (FM) F3E	
Maksimum deviasie		±2.5kHz	
FM Geraasvlakke:		<-60dB	

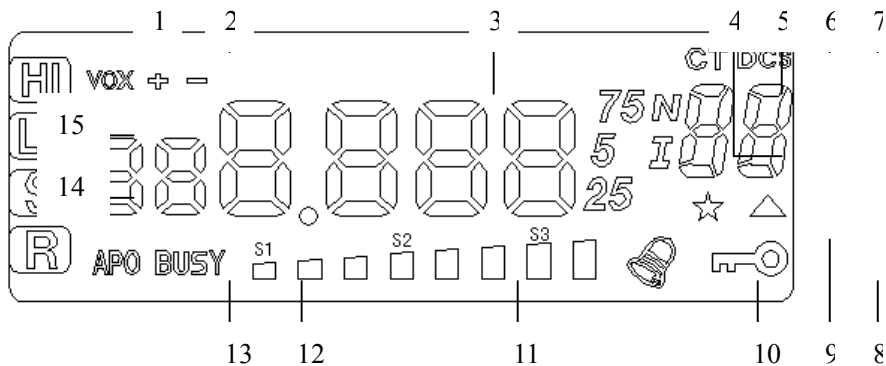
ONTVANGS

Ontvanger sensitiviteit		<120 dBm (12dB SINAD)
Onderdrukking sensitiviteit		<0.16uV
Intermodulasie teen storing	:	60dB
Klank op uitset krag		≥500mW

III. DIE EENHEID



VLOEIBARE KRISTALVENSTER



Kyk na die indikasieliggie op die vertoonvenstertjie wat u baie sal help om uit te vind wat die betekenis van die volgende is:

- 1、 Hoë krag aanduiding。
- 2、 Handvrye radio gebruik。
- 3、 Vertoon die frekwensie of kanaalnommer。
- 4、 Omgekeerde beskerming teen hinderlike geraasvlakke。
- 5、 Herstelde beskerming teen hinderlike geraasvlakke。
- 6、 Kanaalbeskermingstone。
- 7、 Beskerming teen hinderlike geraasvlakke。
- 8、 Sleutel-sluit funksie。
- 9、 Stel van radio funksie。
- 10、 Beep aan。
- 11、 Battery alarm。
- 12、 Radio besig aanwyser。
- 13、 Uitsaai sein。
- 14、 Batterykrag besparing。
- 15、 Lae krag uitset sein。
16. Kanaal in skandeerlys

IV. BASIESE GEBRUIKSPROSEDURES

1. KRAG AAN/AF

Skakel die krag AAN. Draai die KRAG/VOLUME [PWR/VOL] knoppie kloksgewys om die krag aan te skakel. 'n Beep-geluid is 'n aanduiding dat die radio aangeskakel is. U kan nou begin gesels.

Om die radio AF te skakel, draai die KRAG/VOLUME [PWR/VOL] knoppie anti-kloksgewys. 'n "Klik" geluid is 'n aanduiding dat die radio afgeskakel is.

2. VOLUME KONTROLE

Draai die KRAG/VOLUME [PWR/VOL] knoppie kloksgewys om die klank harder te sit, en

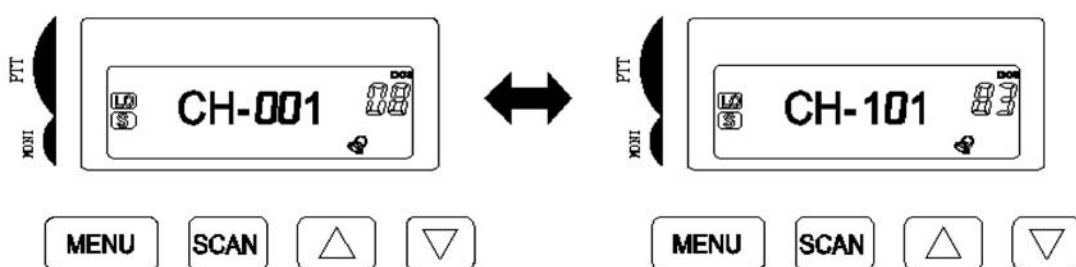
anti-kloksgewys om die klank sagter te stel.

3. UITSAAI

Om te praat, druk die PTT knoppie aan die kant van die radio, hou die handstel ongeveer 5cm van u mond, en praat normaalweg.

4. OM 'N KANAAL TE KIES

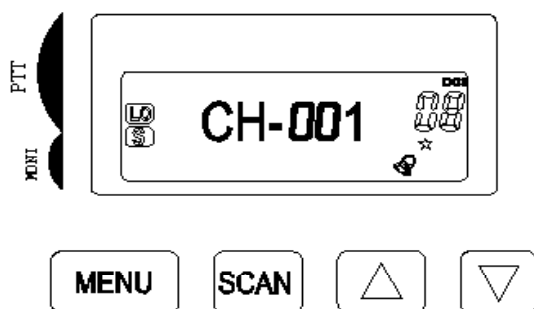
① Vanaf 'n bystandsmode, druk die ▲Op - of die ▼Af knoppie om in die kanaal-kies mode te kom, met 101 kanale om van te kies.



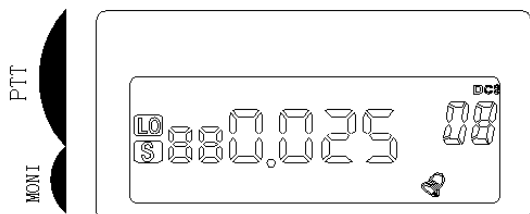
② Die kanaal-kies mode moet binne 5 sekondes geaktiveer word, anders sal dit outomaties uit die kanaal-kies mode gaan

5. OM DIE WERKENDE FREKWENSIE TE SIEN

① Vanaf 'n bystandsmode, druk die [Menu] sleutel om in die stel-mode te gaan, die “★” sal wys



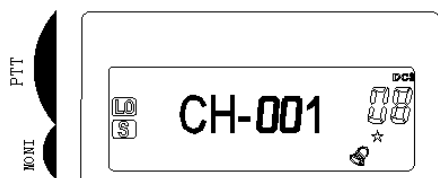
② Druk die [MENU] knoppie binne 1 sekonde, die Vloeibare Kristal Vertoonvenstertjie (LCD) sal die ontvang- en uitsaai frekwensies wys, en die “★” sal verdwyn.



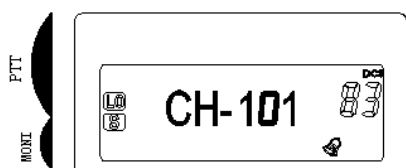
Herhaal bogemelde ① en ② om uit die wys-frekwensies mode te gaan.

6. SKANDEER

① Vanaf 'n bystands-mode, druk [MENU], gaan na instellings-mode en die “★” sal wys



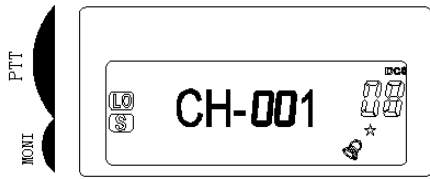
② Druk die 【SCAN】 sleutel binne 5 sekondes, die Ontvanger sal in skandeer-mode kom, en elke bepaalde frekwensie skandeer. (alle kanale is op die fabrieksingestelde skandeer-lys)



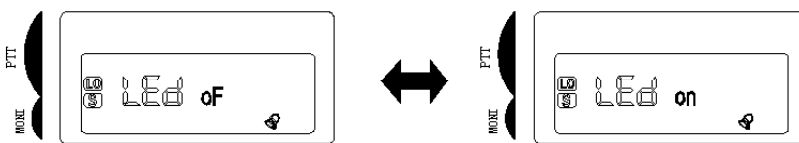
③ Herhaal bogemelde ①、② om uit hierdie stelling-mode te gaan.

7. LED AGTERGROND LIG - AAN/AF

Vanaf die bystands-mode, druk net [MENU] gaan in die stelling mode en die “★” sal wys.



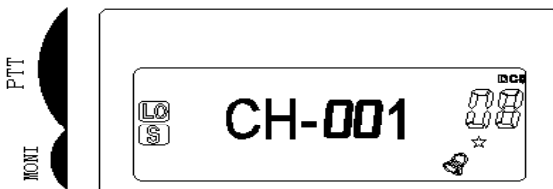
Druk die OP ▲ knoppie binne 5 sekondes om die agtergrond lig te stel en die “★” sal verdwyn. Die LCD sal wys “LED ON/OFF”, gebruik die ▲OP of ▼AF knoppie om die agtergrond lig AAN/AF te skakel.



Druk die [MENU] knoppie om te bevestig en gaan uit die stelling uit.

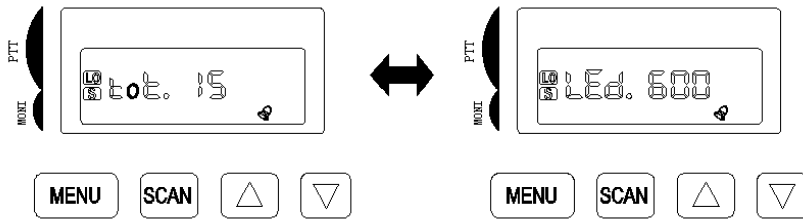
8. TYD-UIT TELLER (werk slegs in uitsaai-mode)

Vanaf bystand-mode, druk [MENU], gaan na die instel-mode en die “★” sal wys



Druk die AF ▼ sleutel binne 5 sekondes, die radio sal in die TYD-UIT stelling-mode gaan, en die “★” sal verdwyn

Die LCD sal “tot 15/30/45/60 ••• 585/600 wys, gebruik die ▲OP - of ▼ AF sleutel om die gestelde waardes te verander



Druk die [MENU] sleutel om uit hierdie funksie te gaan.

9. “HANDE VRY” FUNKSIE

“Hande vry” funksie – standaard fabrieksinstelling.

Druk die Luidspreker/mikrofoon in die mikrofoon/luidspreker holte, en “VOX” sal op die LCD skerm verskyn.

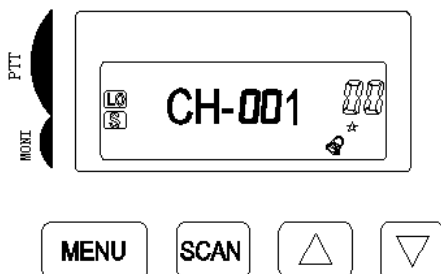
Deur in die mikrofoon te praat, sal die “hande vry” en uitsend-funksie geaktiveer word, sodra die klank hard genoeg is.

Sodra u ophou praat sal die radio na 2 sekondes outomaties ophou sein stuur, en weer begin sein ontvang.

Indien u hierdie “hande vry” funksie wil kanselleer, haal die luidspreker/mikrofoon uit die holte uit, of laat u radio herprogrammeer by ‘n radiohandelaar.

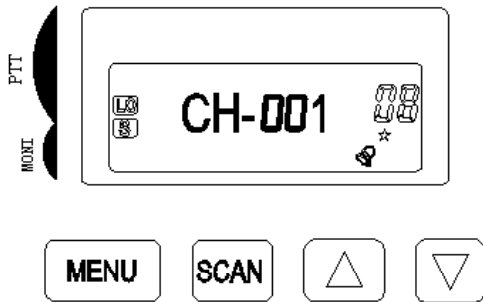
10. MONITERINGSFUNKSIE

Vanaf bystands-mode, druk [MONI] sleutel, die radio sal die frekwensie seine monitor wat ingestel is.



11. TOE/OOP SLUIT VAN SLEUTELBORD

Vanaf bystands-mode, druk die 【MENU】 sleutel vir 2 sekondes om die sleutels op die sleutelbord te sluit, en ‘n sleuteltjie sal op die LCD verskyn. Om die sleutelbord te ontsluit, druk weer die 【MENU】 sleutel vir 2 sekondes, en die sleuteltjie op die LCD sal verdwyn. Slegs die 【MENU】 , 【 PTT】 en 【MONI】 sleutels is funksioneel in die sleutel-sluit mode.



V. ADDISIONELE FUNKSIES

1. AANWYSER LIGTE

Die rooi lig kom aan wanneer die radio uitsaai, en word geel sodra die radio 'n sein ontvang. Die oranje lig gaan aan gedurende clonings. Die rooi lig kom aan wanneer 'n frekwensie deur 'n rekenaar gelees word, en verander na geel terwyl 'n frekwensie deur 'n rekenaar geskryf word.

2. AGTERGROND LIG

Sodra enige sleutel op die voorkant van die radio gedruk word, gaan die agtergrond lig vir 5 sekondes aan.

3. "TOT" - TYD-UIT FUNKSIE

Hierdie funksie verhoed dat die radio oormatig verhit. Indien die radio bly uitsaai, langer as die geprogrammeerde tyd - (10 minute is die langste programmeerbare tyd) - sal die Tyd-uit funksie inskop. Dit sal die radio verhoed om verder uit te saai en sal 'n alarm laat afgaan. Op die LCD sal daar "tot" verskyn. Los die PTT knoppie aan die kant van die radio om die alarm te stop. (Hou op praat!)

4. DIE INSEL VAN ONTVANGS OF UITSAAI, KANAALBESKERMING TEEN HINDERLIKE GERAASVLAKKE

- Hou [SCAN] sleutel vir 2 sekondes in om die kanaal ontvangs- en uitsaai kanaalbeskerming (CTCSS) en Beskerming teen hinderlike geraasvlakke (DCS) te stel. Op die LCD sal "currently received CTCSS/DCS" wys.
- Gebruik ▲OP - of ▼AF sleutel om CTCSS (groep van 40) en DCS (groep van +83, -83) te kies. Druk die [SCAN] sleutel om na CTCSS en DCS oor te skakel.
- Druk weer [MENU] sleutel om die geselekteerde CTCSS/DCS te bevestig. Die LCD sal nou die huidige uitsaai CTCSS/DCS wys
- Druk die [MENU] sleutel om jou keuse te bevestig.

5. KRAGVERSTELLING OP SLEUTELBORD

Druk die OP ▲ en ▼AF sleutel saam en skakel radio aan. Die radio sal op hoë krag funksioneer. Sodra die radio weer af/aan geskakel word, is radio terug op gewone lae krag instelling.

6. Byvoeging / Verwydering van skandeer kanale

① Wanneer radio in bystand posisie is, druk die [MENU] knoppie, die volgende sal op die skerm vertoon "★".

② Druk binne 5 sekondes die 【MONI】 knoppie, "▲" sal op die skerm vertoon om te

bevestig dat die kanaal suksesvol in die skandeerlys is. (Kanale 1-8 is deur die Fabriek reeds in die skandeerlys geprogrammeer.)

IV. PROGRAMMERINGSFUNKSIES

1. KANAAL FREKWENSIES

Deur die sagteware van die VRATVARK te gebruik, kan u radiohandelaar die radio programmeer op die ontvangs- en uitset frekwensies soos benodig.

2. ONTVANGS OF UITSAAI – KANAALBESKERMING (CTCSS) EN DIE BESKERMING TEEN HINDERLIKE GERAASVLAKKE (DCS)

Die handelaar kan van die VLAKVARK sagteware gebruik maak om bogemelde DCS en CTCSS te programmeer.

4. BATTERYKRAG SPAAR FUNKSIE

As u klaar gepraat het, gaan die radio binne 10 sekondes outomaties na die spaar battery funksie oor, om batterykrag te bespaar. 'n "S" sal op die LCD verskyn. Hierdie funksie is 'n fabrieksinstelling.

5. BEEP KLANK

Beep klank is as fabrieksinstelling AAN. Die klok simbool op die radio dui aan dat die BEEP geluid aan is.

6. KRAGSTELLING – HOOG/LAAG

Vir elke kanaal kan krag uitset gekies word. Wanneer u hoë krag kies, sal die LCD "HI" wys, en 'n "LO" vir lae krag. (Fabrieksinstelling is op LO)

7. SKANDERING EN PARAMETER

i. OMSKRYWING VAN SKANDERING

In skandeer-mode sal die radio elke kanaal wil skandeer wanneer daar 'n sein opgemerk word. Die skandeerder sal die geprogrammeerde tyd wag voor dit sal aangaan om verder te skandeer. Die handelaar kan die wagtyd stel. – Die fabrieksinstelling is 3 sekondes. So die skandeerder hou die kanaal vir die 3 sekondes vas om te hoor of die inkomende sein stem bevat, en gaan dan aan om te skandeer tot 'n volgende sein ontvang word.

ii. OM SKANDEER TE AKTIVEER

Druk die [MENU] sleutel, dan [SCAN] om te begin skandeer.

a) Vanaf huidige frekwensie, skandeer die frekwensies een vir een toenemend.

Die geel liggie sal flikker. Wanneer die kanaal die sein ontvang en die opdrag ooreenstem, sal die geel lig bly wys. Gaan nou uit die skandeer-mode, druk die [MENU] sleutel, daarna [SCAN]

iii. PRIORTEITS SKANDERING

Deur van die VLAKVARK sagteware te gebruik, kan jou handelaar 2 tipes prioriteit skanderings programmeer:

iv. KANAAL TERUG

U radiohandelaar kan die VRATVARK sagteware gebruik om die programmering te doen.

8. MONITERING EN KLANK ONDERDRUKKING:

Deur die sagteware van die VRATVARK te gebruik, kan u radiohandelaar die radio programmeer op die monitering en klankonderdrukking (off squelch)

Aangehegde CTCSS en DCS lys – Slegs Radiohandelaar met programmering - CTCSS 40 :

67.0	88.5	110.9	141.3	179.9	233.6
71.9	91.5	114.8	146.2	186.2	241.8
74.4	94.8	118.8	151.4	192.8	250.3
77.0	97.4	123.0	156.7	203.5	69.3
79.7	100.0	127.3	162.2	210.7	245.1
82.5	103.5	131.8	167.9	218.1	
85.4	107.2	136.5	173.8	225.7	

DCS +83 -83

023	051	114	143	174	251	315	371	445	532	631	723
025	054	115	152	205	261	331	411	464	546	632	731
026	065	116	155	223	263	343	412	465	565	654	732
031	071	125	156	226	265	346	413	466	606	662	734
032	072	131	162	243	271	351	423	503	612	664	743
043	073	132	165	244	306	364	431	506	624	703	754
047	074	134	172	245	311	365	432	516	627	712	

9. FREKWENSIE KAART

PMR446 KANALE

Kanaal	Frekwensie RX/TX (MHz)	Kanaal	Frekwensie RX/TX (MHz)	Kanaal	Frekwensie RX/TX (MHz)	Kanaal	Frekwensie RX/TX (MHz)
001	446.00625	002	446.01875	003	446.03125	004	446.04375
005	446.05625	006	446.06875	007	446.08125	008	446.09375

LPD KANALE

Kanaal	Frekwensie RX/TX (MHz)	Kanaal	Frekwensie RX/TX (MHz)	Kanaal	Frekwensie RX/TX (MHz)	Kanaal	Frekwensie RX/TX (MHz)
009	433.0750	010	433.1000	011	433.1250	012	433.1500
013	433.1750	014	433.2000	015	433.2250	016	433.2500

017	433.2750	018	433.3000	019	433.3250	020	433.3500
021	433.3750	022	433.4000	023	433.4250	024	433.4500
025	433.4750	026	433.5000	027	433.5250	028	433.5500
029	433.5750	030	433.6000	031	433.6250	032	433.6500
25	433.6750	26	433.7000				
36	433.9500						
37	433.9750						
38	434.0000						
39	434.0250						
40	434.0500						
41	434.0750						
42	434.1000						
43	434.1250						
44	434.1500						
45	434.1750						
46	434.2000						
47	434.2250						
48	434.2500						
49	434.2750						
50	434.3000						
51	434.3250						
52	434.3500						
53	434.3750						
54	434.4000						
55	434.4250						
56	434.4500						
57	434.4750						
58	434.5000						
59	434.5250						
60	434.5500						
61	434.5750						
27	433.7250	62	434.6000				
28	433.7500	63	434.6250				
29	433.7750	64	434.6500				
30	433.8000	65	434.6750				
31	433.8250	66	434.7000				
32	433.8500	67	434.7250				
33	433.8750	68	434.7500				
34	433.9000	69	434.7750				
35	433.9250						

11. HERLAAI VAN BATTERY PAK

Sonder om die battery van u radio te verwyder, kan die snel-battery laaier die battery vinnig herlaai. Aan die einde van die herlaai proses is dit moontlik om die radio/battery in die laaier te los, aangesien die laaier spesiale beskerming het teen

oorlading. Batterypakke het die neiging om hul laaikrag te verloor wanneer hulle nie in gebruik is nie (outomatiese ontslag) Hierdie toestand is egter normaal. Alle tipes batterye neig om in die omgewing van 10% –20% van hul krag te verloor na 'n paar dae.

Nuwe battery pakke moet ten volle gelaai word alvorens dit gebruik kan word.

Gebruik altyd die batterylaaier met die voorgeskrewe batterypakke. Moet nooit poog om die batterylaaier te gebruik om ander tipes batterye te laai nie – meer spesifiek alkaline batterye, aangesien dit ontploffings en en beserings tot gevolg kan hê.

Hou altyd die batterylaaier kompartemente skoon.

12. VERSORGING EN INSTANDHOUDING

12.1 SKOONMAAK VAN RADIO

Maak die radio met 'n sagte lap skoon. As die radio baie vuil is, maak die radio met 'n klam lap skoon.

- Moet geen reinigingsmiddels, alkohol of skuurmiddels op radios gebruik nie.
- Moet nie die beskermde plastiek bedekkings/kant kontakte of battery verwyder wanneer u die radio skoonmaak nie. Moet nie kontakpunte laat nat word nie.

•

12.2 BATTERY HERLAAI KONTAKPUNTE

As dit nie moontlik is om die battery herlaai kontakpunte deeglik skoon te maak so hierbo beskryf nie, kan u die batterykontakpunt baie saggies met 'n skoon uitveër vee.

12.3 VERBINDINGSTUKKE (CONNECTORS)

As nie in gebruik nie, moet die verbindingstukke (connectors) beskerm word met die toepaslike bedekking (side covers)

- Moet nie die verbindingstukke aan enigiets verbind wat nie voorgeskryf is daarvoor, of wat RTS nie aanbeveel het nie, aangesien dit u radio kan beskadig.
- Indien die radio per ongeluk in water val, haal die radio onmiddellik uit, verwyder die battery van die radio, en droog die radio so goed moontlik. Moennie battery terug sit alvorens u uself vergewis het dat die radio heeltemal kurkdroog is nie.

12.4 BATTERY LAAIER

Gebruik altyd die radio soos voorgeskryf. Hou alle kontakpunte skoon.

- Alvorens u die batterylaaier skoon maak, ontkoppel die laaier eers van die kragtoevoer.

12.5 PROBLEEM VRAE

Die **VRATVARK DV-440** is spesifiek ontwerp om probleemvrye jare te waarborg. Sou daar egter enige probleme opduik, lees asseblief die inhoud van hierdie afdeling noukeurig alvorens u die handelaar kontak.

12.5a FOUTOPLOSSINGS

PROBLEEM - MOONTLIKE OORSAAK - OPLOSSING

Radio skakel nie aan nie – *Die battery is moontlik afgeloop en/of is nie korrek geïnstalleer.* - Maak seker dat die battery ten volle gelaai is en korrek opgesit is.

Radio skakel af kort nadat dit aangeskakel is – *Battery het afgeloop.* - Herlaai die battery

Batterypak wil nie laai nie - *Batterylaaier is nie by die kragprop ingeskakel, of battery is nie korrek in laaier geplaas.* – Maak seker die batterylaaier is in die kragprop en die krag is aangeskakel, en dat die battery korrek in die laaier geplaas is.

Die radio skakel aan, maar ontvang geen sein nie – *Die area is te erg afgeskerm, jy kan nie seine uit kry nie* – Beweeg na 'n ander area.

Die volume is te laag – Verstel die volume

Die CTCSS of DCS korrespondeer nie – Maak seker dat beide radios op dieselfde CTCSS of DCS is, sodat hulle mekaar kan “hoor”

Radio raas altyd gedurende ontvangs – *Die moniteringsfunksie is geaktiveer* - De-aktiveer die moniteringsfunksie.

Dit is nie moontlik om met ander partye te kommunikeer nie - *'n Verkeerde kanaal is gekies* - Kies dieselfde kanaal as die party waarmee jy wil kommunikeer.

Die radio word gebruik in 'n area wat baie afgeskerm is of wat die reikafstand oorskry - Verskuif na 'n ander area. *Die CTCSS of DCS korrespondeer nie* – Maak seker dat beide radios op dieselfde CTCSS of DCS is, sodat hulle mekaar kan “hoor.”

Gefragmenteerde en/of verstoorte opvangs - *Sein is baie swak* – Probeer tydelik om die “squelch” (klankonderdrukker) te ontkoppel deur middel van die moniteringsfunksie.

Die eenheid is buite reikafstand of daar kan moontlik obstruksie in die uitsendingspad wees - Beweeg na 'n ander area of nader aan die ontvanger/uitsender party.

Ander partye gebruik dieselfde kanaal - Kyk na die verkeer op die radio kanaal deur middel van die Moniteringsfunksie, en gebruik 'n ander kanaal, indien nodig.

Die radio word te na aan ander toerusting wat steurnis veroorsaak soos bv. Televisie, rekenaar ens. gebruik - Verskuif na 'n ander area, verder weg van hierdie tipe toerusting af.

13 BYKOMSTIGHEDE

DV-4050 Magneet UHF wye band antenna

DV-4060 Oorfoon mikrofoon

CONTENTS

Unpack and check equipment	2
Function operation	3
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1 Introduction

Thank you for choosing one of our products. Besides being characterised by a compact design, a housing in aluminium die-cast and a high resistance to all types of aggressions, RTS Vratvark DV-4400 rugged is an industrial and portable dual band device (PMR and PMR446) device particularly suited for very noisy environments and able to guarantee maximum robustness. The unit is pre-set at factory in the PMR446 and LPD band. To enable the PMR band, simply ask your dealer to programme (with a power up to 4W) your device. We remind you that the PMR band is subject to individual licence required to the ICASA. RTS Vratvark DV-4400 can be used in the hardest working conditions because it is compliant with the severe requirements of standards **MIL 810 C, d, E, F, and has an IP54 class**. The device offers also truly innovative features like **e-VOX** that be used also without external microphones, **unlike traditional hands free systems**.

- **101 channels** - These channels can be used to store several combinations of radio/tone frequencies. RTS Vratvark DV-4400 can operate in open or restricted traffic. It is supplied with 101 channels; 77 are pre-set at factory:
 - 8 PMR 446 channels referred to open traffic
 - 69 LPD channels referred to open traffic

2 Safety information

Warnings

Carefully read all the instructions contained in the manual and on the labels applied to the device. The manufacturer has taken all possible measures to ensure that all the information contained in this manual is complete, accurate and current. However, RTS Truat shall not be responsible for damages for which it is not directly responsible. Modifications performed by unauthorized personnel may affect the validity of the information contained in this manual.

- This transceiver is compliant with Directive 99/05/EC. Before using the device, always refer to the restrictions on the use enclosed to this manual.
- Always use the professional transceiver selected in compliance with the regulations in force in the country of residence and refrain from using it when its use is forbidden or if it is likely to cause interference or serious hazards.

Attention

The portable Vratvark DV-4400 extra transceiver has been specifically designed to guarantee a long-term safe and reliable operation. For optimum and safe performance, always observe the basic precautions applicable to all electric equipment: **do not handle the transceiver by its**

aerial. The use of a faulty aerial could seriously damage the transmission power stages.

Do not keep the aerial of the radio too close to your body during transmission.

Users with cardiac stimulators, acoustic implants or medical devices should always consult their doctor or the manufacturer of these devices to make sure that they are adequately protected against RF energy.

Do not use the radio close to unshielded primers in explosive atmospheres. The radio is designed to be used in extreme conditions. However, it is always advisable to avoid exposing it to very high or low temperatures (temperatures below -20°C or above $+55^{\circ}\text{C}$). Do not expose the transceiver to excessive vibrations, dust or rain.

do not attempt to disassemble or repair the radio or battery (except for performing the routine maintenance operations described in this manual). **$-20^{\circ}\text{C}/+55^{\circ}\text{C}$**

4

Use original accessories only in order not to damage the radio. do not use the radio next to water sources and not spill liquids on the radio. If the transceiver gets wet, dry it immediately with a soft and clean cloth.

Always remove the battery and switch the radio off before cleaning it. Verify that the supply source is compatible with the battery-charger supplied (AC adapter). Do not place any objects on the power cable of the battery-charger in order not to damage it.

2.3 Technical support

Write the serial number of your transceiver in this space. This number is printed on the nameplate inside the battery compartment of the transceiver and must be provided for technical support and/or in the event of loss and/or theft of the unit.

Vratvark DV-4400 transceiver - Serial Number _____

Unpack and check equipment

Please take the transceiver from the carton carefully. Please check if the package including the spare parts as below:

Spare parts	Unit	Quantity
Antenna	PC	1
Belt clip	PC	1
Li-ion battery pack	Pack	1
Charger	PC	1
Power transformer	PC	1
Usual manual	PC	1
Car charger	PC	1

VRATVARK MODEL DV-4400 USER MANUAL

I. Main feature

- 1、 Frequency range: 400~470MHz
- 2、 101 channels
- 3、 With LCD displays easy to read the information.
- 4、 High./Low power selectable
- 5、 High capability battery (1200mAH)
- 6、 Continuous Tone Squelch System (CTCSS 40) or Digital Code Squelch (DCS 166) for avoid other call from other transmitter-receiver.
- 7、 PC software programming and copy function for easy operation..
- 8、 Auto-power saving
- 9、 VOX function
- 10、 Key-pad locked
- 11、 SQL function
- 12、 Key press voice on/off function
- 13、 Low battery alert

II. Specification

GENERAL

Frequency range:	400.000MHz---470.000MHz
Memory channels:	101
Channel spacing:	12.5kHz
Operating temperatures range:	-20□ --- +60□
Voltage	7.2V
Standby currency:	about 25mA
Size:	112(H) × 52(W) × 30.5(D)
Weight:	about 220g

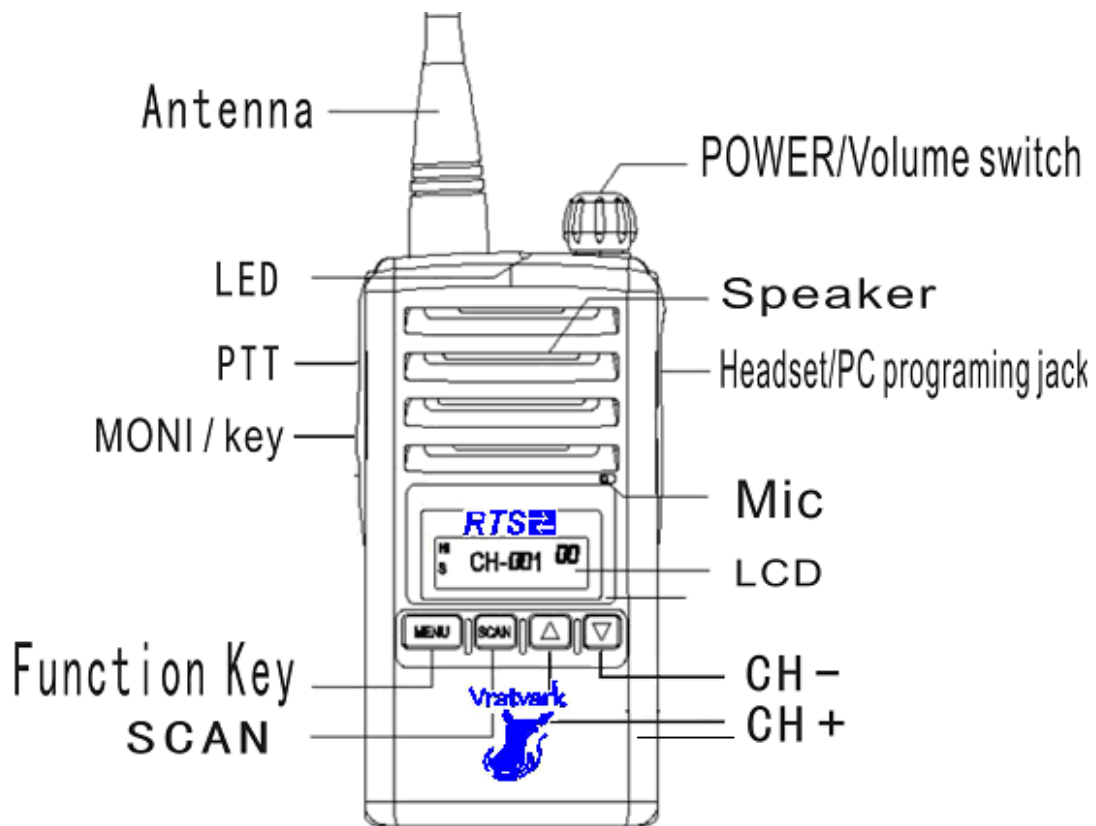
TRANSMITTING

RF Power output: at 7.2V	HI=4W±0.5dB	LO about 0.500W±1dB
Transmit current:	HI about 1.6A	LO about 300mA
Modem pattern:	frequency modulation (FM)	
Maximum frequency deviation:	±2.5kHz	
Residual radiation:	<-60dB	

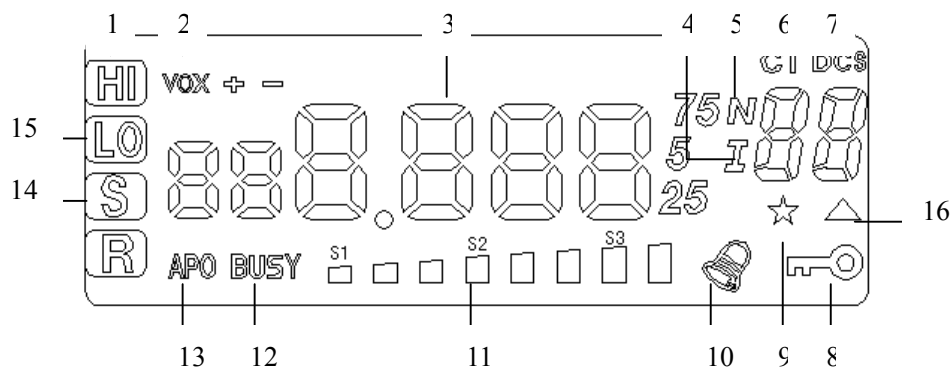
RECEIVING

Receiving sensitivity:	<120 dBm (12dB SINAD)
Squelch sensitivity:	<0.16uV
Intermodulation anti-interference:	60dB
Audio power:	≥500mW

III. The Transceiver



LCD display



Please check the indicator light on the display, which would be useful for you to find what it means.

- 1、High power indicate。
- 2、VOX on indicate

- 3、 display the frequency or channel number。
- 4、 DCS inverse。
- 5、 DCS normal。
- 6、 CTCSS。
- 7、 DCS。
- 8、 Key-pad locked。
- 9、 Setting mode
- 10、 BEEP ON
- 11、 Battery alert
- 12、 Busy signal
- 13、 Transmit signal
- 14、 Battery saving。
- 15、 Low power transmit signal。
16. Channel scan indicator

IV. Basic operation

1. Power ON/OFF

Turn on the power: Turn the [PWR/VOL] switch by clockwise to turn on the power. After hearing a “beep” sound indicator means the power was turned on, now you can start to communicate.

Turn off the power: Turn the [PWR/VOL] switch anti-clockwise to turn off the power. After hear “click” means the power was off.

2. Volume control:

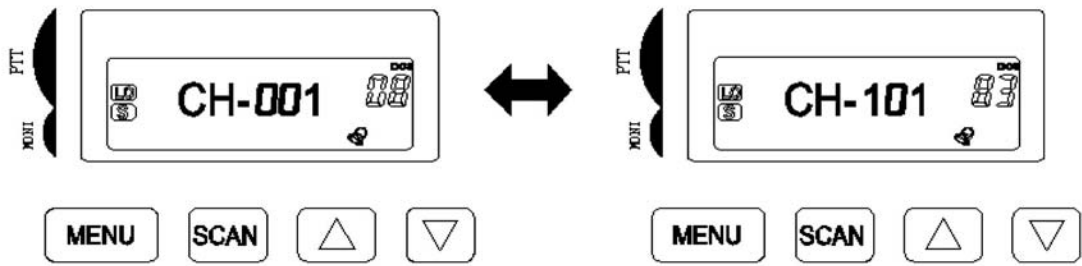
Rotating the [PWR/VOL] knob clockwise to increase the volume and counter clockwise to decrease the volume.

3. Transmitting:

Press PTT key to communicate and use normal voice to talk, keep 5 cm between your mouth and microphone.

4. Select the working channel

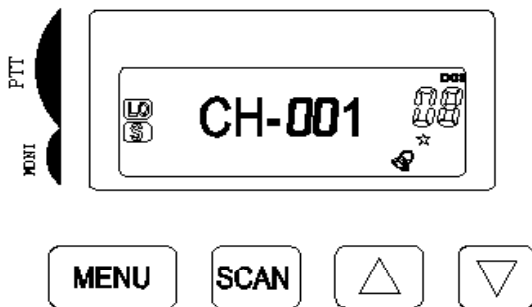
① From standby state, press [UP] or [Down] to get into the channel selection mode (Stored 101 channels)



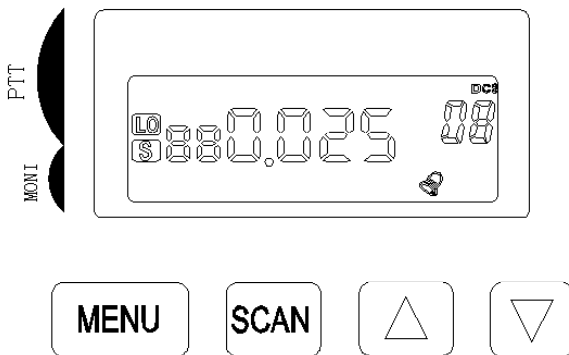
② It will exit the channel selection mode automatically without pressing the keypad within 5 seconds.

5. See the working frequency

① From standby state, press [Menu] key to get into the setting mode and “★” shows.



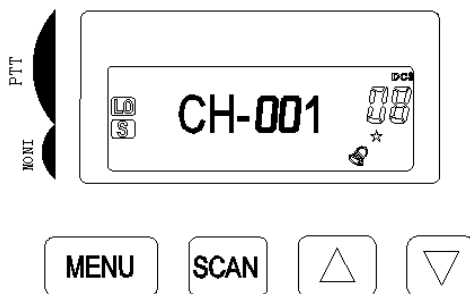
② Press [MENU] key within 5 second, the LCD will show receive and transmit frequency and “★” disappears.



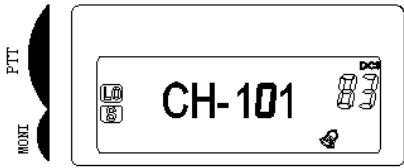
Repeat above operation ① and ② to exit the displays frequency mode.

6. Scan

① From standby state, press [MENU], get into the setting mode and “★” shows.



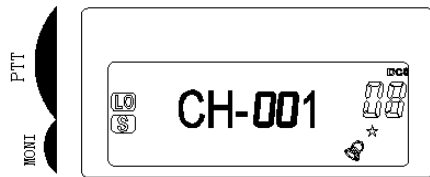
② Press 【SCAN】 key Within 5 seconds, the transceiver will get into the scan mode, scan every frequency with in the scan list (all channels are in the scan list- Factory default)



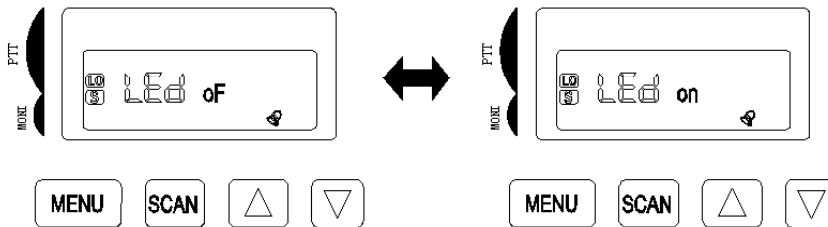
③ Repeat above operation ①、② to exit the mode.

7. LED backlight ON/OFF

From standby state, press [MENU] , get into the setting mode and “★” will shows.



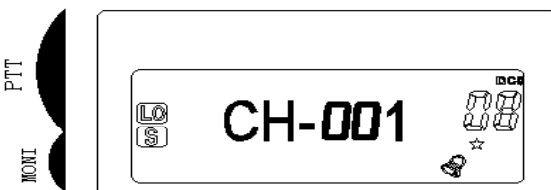
Press [UP] key within 5seconds to get into setting of backlight and “★” will disappear, the LCD will display “LED ON/OFF”, use 【UP】 or 【DOWN】 to on/off the background light. The on/off state will be ON→OFF→ON.



Press [MENU] key to confirm and exit.

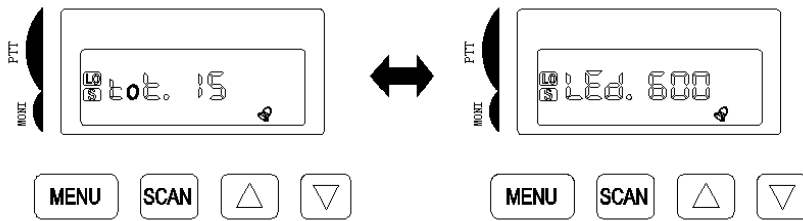
8. Time out timer setting (only works in transmitting mode)

From standby state press [MENU] , get into the setting mode and “★” will be showing.



Press [DOWN] key within 5 seconds, the transceiver will get into the time out timer setting mode and “★” will disappear.

The LCD will display “tot 15/30/45/60 ... 585/600, use 【UP】 or 【DOWN】 key to change the setting value.



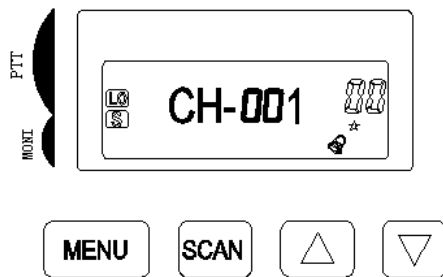
Press [MENU] key to exit

9. VOX Function

- i. VOX function – standard factory mode.
- ii. Plug the Speaker /mike to the MIC/speaker socket, the screen will display the “VOX” logo.
- iii. Speak to the microphone, VOX and transmitting function will be active when the volume is high enough.
- iv. Stop talking after 2 seconds; the transceiver will stop transmitting automatically and start to receive.
- v. If you want to cancel the VOX function, please take off the speaker/mic or use the PC to set the VOX function off.

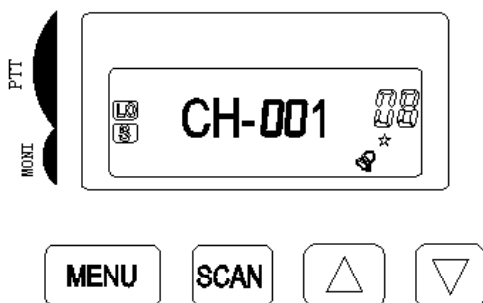
10. Monitor function

From standby state press [MONI] , the transceiver will monitor the signal of frequency by previous setting mode.



11. Keypad Locked ON and OFF

From standby state, press [Menu] key 2 second to lock the keypad, display the key symbol. Only the 【MENU】、【PTT】 and 【MONI】 , button is functional in lock mode. Long press 【MENU】 for 2 second, the keypad will unlocked, and the key icon will disappear.



V. Additional Functions

1. Indicator lights

The red light indicates when transmitting, and it turns yellow while receiving. The orange light indicates when entering copy state. The red light indicates when reading frequency by PC, and it turns yellow while writing frequency.

2. Show the back light

When press any button on the front keypad, the backlight will show and keep 5 seconds then go out.

3. TOT (Time out timer)

This function prevents the transceiver from overheating. If the transceiver keeps transmitting longer than the time which you have programmed (The longest time is 10 minutes), it will stop transmitting and sound an alarm. LCD will display "tot". release the [PTT] key to stop alarm.

4. TX/RX CTCSS/DCS Operation

A Hold [SCAN] key 2 seconds to enter the channel received and transmitted CTCSS and DCS, here the LCD will displays currently received CTCSS/DCS.

B Use [UP] and [DOWN] key to select CTCSS group 38, and DCS 83*2(press SCAN to switch CTCSS and DCS)

C Press [MENU] key to confirm the received CTCSS/DCS which you selected, here LCD will displays currently transmit CTCSS/DCS.

D . Use [UP] and [DOWN] key to select CTCSS group 38, and DCS 83*2(press SCAN to switch CTCSS and DCS)

E Press [MENU] key to confirm you selected and back to standby state.

5. Change the power by the keypad

Hold [UP] and [DOWN] key together and turn on the power will enter high power state. When transceiver is turned off and on again it will revert to the dealer programmed setting.

6. Add / Delete scanning channels in Scan list

①From standby state , press [MENU] , get into the setting mode and "★" shows.

②Press 【MONI】key Within 5 seconds ,the transceiver will add or delete a channel in the scan list. If channel is in scan list "▲" will appear. (Only channels 1-8 are in the scan list - Factory default)

IV. Programming Function

1. Channel working frequency

The dealer can use VRATVARK software to program the channel and set the transmitting frequency and receiving frequency.

2. Digital Codes (DCS) and Continues Tone Coded Squelch System (CTCSS)

The dealer or manufacturer can use VRATVARK software to program digital code squelch (DCS) and Continuum tone squelch system (CTCSS)

When any channel has set CTCSS or DCS, it can only receive the same channel with the same CTCSS and DCS, and it can just turn off the squelch circuit. Also the other transceiver must use the same frequency and with the same CTCSS or DCS then it can just receive your signal.

While using the same frequency but different CTCSS or DCS, the squelch system can not be turned off, the yellow light will show.

3. Squelch level setting

The dealer or manufacturer can use VRATVARK software to program the squelch level from 0-9. (Factory default level 5)

4. Battery save

If the transceiver has set battery save function, the LCD will show "S". The transceiver will enter save power state after stopping communication within 10 seconds. (Factory default ON)

5. Beep sound off

When beep sound on, the LCD will display one clock symbol, when the beep off then turn

on the transceiver and press the keypad without any indicator sounds. (Factory default ON)

6. Power selection

You can select power transmit for every channel, when you select high power, the LCD will display "HI", when you select low power, the LCD will show "LO" (Factory default LOW)

7. Scan mode and parameter

A. The description scan mode

In scan mode the transceiver will scan every channel, when a signal has been detected on a channel, the scanner will pause and wait until the signal on the channel disappears. The dealer can set the delay time. During the time if the signal was received again, the transceiver will continue to keep the channel within the delay time until the signal disappears, then the transceiver will return to scan state. (Factory default 3 seconds)

B. Start-up scan

Press [MENU] then [SCAN] to start to scan.

- a. From current frequency scan the frequency one by one in increase step.
- b. Yellow light will flash
- c. When such channel receive the signal and the command is matched, the yellow light will keep showing and squelch will be off. Exit the scan state, press [MENU] key then [SCAN] key again.

C. Priority scan

The dealer or manufacturer can use VRATVARK software to set 2 kinds of priority scan.

- a. Set the fixed channel as prior scan channel. (**notice: the channel can not be empty**)
- b. Set the selected channel as prior scan channel. (**current working channel is prior scan channel**)

If you have already set the priority scan channel, when fail to receive the matched signal during scanning, it will return to scan the prior channel while scanning every channel.

D. Return channel

During scanning, press [PTT] key, the transceiver will transmit by the following 4 modes. (The dealer or manufacturer can use the VRATVARK to program)

- a. Select: During scanning, the transceiver will transmit from main channel (the working channel is set as the main channel)
- b. Select + transmit: During scanning, when receive any matched signal in such channel, then the scan will stop for a short time and transmit from this channel. Otherwise it will transmit from main frequency.
- c. Priority: During transmitting, it will transmit from the prior channel that was programmed before.
- d. Priority + transmit: During scanning, when receive any matched signal in such channel, then the scan will stop for a short time and transmit from this channel. Otherwise it will transmit from the prior frequency.

After transmitting, the transceiver will turn back to scan mode within the delay time which has been programmed by dealer or manufacturer.

8. Monitor and off squelch

- A. **Monitor:** if [MONI] is set as monitor function key, then press the key after hearing a "di" sound .It means it has got into the scan mode. Cancel the command (it means the speaker will be active when receive the signal but unnecessary to match the command), Press [MONI] key again after hearing a "di di" sound to exit the monitor mode.
- B. **Monitor instantaneous:** If [MONI] is set as the monitor instantaneous key, then keep pressing the key in monitor state, release the key to exit.
- C. **Cancel squelch:** If [MONI] is set as cancel squelch key, then press the key to enter the cancel squelch mode, turn on the squelch and press the key again to exit cancel squelch mode.
- D. **Instantaneous cancel squelch:** If [MONI] is set as instantaneous cancel squelch key, hold the key to enter instantaneous cancel squelch mode, release the key to exit.

Notice: If the PF1 is set as other function, then this key will be of no effect.

Attached CTCSS and DCS list

CTCSS 40 :

67.0	88.5	110.9	141.3	179.9	233.6
71.9	91.5	114.8	146.2	186.2	241.8
74.4	94.8	118.8	151.4	192.8	250.3
77.0	97.4	123.0	156.7	203.5	69.3
79.7	100.0	127.3	162.2	210.7	245.1
82.5	103.5	131.8	167.9	218.1	
85.4	107.2	136.5	173.8	225.7	

DCS 83

023	051	114	143	174	251	315	371	445	532	631	723
025	054	115	152	205	261	331	411	464	546	632	731
026	065	116	155	223	263	343	412	465	565	654	732
031	071	125	156	226	265	346	413	466	606	662	734
032	072	131	162	243	271	351	423	503	612	664	743
043	073	132	165	244	306	364	431	506	624	703	754
047	074	134	172	245	311	365	432	516	627	712	

MAINTAIN:

- The transceiver you purchase is exactitude designed electronic product, please use it carefully. As below advice may help you use it for a long time.
- Please don't try to disconnect the transceiver because the non-technician processing may bring attaint. Use the stabilized power supply; please connect the DC line (option) with the DC jack of the transceiver.
- Please don't place the transceiver in the sun for a long time or put it in the hot place, because the high temperature will reduce the using time of electronic parts and make the plastic parts distort.
- Please keep the transceiver dry because rainwater or wet will erode the circuit.
- If you find the transceiver smells terribly or foggy. Please turn off the transceiver and take out the battery pack then contact with the dealer.

9 FREQUENCY CHART

PMR446 channels

Channel Frequency RX/TX (MHz) Channel Frequency RX/TX (MHz)

001 446.00625	002 446.01875	003 446.03125	004 446.04375
005 446.05625	006 446.06875	007 446.08125	008 446.09375

LPD channels

Channel Frequency RX/TX (MHz) Channel Frequency RX/TX (MHz)

009 433.0750	010 433.1000	011 433.1250	012 433.1500
013 433.1750	014 433.2000	015 433.2250	016 433.2500
017 433.2750	018 433.3000	019 433.3250	020 433.3500
021 433.3750	022 433.4000	023 433.4250	024 433.4500
025 433.4750	026 433.5000	027 433.5250	028 433.5500
029 433.5750	030 433.6000	031 433.6250	032 433.6500
25 433.6750	26 433.7000		
36 433.9500			
37 433.9750			
38 434.0000			
39 434.0250			
40 434.0500			
41 434.0750			
42 434.1000			
43 434.1250			
44 434.1500			
45 434.1750			
46 434.2000			
47 434.2250			
48 434.2500			
49 434.2750			
50 434.3000			
51 434.3250			
52 434.3500			
53 434.3750			
54 434.4000			
55 434.4250			
56 434.4500			

57 434.4750
58 434.5000
59 434.5250
60 434.5500
61 434.5750
27 433.7250 62 434.6000
28 433.7500 63 434.6250
29 433.7750 64 434.6500
30 433.8000 65 434.6750
31 433.8250 66 434.7000
32 433.8500 67 434.7250
33 433.8750 68 434.7500
34 433.9000 69 434.7750
35 433.9250