AVRTNC User Manual V1.1

APRS Digipeater

Connector NO.1
连接器第1脚

Connector
Digital Thermometer
DS18B20
连接温度传感器
DS18B20

Connect: Internal speaker sound output
短接：电台内部喇叭响，断开：无声音

第一，**AVRTNC** 中继板的作用

　　AVRTNC 中继板是一款小型的 aprs 设备，它是专门针对 motorola GM300（系列）设计的一款硬件，使用时只要插入 GM300 的尾部数据口即可当作 aprs 中继台使用，简单方便。板载 LED 显示工作状态，板载 miniUSB 接口可以配置内部参数和升级软件。

The AVRTNC repeater board is a small APRs device, It is specific to Motorola station radio (GM300 Series) a design of the hardware,If connect to GM300 port can be as a repeater station to use, simple and convenient. On board LED display working status, the onboard miniUSB interface can configure the internal parameters and upgrade software.

第二，中继板可以和什么电台连接

中继板支持插在 motorola 尾部 16 针的数据口的电台。例如：GM300 SM120 SM50 GM338 GM398 GM3188 GM3688 GM950I

Digipeater board support Motorola series station radio . Behind the radio have the 16 pin data port. For example

GM300/M120/SM50/GM338/GM398/GM3188/GM3688/GM950I

Note1: The relay board supports the connection of the digital temperature sensor DS18B20, the connection will automatically identify the additional temperature data and attached to the relay beacon.

备注 1：中继板支持连接数字温度传感器 DS18B20，连接上会自动识别附加上温度数据并附加到中继信标中。

Note2: The sound control endpoint, short-circuit connection, the internal speaker sound output

备注 2：声音控制端点，短路连接后，内部喇叭声音输出

第三，中继板设置

AVRTNC 配置方法步骤：

1. 装好随机配 USB 串口线驱动；重启电脑。

2. 插上 USB 串口线到电脑（先不要插 AVRTNC 板);运行配置软件，选择 USB 串口线的 COM 端口，

3. 点击读配置（Read Config）按钮；在底部提示 connection 1-20 秒之内，将 USB 插头插到 AVRTNC 小板的 USB 座上。底部提示读取成功，表示已经将配置参数读出。

4. 修改参数后，写入即可（Write Config）（建议每次写入后立刻读取检查一下，如果有错误重复以上步骤）；
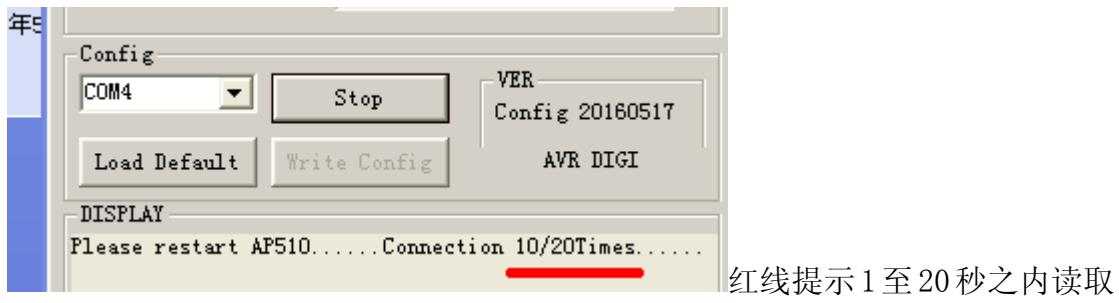
红线提示1至20秒之内读取配置

AVRTNC configuration steps:

1. Installed USB ttl data line driver and reset computer .

2. Connect USB line to computer (don't connect AVRTNC board).　Open the configuration software AVRUBD, select the COM port of the data line,

3.Click the Config Read button（Read Config）; in the connection 1-20 seconds, USB connect AVRTNC board. The tip reads successfully, which indicates that the configuration parameter has been read out.

4. Modify data later and save(Write Config). (it is recommended to read the test immediately after each write, if there is a mistake to repeat the above steps)

Note: DIGIpeater must set Virtual GPS enable and DIGI enable
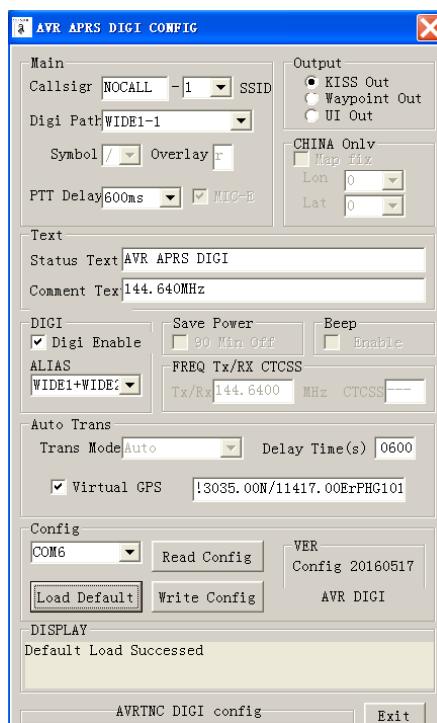
Note: Use the included USB cable, containing USB-TTL circuit, can not use an ordinary USB

Callsign (Callsign): Set callsign (4-6 capital letters). For example: BG6QBV

Suffix (SSID): call sign suffix to distinguish between different mobile terminals. For example: 9

Digi path: setting propagation allowed relaying the scope and Times (can be customized). For example: PATH1: WIDE1-1

Symbol (symbol): "/" and "\." For instance: ！3035.00N／11411.00Er(<u>If use Virtual GPS enable then invalid</u>)

Emission delay (PTT Delay): the length of time the pre-synchronization code data packet, usually set Between 600ms, more power for the wake-up function of the receiver and easy to decode the receiving device. We recommend 600ms.

Send mode options, Two modes can be selected:

1. Manual send (Manual): supports only manual trigger button sent once.

2. automatically sent (Auto): According to the delay time (Delay time) set-up time from Move sent once. For example Delay time = 30 seconds, and then every 30 seconds after positioning device Automatically sent once. (Delay time in seconds). Note: APRS server receives the number According to the package required intervals recommended transmission interval of 20 seconds or more, avoid server Reject packets.

<u>Note: DIGIpeater must set Virtual GPS enable and DIGI enable</u>

DIGI ALIAS: We recommend WIDE1+WIDE2.   Aprs path wide1 or wide2 can be forward

Write Config:Save data

第四，升级步聚

AVRTNC 升级软件方法：

将升级 ROM 写入到设备中刷机方法：

1. 下载刷机软件，设置好软件的串口号，速率是 115200bps 不要动。

2. 载入要升级的 HEX 升级 ROM

3. 先拔下 AVRTNC 小板，然后点击升级软件中"操作"菜单中的"下载"

4. 看到密码连接时，立刻将 USB 线插入 AVRTNC 小板，直到升级过程完成。
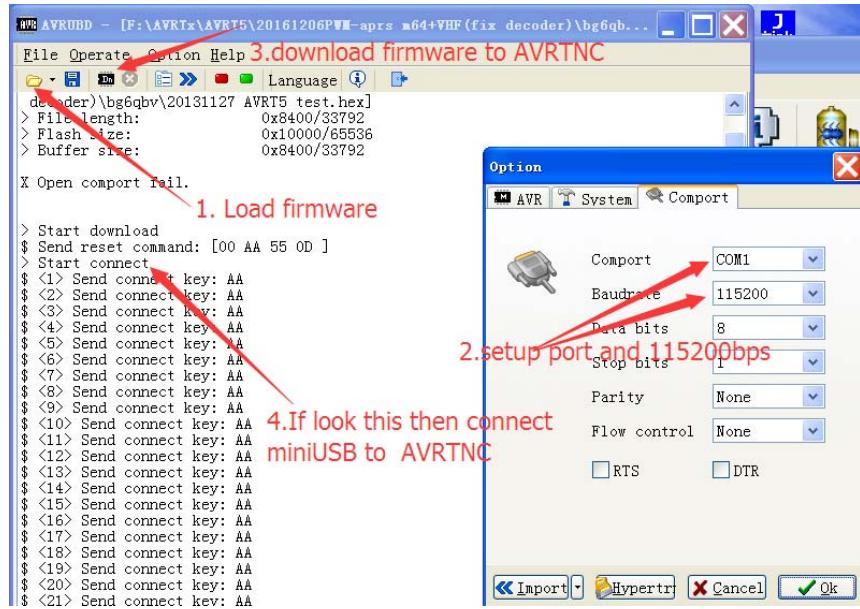
Upgrade software methods :(will be written to the device)

1. Download the brush machine software ARUBD, set up the software serial number, the default rate is

Do not modify 115200bps; flash space, set to 64K.

2. Load to upgrade HEX;

3. Click on the upgrade software in "Operation" menu "download";

4. When the password to connect immediately miniusb to AVRTNC board until the rise stage process is complete;

第五，中继板的技术参数

待机工作电流３０ＭＡ，

仅支持１２００速率

工作温度－２０至６０度

Standby current :30MA,

Support 1200 rate

Working temperature: -20---60 C

整套包含：

1. AVRTNC 电路主板；

2. USB 数据线一条；

1. AVRTNC circuit board;

2. USB data a lines;