AVRT6　APRS User Manual

V1.5（Reference Only, Update in process）

目录

Foreword

　APRS system in many foreign HAM friends, groups, organizations, departments, units, field crews have universal application. However, according to my years at HAM mucking about in a circle to get the case, County men know very little, and not so many people know, with less people. Starting from more than 10 years ago, China already has some fans in the promotion of the system, but until now, radio prices to be up here to support this functionality than most HAM consumption levels among its members. Cannot be widely usedBI7NOR and BG6QBV jointly designed and made special equipment available at low price AVRT5, andAVRT6, preparation of a manual to know nothing about national entry.

AVRT6 key features

Original claim to design AVRT6(hereinafter T6) when APRS lovers asked me, playing a radio, why add GPRS?

Design T6 's main function has 4 :

1, some users have purchased radio station, with the T6, will be able to increase at low cost APRS functions, than the market common APRS radio equipment more powerful;

2, in the city or field, radio has blind spots,GPRS also has blind spots, in order to complement blind spots, mainly with data protection as possible upload to the server;

3increase GPRS, location data for their own and each other's data has been received in real time GPRS are uploaded to the server, meaning that APRS gateway function (IGATE);

4, integrated display, do not need to connect mobile phone, PC or Garmin navigation, you can see real-time team-mate or partner's distance (if you want to see his team-mates and their own real-time location, you need to connect).

3. Overview

AVRT6 Launched in AVRTT-AVRT5 developed on the basis of the APRs device, the main function is the GPRS(mobile phone network) and radio APRs position data transmission. Built-in GPRS mobile phone network modules +GPS modules and transceiver TNC codec package. Insert SIM card and connect the radio works (subject to pre-set parameters such as callsign), location (blue LED illuminated steady) may send out a standard check of APRs packet, compatible with common commercial APRs device and aprsDIGI Relay and IGATE , And it is starting a network version and radio version +LCD+DIGI+Igate multifunctional APRs device.

Features: implementation is simple and easy to use. Insert SIM card or connect the radio DATA and MIC line input 12V (usually positioning needs 1-20 minutes). Easy to use , and GPRS is since upload coordinates via mobile phone networks without human intervention, setting before using the GPRS call,5 APRs network authentication password and logon server.

Hardware integration: GPRS modules, GPS modules, antennas, MCU microcontroller, temperature sensors, buzzer, the Bluetooth module.

Included: GPS antennas, GPRS antennas, MIC-6 line 2 root, MIC-8, line 2 , and6 core tee 1 -,8 core tee 1 . USB-TTL upgrade data cable

1. the GPS module:

Ublox-7 module, high sensitivity, fast positioning, stability and power, supporting 50000 meter high altitude mode (on this vehicle does not).

2. GPS antenna:

External 25*25 Active GPS antenna, built-in LNA amplifier, Star Search, fast positioning.

3. AVR microcontroller:

AVR ATmega128 microcontroller, stable and reliable.

4. GPRS module:

Professional 4 GPRS module, universal, good network connection performance, stability and reliability.

5. GPRS antennas:

The finished product GPRS antenna, ensure that launch a standing wave and emission performance.

6. battery : (none)

7. LED status display (red and blue)

Double LED display, red is the GPRS status indicator. When connected properly 1 seconds flashes once.

Blue is GPS directions: flashing fast says GPRS not logged APRs servers or SIM card exception (tuition or no card). 1 seconds flashes once said that GPS is not positioned, permanent GPS positioning.

状态	LPG
模块启动	持续高电平
搜网过程中	周期 0.2 秒，高电平持续 100 毫秒
无 SIM，或未输入 PIN 码或未注册	持续低电平
已注册到网络，IDLE 状态	周期 2 秒，高电平持续 4 毫秒
GPRS 上下文 PDP 激活	周期 1 秒，高电平持续 200 毫秒

8. radio transmitting APRs data

Radio microphones and finished his speech released PTT launches APRs data. Other radio stations will hear APRs data, and this machine could not be heard.

9. temperature and pressure sensors (BMP085)

Upgrade to BMP085 temperature, pressure sensors, IC precision 0.0625 , passed the boards and the temperature inside the machine in real time. (Requires measuring the outside temperature can install their own and leads to 18B20 sensor, 18B20 interface GPRS antenna pedestal beside)

10, Bluetooth module (connected connected mobile phone or computer _ run APRS maps software)

Built-in Bluetooth module, speed 4800bps, one can output in real time APRs decode signals. II can be connected to the Android phone in KISS signal control T6 launches. Specific function, see aprsdroid. Third, can use the serial command to configure Android phone call signs and other parameters.

For example: set the call sign: AT+CALL=BG6QBV7

Set buzzer AT+BEEP=1 Open AT+BEEP=0 closed

Firing mode instructionsAT+MODE=1 (1-5)

1 manual mode Manual

2. Auto mode Auto

3. Manual + automatic mode Manual+Auto

4. intelligent beacon Smart

5. intelligent beacon + Manual Smart+manual

More Bluetooth configuration command will escalate.

11, And USB interfaces feature extension 1(connected to the Garmin handheld GPS)

USB extended interface through 5 core full USB transfer cable, you can directly connect Garmin handheld GPSdirectly from or real-time map location, currently supports direct connect display models are as follows:

Garmin 400and theGarmin 450, and Garmin 550, and Garmin 650; and 62 series and so on ...
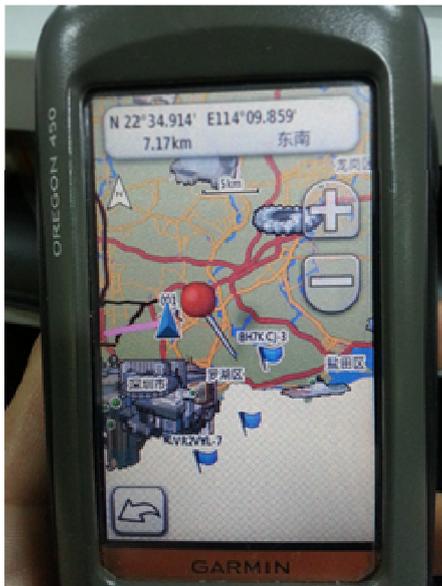
In theory WPL input (TTL level) of Garmin handheld GPS support connected displays.

Connection conditions:

AVRT6 Configure the required settings in the software: Waypoint Out

Garmin needs to:

NMEA mode of transmission, NMEA statement opening, WPL input open, rate 4800

MINI USB 线连接 (5芯全通线)

12, andUSB interfaces feature extension 2(connected to the computer running APRS map Manager)

　　Can use a random distribution of upgraded lines, connected to a computer, run APRS map Manager, installed upgrading line drive and you want to specify COM , and rate of speed set to 4800 (same as Bluetooth connectivity)

　　Use most oftenAPRS software: " APRSdroid " and　"AGWTracker "

4. Starting process

　　Device connection: (the following figure is a real interface)

　　1. GPRS function: connect GPRS antennas,GPS antenna, insert SIM SIM card can be.

2. radio emission features: requires connection T6 DATA to radio DATA, radio microphone and microphone, as well as the T6 MIC interface are connected with links. Connect GPS antenna, you can get a job in radio APRs working mode.

Access to the 12V power, AVRT6 will come with LED flashing on electric starter, LCD display LOGO, post fired 1 time into normal working state.

Blue LED display working status:

(1) LED flashing rapidly: GPRS not logged APRs servers.

(2) 1 second blink 1 time: GPS is not positioned.
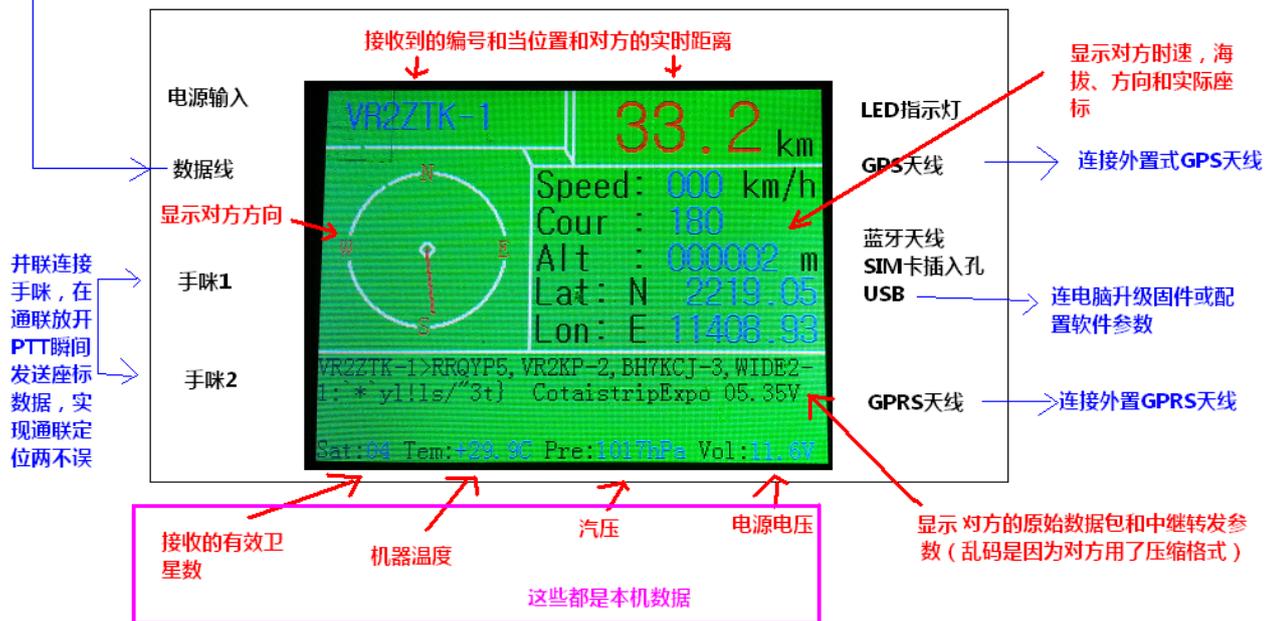
(3) LED permanent: GPS positioning.
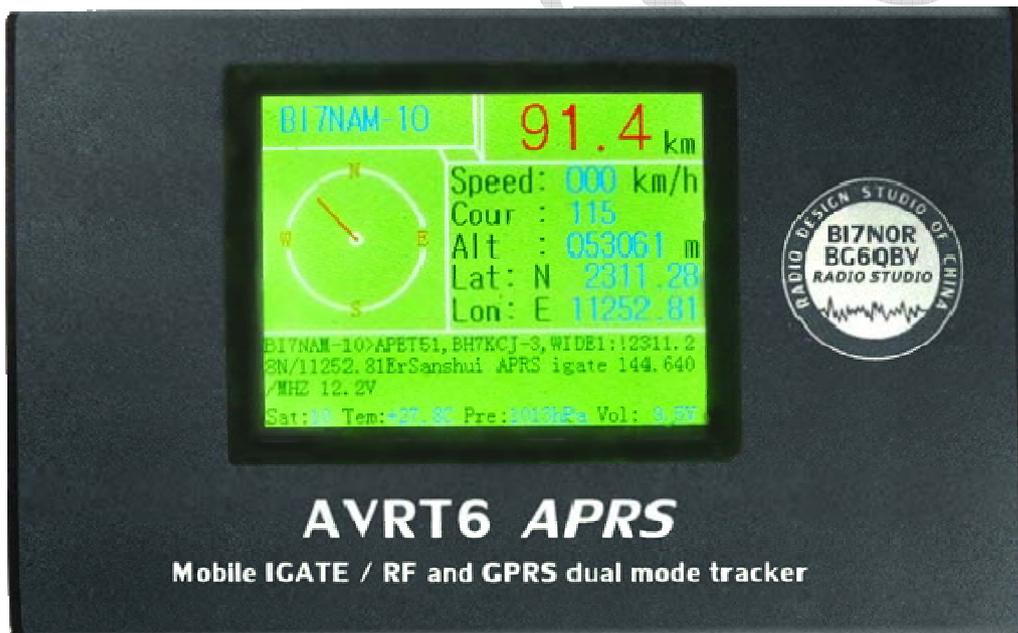
（4） If you receive APRs signals,LED will Flash.

InsertSIM card directions sketch

AVRT6 block diagram

连接电台作双向数据传输，T6自身的位置数据通过电台发射出去，电台收到的信号送到T6解码和显示，兼容连接的常见电台有艾可慕2720-2820-208H_八重州7800-7900-8800-8900-817-857-897_健伍V7等等，通过转接线，可以连接摩托罗拉16针屁股的车台，也可以连接兼容K手咪插头的手台。。

接收到的编号和当位置和对方的实时距离

显示对方时速，海拔、方向和实际座标

电源输入

LED指示灯

GPS天线 连接外置式GPS天线

数据线

显示对方方向

蓝牙天线
SIM卡插入孔
USB 连电脑升级固件或配置软件参数

并联连接手咪，在通联放开PTT瞬间发送座标数据，实现通联定位两不误

手咪1

手咪2

GPRS天线 连接外置GPRS天线

VR2ZTK-1
33.2 km
Speed: 000 km/h
Cour : 180
Alt : 000002 m
Lat: N 2219.05
Lon: E 11408.93
VR2ZTK-1>RRQYP5,VR2KP-2,BH7KCJ-3,WIDE2-1:*`yl!ls/~3t} CotaistripExpo 05.35V
Sat:04 Tem:+29.9C Pre:101ThPa Vol:11.6V

显示 对方的原始数据包和中继转发参数（乱码是因为对方用了压缩格式）

接收的有效卫星数

机器温度

汽压

电源电压

这些都是本机数据

ICOM 8芯手咪插口

GSM天线接口

YAESU 6芯手咪插口

USB-TTL数据输入/输出

DATA数据线插口

SIM卡槽

7-12V电源插口

GPS天线接口

LED指示灯
红 GPRS状态
蓝 GPS状态

BI7NAM-10
91.4 km
Speed: 000 km/h
Cour : 115
Alt : 053061 m
Lat: N 2311.28
Lon: E 11252.81
BI7NAM-10>APET51,BH7KCJ-3,WIDE1:!2311.2
8N/11252.81ErSanshui APRS igate 144.640
/MHZ 12.2V
Sat:16 Tem:+27.8C Pre:1013hPa Vol: 8.5V

BI7NOR
BG6QBV
RADIO STUDIO

AVRT6 APRS
Mobile IGATE / RF and GPRS dual mode tracker

显示屏数据代表的含义

对方呼号 → BG6QBV-6   33.2 km ← 距离
                      Speed: 060 km/h ← 速度
对方航向 →   Cour : 170 ← 航向
                      Alt : 000018 m ← 海拔
                      Lat : N 2219.05 ← 纬度
                      Lon : E 11408.93 ← 经度
原始数据 → BG6QBV-6>RRQYP5,WIDE1-1,WIDE2-1:'yI!Is/
           "3t AVRT6 Testing 13.9V
本机状态数据 → Sat: 05 Tem: +19.1C Pre: 1013hPa Vol: 10.1V
           卫星数   温度   气压   电压

1: under the display screen is the native data, power will be displayed
2: display the top part is to actually display the received data requires T6 has GPS positioning, and are
     connected to the radio, radio receiving effective APRS packets will be displayed.
3: If you just plug in a valid GSM SIM card, under the display only shows part of the native data. Section
     blank or displays on native data at a time.
4: If you want to implement GPRS upload function and the IGATE functionality, need to plug in a valid GSM
     SIM card

5. the AVRT6 software download and connection method

1. software download : http://www.y027.com/dvbbs8/dispbbs.asp?boardid=5&Id=838

2. configuration methods :

Note: 1. If your computer prompts MSComm32.ocx problem, please look here:
http://www.y027.com/dvbbs8/dispbbs.asp?boardid=5&id=790

AVR APRS CONFIG   ⟨X⟩

    ⊗ Component 'MSCOMM32.OCX' or one of its dependencies not
        correctly registered: a file is missing or invalid

                              确定

If the system that is streamlined, and there may be other similar prompt for missing files, make your own search up until no missing file tips so far.

2. configuration software in WIN7 64 appear Invalid picture error follow this way.

http://www.y027.com/dvbbs8/dispbbs.asp?boardid=5&id=841&page=1&star=1

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3. AVRT6 Configure connection methods and procedures:

A. installed random with USB cable the PL2303 driver; then plug USB cable into the computer (USB cable not inserted into T6 above)

B. Disconnect T6 electrical power and data cable connections;

C. Open T6 configuration software, select data cable the correct COM port (PC computer inside the Device Manager can view), and then click read configuration (Read Config) button software under section prompts 1/30. Figures from 1-30 increased during the immediately to USB data cable inserted into T6, prompts reading success can be configured.

D ... click: (Load Default) button, namely, to restore to the default parameters, you can enter your call sign and other parameters.

E. modifications, to write (Write Config)

G. after setting the basic configurations interface you can continue setting up GPRS page, just need to set up your own call sign,5 -Verify password and select a server, and then Save and Writey, waiting for the write data to save, then return RF RADIO interface, point lower right corner EXIT, wait for the machine to restart.
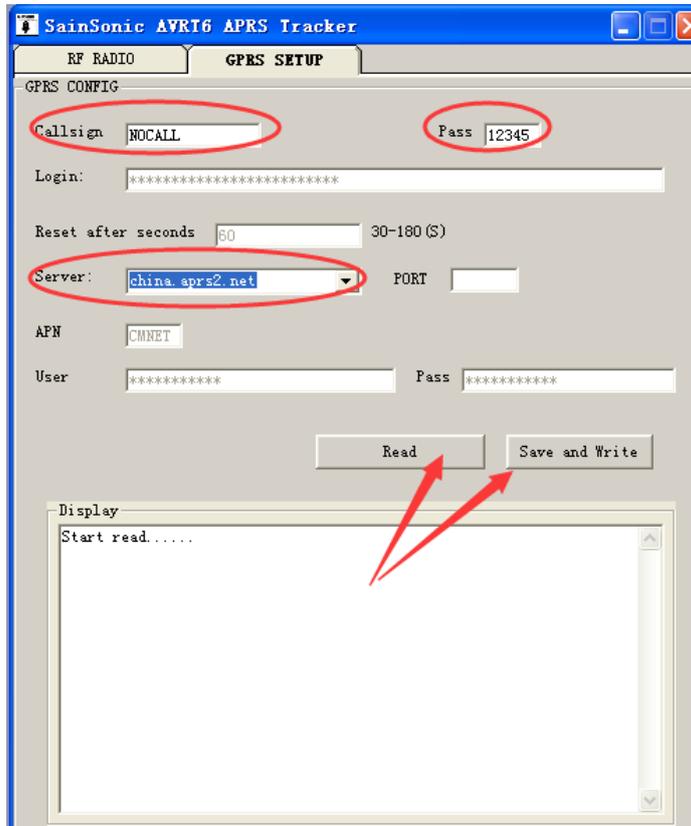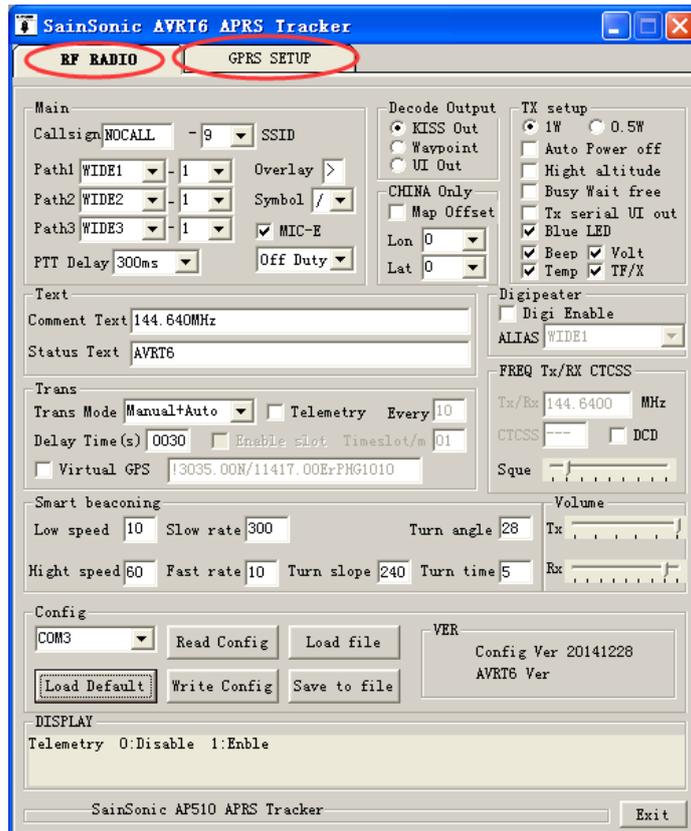
6. AVRT6 configuration parameter

Note: Please use the included USB cable, including USB-TTL circuits, you can't use regular USB cable or software upgrades, configuration.

, The main setup options (main)

Call sign (Callsign) : Call sign set (4-6 -English uppercase letters). For example: BG6QBV

Suffix (SSID) : Suffix, used to distinguish the different mobile devices. For example: 9

Path (PATH1-3) : Path 1-3to set the spread was relaying the scope and number of allowed (customizable). For example: PATH1: WIDE1 ; SSID: 1 or Non (without path)

Symbols (symbol) : "/"And"\". For example: !3012.34N/11418.95E>

Mobile terminal (overlay) : For example: ">". Detail settings shown in the following figure.

Symbol library "/"   Symbol library "\"

 Launch delayed (PTT Delay) : Packet front length of time synchronization code, usually setting time 600ms, used wake up receiver's power-saving features and the ease of receiving device decodes. For example: through APRs Relay, we recommend setting 600ms, and mutual reporting between handset locations, it is recommended that 300ms or 480ms.

Compression format launched (MIC-E format) : APRs common compression format, decoded data may not be displayed correctly in 16 hexadecimal digits coordinate data, compressed packets after byte less, can improve the communication efficiency.

MIC-E compression format has 8 States:

Dang AVRT6 receives a data is decoded, decoding data from the serial output, there are three common output formats can be selected.

1. raw data output (KISS out) : Is a kind of raw data output, for example: due to shifting the front portion of the packet, so it looks like the previous data is messy.

2. the waypoint data (Waypoint out) : Only the positioning coordinates of received prints waypoint data. For example: @GPWPT,.................

3. UI frame output (UI out) : Usually shown online in a format, a variety of compressed data format into readable display. For example: MIC-E compression format decoding output: (BG6QBV-6>SPSVP4,WIDE1-1:'*-_1 "7>/" 6d}144.640MHz)

Map offset correction functions (Map offset)

For reasons known, CHINA's Google map is biased, and in some applications, GPS data points on the map can be displayed correctly, the use of GPS raw data offset a certain value to make it display correctly on a map to an offset. (Usually Chinese Google maps needs)

1. the comment text (Comment text) : After the data is text, usually attached to the location data. (AVRT6 support 0-40 an English character sent)

Four, sending mode options

Sending mode options have 5 modes to choose from:

1. **Manual sending (Manual)** : Just to support the manual trigger AVRT6 button again.

2. **Automatically send (Auto)** : According to the delay time (Delay time) set the time to come again. For example, Delay time=30 seconds, then positioned every 30 seconds is automatically sent again. (Delay time unit is seconds). Note: the APRS server receives the packet interval requirements, we recommend interval 20 seconds or more to avoid server packet is rejected.

3. **Manual and automatic mixed mode (Manual+Auto)** Both can be sent manually, or can be automatically sent.

4. **intelligent beacon mode (Smart):** intelligent beacon parameters to activate this mode can be selected. Equipment according to the speed, direction, and time to make a judgment, as far as possible with the least number of paints a perfect corner route.

5. **intelligent + manual mode (Smart+manual):** Supports intelligent beacon and manual modes.

   For more information about smart beacons:

   http://info.aprs.net/index.php?title=SmartBeaconing

6. **Send virtual coordinate (Virtual GPS):** You can set a fixed virtual coordinates, usually in the setting up repeater station or fixed station use. For example format:

!3035.00N/11417.00ErPHG1010

PHGD settings:

PHG Codes

phgd *Code:*	0	1	2	3	4	5	6	7	8	9	*Units*
Power	0	1	4	9	16	25	36	49	64	81	watts
Height	10	20	40	80	160	320	640	1280	2560	5120	feet
Gain	0	1	2	3	4	5	6	7	8	9	dB
Directivity	omni	45 NE	90 E	135 SE	180 S	225 SW	270 W	315 NW	360 N		deg

7. telemetry functions (Telemetry): allows remote functions.

  Number of intervals (Every): every few data sending a telemetry data. For example, Every=5, then each 5 send telemetry data in the packet.

 Telemetry data in two formats, a non-compressed format is a compressed format. APRs.fi shows AVRT6 the time of sending of the satellite number, temperature, and voltage.

8. launch time synchronization function (Time slot):

Usually worked in teams need multiple unit numbering based on time, and then satellite time to stagger the launch time. For example: there are 60 of these devices, every 1 minute of the Terminal firing again. 0- 12:00:00 seconds to launch,1 , 12:00:01 sec launches ….. (Upgrade)

Five. Sending parameters (TX setup)

1. the power of choice (1W,0.5W): there is no such function

2. Automatic power-saving feature (Auto power off): there is no such feature.

3. high altitude mode (Hight altitude): supporting 50000 meters above sea level.

Packets have the status display:

The first comment character: "K "State OK, the "f" indicates that the State failed, the "e" represents a status error.

4. **Busy waiting (Busy wait free)** : Automatically detects if the channel is idle before launch, if the channel in use, wait until the idle time to launch. (Subsequent software support….)

5. **Launch serial data output (Tx serual UI OUT)** : When VHF transmitting packets, can be fired from the serial output of the machine's UI data for some mapping software you can view your current location)

6. **Blue LED status display (Blue led):** If you choose to allow, when GPS positioning LED to permanent, otherwise positioning LED is off.

7. **a beep (Beep):** beep sound can be selected for launch switch, switch machines beep cannot be closed. (To be tested)

8. **display voltage (Volt):** comment packet increases the voltage display at launch. For example: "3.56V"

9. **temperature display (Temp):** comment packet increases the temperature display at launch. For example: "+18,4C"

Six. Relay function settings (Digiperter)

You can set forwarding receive APRs data signals. You can set forwarding conditions, such as "WIDE1" can forward that have "WIDE1-1" the path of the packet. Do not forward your packets or packets that had been forwarded.

Seven. Squelch adjustment

Soft squelch (DCD): Control LED switch, when allowed time, only GPS is not positioned and accepted, launches blink, not lit and at another time.

	Blue LED	DCD	GPS valid	gps invalid	TX	RX	SQL open	SQL off
1	on	on	light	blink	light	fast blink	off	off
2	on	off	light	blink	light	fast blink	blink	off
3	off	on	off	blink	light	fast blink	off	off
4	off	off	off	blink	light	fast blink	blink	off
	check=on							

Eight. Transmission modulation (Tx Volume)

Transmission modulation (Tx Volume): range 1-6, default 6.

. Configuration settings (config)

1. **serial port selection (com):** you can select a data string of slogans or enter a string of the line number (you need to install the PL2303 USB-TTL line driver).

2. **remove the default value (Load default):** recommended reads by default parameters.

3. **read device configuration parameters (Read config):** read the configuration parameters stored inside the device. (Need to enter configuration mode)

4. **write the current configuration parameters (Write config) :** Writes the current configuration parameters. (Need to read ahead parameters or remove the default write parameters)

5. **reading a configuration file (load file):** read the saved on the computer's configuration ini file.

6. Save the configuration file (Save to file): saves the current parameters into a computer file.

Ten. Other options

Message (DISPLAY) : The ToolTip window can prompt configuration parameter information for users to refer to, for more information, see Configuring the software.

Exit button (EXIT) : Software exit configuration mode and output commands AVRT6 to exit the configuration mode.

7. ROM upgrade method:

Note: Please use the included USB cable, including USB-TTL circuits, you can't use regular USB cable.

AVRT6 software upgrade methods: (ROM writes to the device)

1. download Flash loader is ARUBD, set the software serial number, others were not to be changed (default rate is 115200bps; Flash size, the default is 128K).

2. the load you want to upgrade, HEX;

3. Disconnect the AVRT6 and power supply connections, then click upgrade software in the "actions"menu in the"downloads";

4. When you see the password to connect, connect immediately T6 and Mini-USB until the upgrade process is complete;

5. If the upgrade has failed and the machine unable to startup normally or green LED flashing, repeat the above steps;

1: each time you upgrade ROMand read parameters Configure the software you want to run again, reverting to the default parameters, modify the appropriate parameter value for you, and then write, then save and exit. Otherwise, it may feature an error.

2: upgrade ROM Hou, to run the ROM version of the configuration software, the old version could not properly read from or write to the new version of configuration software ROM parameter.

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8. Precautions for use:

1, power input voltage is 7V-12V, which is compatible with 12V vehicle designed to be used.
Can also use the 5V power plug USB cable power supply, but due to GPRS signal strength super power consumption changes is too big. Does not guarantee the long-term stability in use.

2, GPS module off memory ephemeris data for 2-4 hours (ephemeris time is changing and the longer, larger errors. More memory time meaningless).

3, distribution of the GSM quad-band antennas for best match antenna. Common extensions in the market GSM antennas tested n species, moving at high speed on the highway is dropped. Therefore not allowed to replace it.

4, distribution of GPS antenna for a two-stage amplifier active antenna voltage for 3.3V. Gain of 26DB or so. Mounted on the car's a- pillar effect is very good. If you need a better effect for the first time per second are free to replace the same voltage of the mushroom head of GPS antenna on top of his car.

5, display shock level, only for normal vehicle use. If you need a superior shock-absorbing. For example 5 m drop test. Please make your own glue on the glass from the edge of screen. To strengthen earthquake. At your own risk.

6, USB-TTL line built-in conversion chip, you can't use regular USB cable instead of the upgrade or configuration.

7, USB current output and temporary power supply for Garmin handheld devices are not supported (V5 version supports 5V power output).

9. AVRT6 new users getting started with application examples

1, only GPRS upload APRS tracking data (GPRS)

接上GSM天线

接上12V电源

插入SIM卡

接上GPS天线

As shown in the figure to connect, insert a valid SIM card is the simplest of GPRS network upload path function. Displays only the data displayed on the next line, shows the number of satellites, the temperature, the pressure and the supply voltage.

To see the coordinates and distance to a team-mate or partner, but in the Server Web site, by phone or on the computer website to view your current location.

Note: the only supported GSM GPRS networks SIM cards, has been testing mobile 2G network SIM card normally use 。

2, connected only radio APRS transmit and receive decoded data (RF)

接上12V电源   接上GPS天线

DATA线连接 T6 与电台

ICOM/KENWOOD/YAESU 车台

手咪

DATA

三通

As shown in the figure to connect, without plug SIM card is only RF transceiver, self positioning data, end of contact in the hand microphone PTT moments,T6 launches its own coordinate data by car. GPS positioning, coordinate data that it receives, displays it on the screen and can display real-time data such as distance to each other and call sign, can do communication and positioning without interference.

ICOM vehicle stage, measured support model 208,2720and the2820

YAESU , measured support models 7800,7900, and8800, and8900, and817, and857, and897, and

KENWOOD turntable, has measured support for model V7A,V71A/E

These models have been tested, other models are not measured can also try

In addition, you can DIY connection to any car or hand use, only if you know how to wiring.

Can also be purchased K Plug hand dedicated connection cable, took over the send and receive messages using ...

3,GPRS+ radio APRS full-featured applications

As shown in the figure to connect, compared to the above application is inserted SIM card. This is GPRS+RF double track uploads, and IGATE function, that is, upload gateway.

GPS positioning Hou, radio receives to other of seat marked data,T6 internal of TNC decoding displayed out, and will real-time through GPRS network, will other of seat marked data Shang to Server (IGATE); since has of location data, in QSO Shi hand meters PTT release of moments, will through car Taiwan sent out, while This data, also through GPRS are sent directly to the server.

If installed in the car, can double as a mobile gateway to use. This feature traveling in convoys, emergency rescue situations is very practical.

4,KENWOOD TM-V71A/E tie T6 automatically sub channel APRS applications transmitting and receiving (recommendation 1)

Use the Kenwood V71 , a- channel contacts automatically calls the b channel for APRS transceiver. Connection diagram is as follows


To facilitate the T6 APRS Send and receive data, simple setup will be necessary before use. Setting procedure is as follows:

1. KENWOOD TM-V71A/TM-V71E After power on, press [F] Key, then press adjustment control knob button to enter the Setup menu, rotate the adjustment control knob

button menu to 517 Item adjustment "DAT.BND", that is, data sending and receiving frequencies;

Can be set to A (a-band transmit and receive) 、 B (b-band transmit and receive) 、 ATX\BRX (a band sends b channel to receive) 、 ARX\BTX (a-band receiving b-band sends) 。 Figure set to b
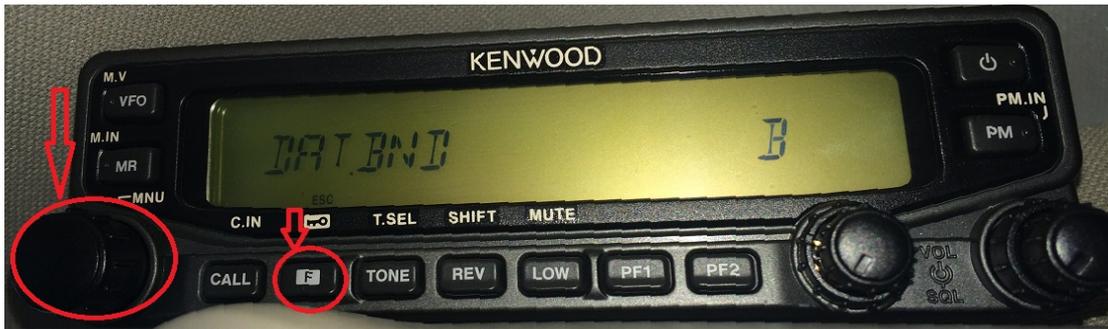
[F] Key, then press adjustment control knob button to enter the Setup menu, rotate the adjustment control knob button menu to 518 Item adjustment "DAT.SPD", namely, the transfer rate of data sent and received;

Can be set to 1200 9600bps 。 Figure set to 1200.
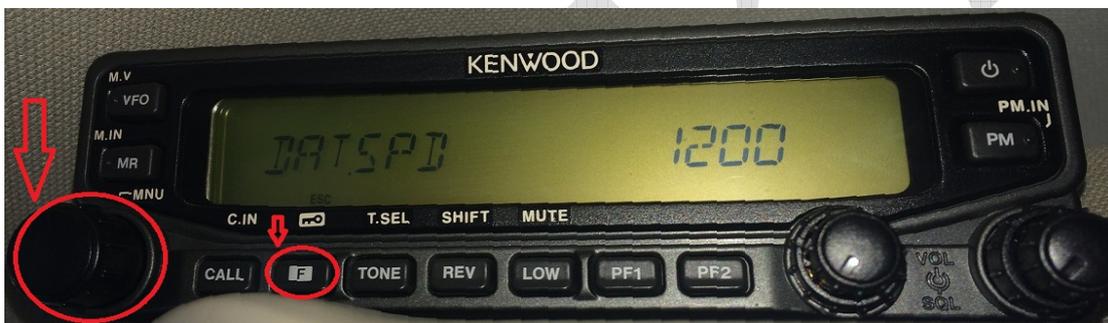
3. T6 Back of the data cable to the host DATA Interface, as shown in the figure.
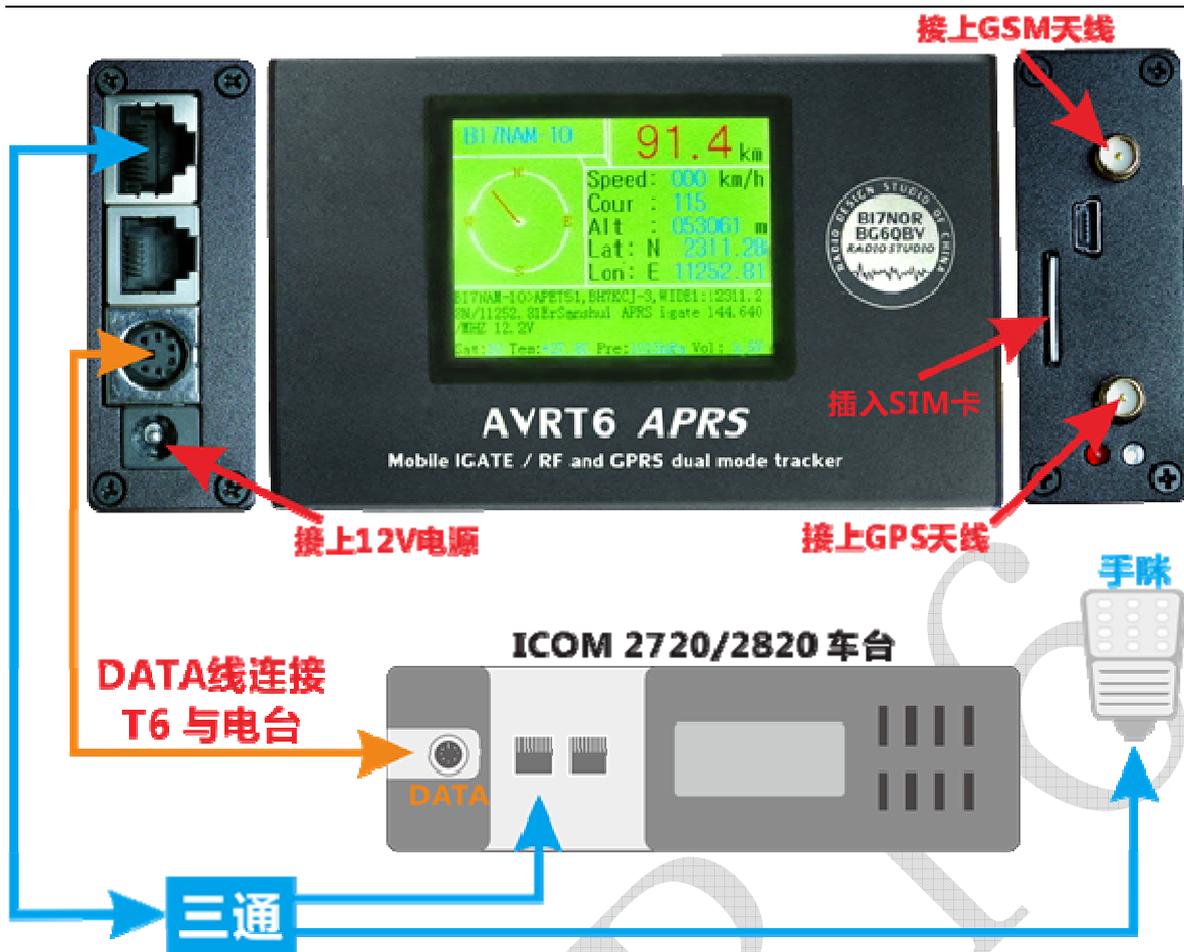

4. B Band set APRS Sending and receiving frequencies, such as 144.640MHz 。 Panel

shows the letter "d" indicates that the data band.

After the above settings, T6 Via <mark>KENWOOD TM-V71A/TM-V71E</mark> B Bands send and receive APRS Data, A Band can be a normal QSO.

<mark>5,ICOM-IC2720 tie T6 automatically sub channel APRS transmitter and dual-frequency receiver (reference 2)</mark>

As shown in the figure, it is strongly recommended ICOM-2720 used in conjunction with 2720 tie T6 used function used as a whole in addition to the above, an extra feature is the " automatically calls the Sub channel launches feature ." Called automatically calls the Sub channel launches, that is, when you're waiting in the main channel or act, if T6 Active (T6, Select the smart location feature, or at automatic intervals launches into a trigger condition will automatically take the initiative's launching) launching your packets. 2720 automatically switches to the Sub channel launches this packet.

This feature is useful, for example, when T6 configured for manual + automatic transmission, your 2720 car main channel frequency is 438.500, sub channel is 144.640, in this case, Will at the same time Received from 438.500, and 144.640 location on frequency packets, T6 will be decoded and upload to the server. 438.500 Act, hand microphone PTT moment T6 will also automatically switch to 144.640 launches packet T6 to a certain trigger conditions and actively transmitting

position packets,2720 will also switch to the Sub channel 144.640 Transmitting packets. In other words, 2720 tie T6 uses, you can specify a frequency and double frequency packets the receive location.

Automatically calls the Sub channel launch function Setting procedure is as follows:

1. press and hold the [SET LOCK] and simultaneously turn on the power, enter initial Setup mode

2. use the [SET LOCK] or [LOW PRIO] found "PAC"(packet operations segment) option, adjust knob (left) adjustment to "r" or "l"(if the left side is the main channel is set to r; If the right side is the main channel, it is set to L)

3. If you want to modify your data transfer rate, find the "BPS", select "1200, (T6 only supports the use of 1200)

"4. to turn off power, save the settings

5. bootable again, according to your "PAC" setting on the left or the right written APRS frequency (for example 144.640)

Then again, if you are using 2720 specified sub channel launches, using only automatically calls the Sub channel launch function , can not take over the microphone cable and a three-way, that is, only DATA lines on the line.

If you turned off the automatic transfer function, microphone plugged into a three-way hand lines, can achieve the main channel of the positioning correct functions and sub channel can receive another one APRS frequency. (Dual band dual-caboose station can achieve this, such as the 8800)

6,MOTOROLA-GM300 tie T6 achieve APRS applications transmitting and receiving (recommendation 3)

Now GM300 cheap connection T6 , great, you can load, also can be used for base stations.

Connection is shown in Figure
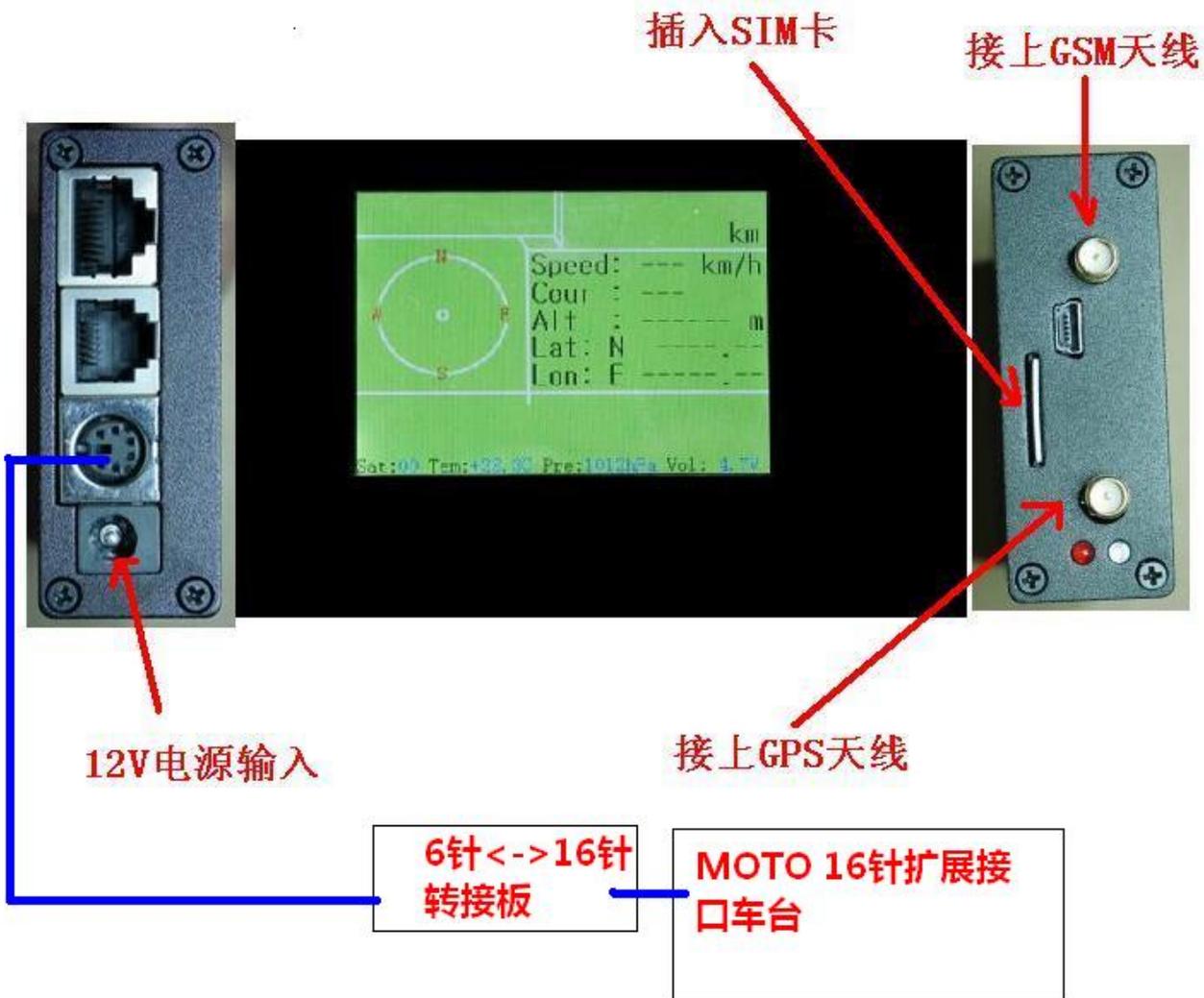
After you are connected, set the corresponding frequency will be able to use the radio, do not need to connect the hand microphone

In fact, if the costs are not considered, the majority of MOTOROLA car 16 -PIN expansion interface, are connected via a dedicated interface panel T6 applied to APRS, such as:SM50, andSM120, andGM3188, andGM3688, and GM398、GM950I。。。 (950E extended interface functionality is not complete, not used)

Note: 6 -PIN data cable transfer MOTO16 -PIN conversion Board, belong to the extended parts, to purchase please go to bi7nor.Taobao.com

7,k Plug hand tie T6 achieve APRS transmit and receive applications.

Only hands, without a car, or want to carry mobile, you can use hand set connection T6 is used.

Connection diagram is as follows

插入SIM卡

接上GSM天线

km
Speed: --- km/h
Cour : ---
Alt : m
Lat: N ___.___
Lon: E ____.___
Sat:00 Tem:+22.3C Pre:1013hPa Vol: 4.7V

接上GPS天线

12V电源输入

T6手台专用连接线

K插头手台：宝锋5R，健伍71，泉盛UV2，欧讯UVD1P，灵通6100。。。

Dedicated connector is a Kenwood K hand microphone plug for compatible k Plug common hand: Bao feng, Kenwood, quansheng, euro, well-informed and ears, and so on ...

Note: T6 hand dedicated connector, which belongs to the extended parts, to purchase please go to bi7nor.Taobao.com

AVRT5 and AVRT6 in the APRS system function diagram

Important special instructions:

Arrow is shown backlight control, after a software upgrade, be sure to reselect the otherwise black screen may

Options: ON behalf of backlit changliang

5 represents the coordinates of the other signal is received is displayed after 5 seconds, the backlight will go off

10 represents the coordinates of the other signal is received is displayed after 10 seconds, the backlight will go off

And so on ... ...

90 represents the coordinates of the other signal is received is displayed after 90 seconds, the backlight goes out

For home use, recommend the use of long, used in the car, personal advice show 30 seconds is reasonable (according to your personal preferences)
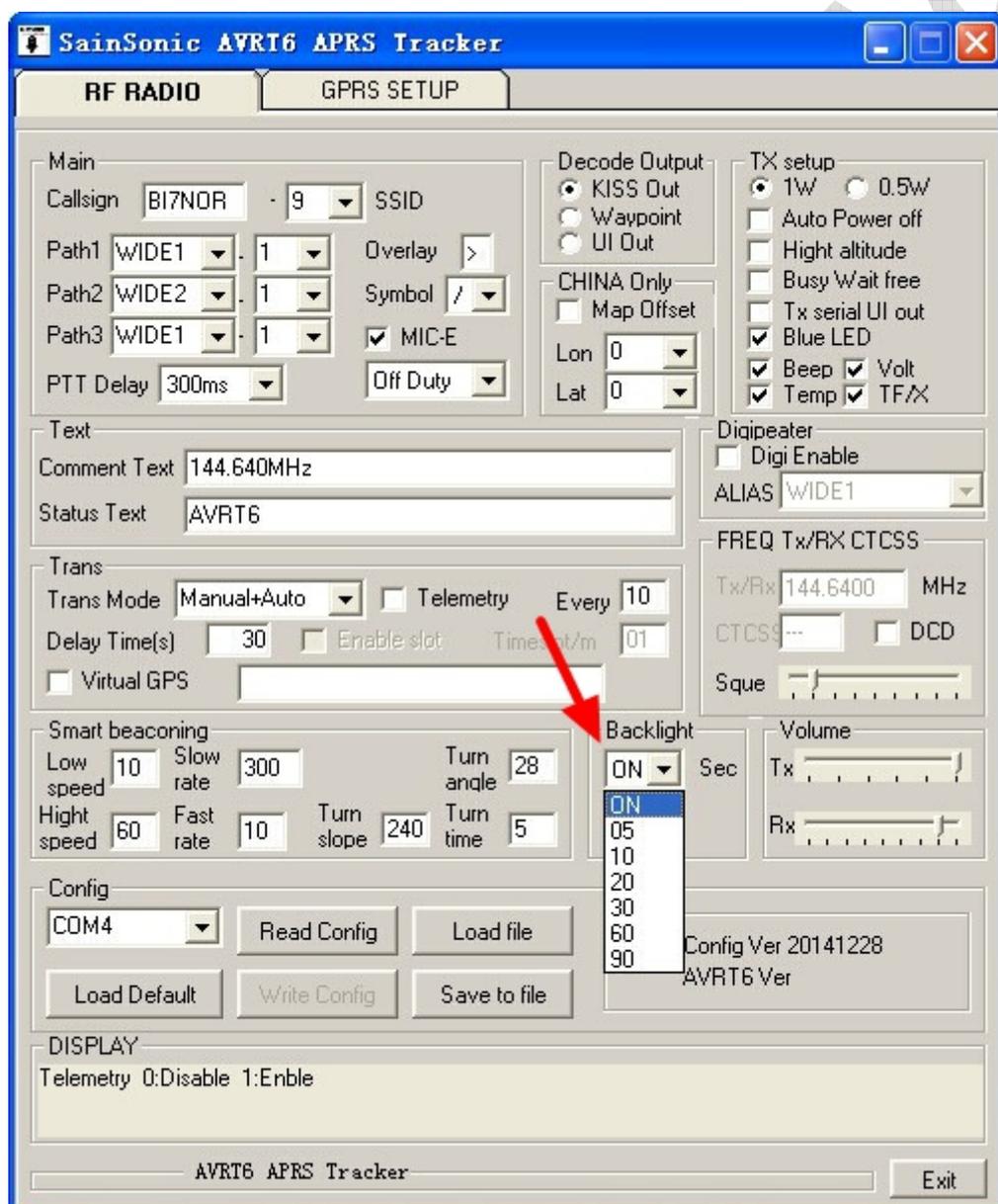
Common uses of reply:

1, The purchase of a new GSM traffic card is inserted in the T6 Shang, I do not know whether the normal log in to APRs servers?

Answer: 2015-2 months after the T6 software log in normally APRS Server, right corner of the screen displays "GSMOK".

If it didn't show in a minute, check the SIM card is plugged in or check the GSM antenna is connected properly.

2, I connected the radio station, but the screen is blank, there is no other data showed, but in APRS.FI site can see themselves.

Answer: there is no problem of display data, because you received each other's data. Please check the DATA cable is connected properly (some radio 6 -pin socket is too deep, insert, available blades edge off plug), or check whether the radio interface connection is bad, 6 -PIN DATA cable swap Plug and try again.

3, I used to use normal, but after you upgrade the software, there is a problem

Answer: this is after an upgrade, caused by uninitialized data. Right way to upgrade is that after the upgrade is complete, read the configuration parameters, restoring the default parameters, and then writes the default configuration parameters, read configuration parameters again, modify your personal parameters, written off and restarting, it will return to normal.

4, Why not send the power cord? I don't even know how to wiring

A: early is not sent, because many people come from out of the radio power supply T6 is used. 2015 years 3 months, sent at random a length with plug power cord. T6 power input is the anti reverse designs, picked up on the reversal did not show again on the line.

5, Me and normal contact of each other, but T6 only occasionally display the coordinates of the data, the other side receive my are normal, what's the matter?

Answer: APRS packets are provided, there is an error, and will lose the entire packet, and ignore. Usually received signal is a 59, decoding will be normal. Received signal 49 near or there is interference. Receiving is not normal. Please check the signal quality or listen to digital sound to the number of packets received is clear.

6, Both sending and receiving APRS distance is too short, and not practical at all. Do?

Answer: speech communication requires long-distance communications, has to be packaged with the relay. APRS is the same, please install APRS Repeater. Only a single radio relay plate, and it came true. We also have GM300 dedicated APRS Repeater panels.

All description, cultural differences from region to region. If you have any questions, please communicate jiaqun, QQ group number 30531489; or to the Web site www.y027.com Exchange or Baidu "APRS" to see if other HAM enthusiasts insight!

BG6QBV&BI7NOR
2015.3.14
www.y027.com
34512886@qq.com