Sapido RB-1132 Compact Wireless Router

Submitted by Lo Yuk Fai on Tue, 2010-04-27 23:51

A few usage scenarios for a "travel router"… When you're at the hotel room, which has only a single Ethernet port for Internet access...

- And you want to use your laptop on the bed, but don't have a cable long enough...
- Or you want to have a mini-meeting, and all of the attendees need to use an Internet connection...
- Or you have multiple devices to use...

One of the more popular models, Linksys' WTR54GS [1], has long been discontinued. A handful of them, used or new, can still be found on eBay [2]. It's especially popular because of its integrated power supply, and the ability to share a Wi-Fi connection via Wi-Fi (Wi-Fi to Wi-Fi).

Apple's Airport Express [3] is another compact router with integrated power supply. It lacks the Wi-Fi to Wi-Fi sharing feature but provides 11n [4], iTunes [5] and printer [6] sharing.

And Sapido [7]'s range, which includes the RB-1132 [8], GR-1102 [9], GR-1100 [10] and RB-1100 [11].

The 1100s are the last generation devices which support 11b/g and are discontinued. The RB-1132 and GR-1102 are their replacements, which support 11b/g/n, and pack a few more features as well (and a more cumbersome AC-plug design, more on that later).

In addition to the networking features that the RB-1132 and GR-1102 both share, the latter also supports file (via FTP & Samba), webcam and printer sharing. To better utilize these features, it has an additional USB port.

[12]

This is the RB-1132.

Functions

Among the long feature list [13] (and the GR-1102 has an even longer one [14]), the routing function is in my opinions the most important.

As a router, it can take a/an...

- Ethernet (e.g. xDSL/cable modem), or...
- Wi-Fi (Infrastructure-type only, and possibly unencrypted…?) or...
- 3G/WiMax (via USB dongles, see the compatibility list [15] of the GR-1102 for reference)...

Connection as the WAN interface, and shares it via Wi-Fi and/or Ethernet.

Using Ethernet as the WAN interface is pretty straightforward. For Wi-Fi as WAN, as long as it's an unencrypted and infrastructure-type network (i.e. *not* an Ad-Hoc [16]), it should be okay.

For whatever reasons, I couldn't get it to connect to a WPA2-encrypted Wi-Fi as WAN. Also, when Wi-Fi as WAN fails, it seems that the LAN-side Wi-Fi cannot be established as well. Anyhow, be sure to bring along a LAN cable for the initial setup.

Strangely, for some reasons, it couldn't detect the Wi-Fi network from a FON2100 running DD-Wrt. It's able to find most, if not all, of the wireless networks around my apartment, as confirmed by my phone and PC, but somehow it just didn't want to get along with the La Fonera.

I don't have any WiMax/3G USB dongle to test with, and so couldn't comment on that. But it could be quite a handy feature, as you can setup a mobile AP in the wilderness with it.

[17]

Besides routing packets, it can also act as a wireless AP or a WDS bridge, at the flip of a switch (the manual suggests that the unit should be turned off before switching.) A WPS [18] button is also available. It also claims to support multiple AP interfaces.

Power


[19]


[20]

It can take both AC and DC power. The AC-plug is removable, but not retractable like the WTR54GS, nor foldable like the Airport Express and the 1100s. Different plugs can be installed in order to comply with different countries' regulatory requirements.

Think the company may like to take a page from Apple's playbook [21], which can satisfy both portability and compatibility.

[22]

For DC power, it takes 5V input from a mini-USB port. As a side note, the GR-1102 can also take 12V input directly from a

cigarette plug [23]. But it seems that the company has ditched that approach with the RB-1132, and instead sells a USB car adapter [24] (separately) instead.

According to a Taiwanese forum thread, when the unit is powered via the USB port, a Y-cable (like the one the company sells) has to be used in order to provide sufficient power if a 3G/WiMax USB dongle is to be used.

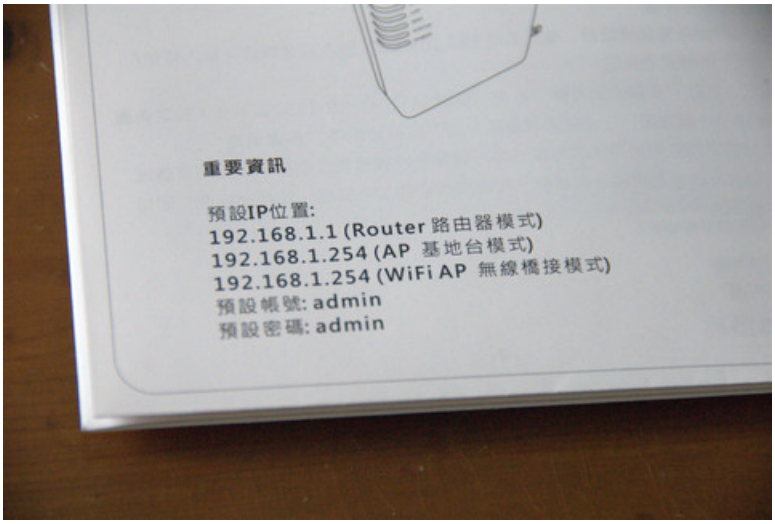
The unit makes quite some heat during operation.

Software

The web interface is fairly basic and occasionally confusing, but it gets the job done. There are two wizards (one simpler and one more complex) to guide you through different setups. After going through the wizards, the unit takes approximate 65s to fully reboot itself.

[25]

One of the stranger issues is that, the language of the web interface defaults to Traditional Chinese. My unit was intended for the mainland Chinese market so it should be using Simplified Chinese. A better choice would be to ask the user for the language during the first login.



[26]

Another strange issue is that, the unit's default IP is 192.168.1.1 in router mode, which may cause compatibility problems if the WAN host also has the same IP. Setting it to be something else could be a wise move.

The default username and passwords are "admin" without the quotes.

The company also provides a PC-based software, called Sado GO, for configuring the router and setting up the PC, which could be handy especially for the GR-1102, which provides various sharing functions. I didn't test it through.

The English manual is difficult to read and understand. However, the company was pretty responsive and gave informative

answers for my email enquiries.

The current firmware runs Linux kernel version 2.6.19.

Hardware

[27]

My package contained 1) the unit itself, 2) a 2-pin AC plug, 3) a quick setup guide in Traditional Chinese and 4) a CD-ROM.

For what it's worth, the company claims that it has a 2T/2R antenna design (2 x 2dBi) which supports up to 300Mbps in 11n. It also support (up to?) 20,000 (concurrent?) sessions.

Besides, someone has disassembled a similar, possibly identical, device to the GR-1102 and found that it's based on Cavium Networks [28]/Star Semiconductor [29]'s CNX11xx [30]/STR91xx [31] platform with Ralink [32] providing the Wi-Fi module. It is neither officially supported by OpenWrt [33] nor DD-Wrt [34].

A size and weight comparison between the RB-1132, WTR54GS and Airport Express. Also on Sizeasy [35].

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Dimensions in mm, weight in g.
RB-1132 - 91 x 78 x 31 - 157 (According to my balance, the company says it's 196)
WTR54GS - 73 x 107 x 31 - 148
Airport Express - 94 x 75 x 28.5 - 210
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Update on 2010-08-01

A kind OpenWrt developer has advised me that this device is probably based on Realtek's RTL8652 SoC instead.

Information about this SoC is scarce [36].

Update on 2010-08-17

Just noticed that the unit is making a small buzzing sound when it's operated from USB-power.

Besides, some good news, someone is working to have OpenWrt work on the GR-1102 [37].

Update on 2010-12-26

Someone has claimed to load DD-WRT on the RB-1132 [38], and posted some internal photos of it (removed, see below). From the photos, it's labelled as the BR186N [39]. The plug design of RB-1132 is from the BR187N [40] through. Also, the Realtek chip is labelled as RTL8196BU [41].

Also, Sapido has released new models with built-in batteries and 3G UMTS (HSDPA/HSUPA) modems. And a "version 2 [42]" of the Sapido RB-1132 with "Green AP technology" which claims to save up to 80% power consumption by auto detection of Internet connection and packet transmission. Updated firmware [43] have been released for the original RB-

1132 to support additional 3G USB modems as well.

Update on 2011-01-24

The dev who loaded DD-WRT on the RB-1132 has stopped [44] from further developing it, claiming unreliable flashing process. He also removed the photos. There are 2 others photos from another forum member here [45] through.

Update on 2011-06-25

For some reasons unbeknown to me, the RB-1132 stopped working after having its firmware updated. The local distributor asks for a fee to fix it because I didn't buy it from them. Will try to "un-brick" it later using the serial console and TFTP.

Meanwhile, I've opened the unit, and snapped two photos which are available here [46].

Besides, another dev had joined in the effort in making DD-WRT works on it, but has already stopped by the time I'm writing this. Looks like the chance of seeing *Wrt works on it becomes slimmer and slimmer.

Also, Sapido has released some newer portable routers [47], some of which have a built-in battery, and one of them ditches the internal PSU altogether and is purely USB-powered.

One last thing, there's another portable router having just been released by TP-LINK - TL-WR700N [48], which uses Atheros' [49] AR9331-AL [50] and seems to only have a Chinese interface and not available outside mainland China, yet. It has only 1 Ethernet port and no USB ports, but the 2-pin plug is foldable. Threads have been started in the OpenWrt [51] and DD-WRT [52] forums about it. It's also cheaper than Sapido's offering.

And updated Sizeasy [53].

Links

- A forum post on OpenWrt.org about the CNX11xx/STR91xx platform. Contains links to photos of the dissection of a similar/identical device.
- Another forum post on OpenWrt.org related to the CNX11xx/STR91xx platform.
- A discussion on Mobile01 about GR-1102 (in Chinese) [54]
- Another discussion on Mobile01 about GR-1102 (also in Chinese) [55]
- tinyhack.com - The owner of the blog has coded support for the CNX11xx/STR91xx for both Linux and FreeBSD [56]
- Amigo Technology - The OEM of these products...? [57]
- Solwise - Similar (or identical…?) products to the Sapidos...? [58]

(categories: Computing [59])

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Source URL: http://byfai.com/content/sapido-rb-1132-compact-wireless-router

Links:
[1] http://www.linksysbycisco.com/US/en/support/WTR54GS
[2] http://shop.ebay.com/?&_nkw=wtr54gs
[3] http://www.apple.com/airportexpress/
[4] http://www.apple.com/airportexpress/features/frequency.html
[5] http://www.apple.com/airportexpress/features/airtunes.html
[6] http://www.apple.com/airportexpress/features/printing.html
[7] http://www.sapido.com.tw/
[8] http://www.sapido.com.tw/EN/productrb1132o_35g.htm
[9] http://www.sapido.com.tw/EN/productgr1102o.htm
[10] http://www.sapido.com.tw/EN/productgr1100o.htm
[11] http://www.sapido.com.tw/EN/productrb1100o.htm
[12] http://byfai.com/content/sapido-rb-1132-body
[13] http://www.sapido.com.tw/EN/productrb1132k_35g.htm
[14] http://www.sapido.com.tw/EN/productgr1102k.htm
[15] http://www.sapido.com.tw/EN/faq/solution-75.htm
[16] http://answers.yahoo.com/question/index?qid=20060714010451AAiEiUF
[17] http://byfai.com/content/sapido-rb-1132-body-1
[18] http://www.youtube.com/watch?v=pa0iAyh9rZQ
[19] http://byfai.com/content/sapido-rb-1132-ac-plug

[20] http://byfai.com/content/sapido-rb-1132-ac-plug-0
[21] http://www.youtube.com/watch?v=x2sj8K6FpDU
[22] http://byfai.com/content/sapido-rb-1132-body-2
[23] http://en.wikipedia.org/wiki/Cigarette_lighter_receptacle
[24] http://www.sapido.com.tw/EN/productas0001o.htm
[25] http://byfai.com/content/sapido-rb-1132-change-language
[26] http://byfai.com/content/sapido-rb-1132-manual
[27] http://byfai.com/content/sapido-rb-1132-body-0
[28] http://www.caviumnetworks.com/
[29] http://www.caviumnetworks.com/newsevents_Caviumnetworks_STAR_Acquisition.html
[30] http://www.caviumnetworks.com/ECONA_CNS1XXX.html
[31] http://www.ascendtechnology.net/star01.htm
[32] http://www.ralinktech.com/
[33] http://openwrt.org/
[34] http://www.dd-wrt.com/
[35] http://www.sizeasy.com/page/size_comparison/28611-RB-1132-vs-WTR54GS-vs-Airport-Express-vs-Pack-Of-Playing-Cards
[36] http://www.google.com/search?q=rtl8652
[37] http://aliosa27.net/?p=26
[38] http://www.dd-wrt.com/phpBB2/viewtopic.php?t=12630
[39] http://www.amigo.com.tw/BR186n.htm
[40] http://www.amigo.com.tw/BR187n.htm
[41] http://www.google.com/search?q=rtl8196bu
[42] http://www.sapido.com.tw/EN/data/Download/rb1132v2_f.htm
[43] http://www.sapido.com.tw/EN/data/Download/rb1132_f.htm
[44] http://www.dd-wrt.com/phpBB2/viewtopic.php?p=519050#519050
[45] http://www.dd-wrt.com/phpBB2/viewtopic.php?p=485273&sid=9a2ae1ddc4eb79904706d2adb909f0bc#485273
[46] https://forum.openwrt.org/viewtopic.php?pid=135690#p135690
[47] http://www.sapido.com.tw/EN/images/post/2010epaper_11.html
[48] http://www.tp-link.com.cn/pages/promos/wireless/2011-04-26/
[49] http://bbs.mydigit.cn/read.php?tid=264773
[50] http://www.hkepc.com/forum/redirect.php?goto=findpost&ptid=1622232&pid=25145188
[51] https://forum.openwrt.org/viewtopic.php?id=30571
[52] http://www.dd-wrt.com/phpBB2/viewtopic.php?t=140333
[53] http://www.sizeasy.com/page/size_comparison/32231-RB-1132-vs-Airport-Express-vs-Pack-Of-Playing-Cards-vs-TL-WR700N-vs-WTR54GS
[54] http://byfai.com/forum.openwrt.org/viewtopic.php?id=13610
[55] http://www.mobile01.com/topicdetail.php?f=110&t=1349673
[56] http://tinyhack.com/
[57] http://www.amigo.com.tw/
[58] http://www.solwise.co.uk/
[59] http://byfai.com/computing