

Ham Radio Blog PD0AC

Thoughts of a Dutch radio amateur

DEC 14 2014

Review Baofeng GT-3 Mark II

Another Baofeng? Booooring... That's what crossed my mind when I opened up the box with the GT-3 Mark II inside. Let's be honest: apart from fancy looking cabinets there hasn't been much progression.

So, is the GT-3 Mark II as boring as the rest of the Baofeng pack? Surprisingly, it's not.



<https://hamgear.files.wordpress.com/2014/12/mark1-mark2-1.jpg>

Old vs new. The Mark II antenna might have Nagoya roots (NA-666).

Look & Feel

As far as look & feel go, the GT-3 Mark II is still easily recognizable as a Baofeng variety. The orange accents make the radio look more modern, better even, although tastes differ. When compared to the [first GT-3 version](https://hamgear.wordpress.com/2014/01/24/review-baofeng-gt-3/) there aren't many differences to spot, but the ones you do see are important.

- Belt clip is molded differently, and clamps slightly better.
- The UV-5R stock antenna has been replaced with a Sainsonic antenna specifically tuned to the amateur bands.

It's no secret that I despise the short UV-5R stock antenna. It's deaf, and better in converting RF into heat (<https://hamgear.wordpress.com/2014/01/23/baofeng-gt-3-antenna-hot-hot-hot/>) than into radiated energy. If you look at the picture below, you'll see that the Mark II's green LED is on, showing that it's receiving the PI2NOS repeater in Hilversum. The old GT-3 stays silent. That has nothing to do with receiver sensitivity, but everything with the efficiency of the antenna.



(<https://hamgear.files.wordpress.com/2014/12/mark1-mark2-2.jpg>)

Old antenna: no indoor reception. New antenna: good indoor reception.

Receiver

Now here's a mystery. The chips used in both the old and the new GT-3 are exactly the same. Both radios are equally sensitive. Performance however is not — the Mark II can cope much better with unwanted (strong out-of-band) signals than the first version. My theory is that the firmware has something to do with it, but I can't prove it. Whatever the reason, the GT-3 Mark II surpasses the Baofeng UV-B5, although not by a wide margin.

RX audio

Typically Baofeng UV-5R – nothing special, but good and distortion-free.

Squelch levels

No improvements here, and I didn't expect that anyway. Because the squelch design is based on noise levels, there just isn't enough room to play with thresholds. The slightest whisper of a router, modem or switch will open the squelch, even when the squelch is set to the maximum level.

If the squelch would have been based on signal strength, like a Yaesu FT-60 for example, you would be able to set any threshold you want. No such luck with this design.

TX audio

Here's the good news: the GT-3 Mark II was not recognizable as the typical Baofeng. Most standard UV-5Rs lack enough punch and, more often than not, sound muffled. All this radio received from other hams were compliments, and believe me, there's quite a bunch of nit pickers out there.

Harmonic suppression

Quite impressive on VHF, disappointing on UHF.

Marker Table				
Marker	Trace	Type	X Axis	Amp
1D	1	Frequency	290.000000 MHz	-66.27 dBm
2D	1	Frequency	434.600000 MHz	-63.87 dBm

(<https://hamgear.files.wordpress.com/2014/12/gt-3-mark-ii-vhf1.jpg>)

GT-3 Mark II VHF: excellent.

Marker Table				
Marker	Trace	Type	X Axis	Amp
1D	1	Frequency	871.828333 MHz	-30.49 dBm
2D	1	Frequency	1.308800000 GHz	-53.24 dBm

(<https://hamgear.files.wordpress.com/2014/12/gt-3-mark-ii-uhf.jpg>)

GT-3 Mark II UHF: disappointing.

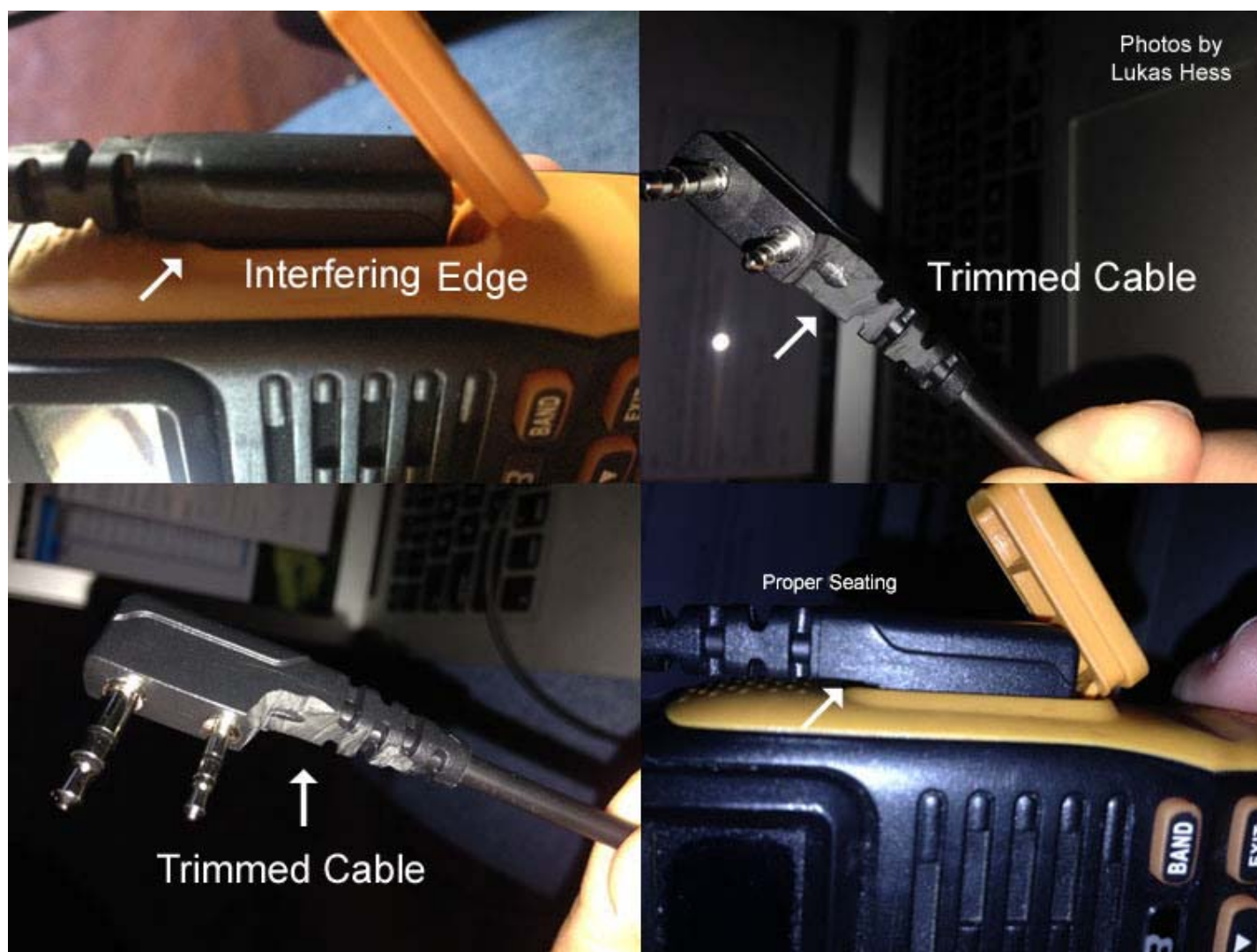
Bugs & Flaws

I didn't run into firmware bugs. Some old flaws were fixed, such as the 'rounding down' bug. When set to 12.5 KHz steps, the radio now correctly predicts the frequency you want to enter instead of rounding it down. No 'listen to the beep' (<https://hamgear.wordpress.com/2014/10/09/uv-5rs-latest-bug-listen-to-the-beep/>) bug either.

Programming cable

One annoying flaw is actually not the radio's fault. Most programming cables have a connector mounted under a 90 degree angle, which is not the best way to do things. As soon as the body of the radio is slightly wider than, let's say, a standard UV-5R, the 3.5mm and 2.5mm plugs won't go in all the way.

The GT-3 Mark II's body *is* wider. As a result the computer never sees the radio. The solution is to trim some plastic from the connector, as described at [Miklor.com \(http://www.miklor.com/COM/UV_ErrorMess.php\)](http://www.miklor.com/COM/UV_ErrorMess.php).



Battery life

Impressive, really impressive, just like the standard UV-5R. Days go by without the need for recharging, and I'm a heavy duty user. Maximum battery capacity is reached after three consecutive cycles of being drained completely and charged completely, which is typical for Li-Ion batteries. Charging time is about 5 hours.

Conclusion

The GT-3 Mark II does away with some typical UV-5R weaknesses, while avoiding introducing new bugs or flaws. The receiver worked very nice; the front-end clearly improved (although it's unclear why), and TX audio is great. Harmonic suppression with Baofeng radios always seems to be a matter of hit & miss.

The new antenna performs way, way better than the previous one. It is however a rather delicate design, prone to bend at the base. All in all this radio gets a 'thumbs up', and easily takes the #1 spot in the Baofeng product line.

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By Hans • Posted in [Amateur Radio](#), [HAM Gear](#), [HAM Radio](#), [Review](#) • Tagged [Baofeng](#), [GT-3 Mark II](#), [Sainsonic](#)

25 comments on “Review Baofeng GT-3 Mark II”

ΕςΒιΕνα Ανώνυμος

DECEMBER 15, 2014 @ 3:28 AM

Hi Hans,

When you say “unwanted signals”, do you mean signals outside of the amateur bands or just a few channels away?

The comparison between the two GT-3s, as far as the unwanted signals is concerned, has been done with their antennas attached to or by driving the two GT-3s via their antenna connector? In case that the test has been done with the antennas attached to the radios and the unwanted signals were outside of the amateur bands, then perhaps the Sainsonic antenna, that is specifically tuned to the amateur bands, has worked as a band-pass filter and so the better off-band performance.

Thank you in advance for your answer.

73 de sv1Anonymous

REPLY

Hans

DECEMBER 15, 2014 @ 7:07 AM

I mean strong out-of-band signals, which cause poor receivers to mute. For clarity I might have to edit that. The antenna was my first thought too, but to make a meaningful comparison I fitted both radios with identical antennas (the long ones supplied with the UV-82 and UV-B5). The second test was on one of my outdoor antennas; a situation in which my old UV-5R gives up.

REPLY

Astrogoth

DECEMBER 15, 2014 @ 4:16 AM

If it does not offer a big battery pack or an AA pack on the aftermarket it's next to useless for disaster communications. I just do not understand why Asian radio designers don't create a standard battery mounting system. I was going to buy one of the new “E-model” little radios that gets AM aircraft and HF too for \$186 but not if it only has a small pack available for it.

REPLY

Hans

DECEMBER 15, 2014 @ 7:23 AM

Initial lack of accessories is a drawback of a new design. I'm pretty sure Asian manufacturers don't want a universal battery system, just like Yaesu, Icom and Kenwood never agreed on something. Accessories = money. You don't want competition.

REPLY

roadhoguk

DECEMBER 15, 2014 @ 8:54 AM

Well, it's been out a year and hasn't really made any waves.

REPLY

Theodore Roberts

DECEMBER 15, 2014 @ 9:56 PM

Clearly you understand Baofeng better than I. I bought uv5r, as usual, not much instruction included, and I'm new to ham! A lost ball in high weeds, but I can learn. I know it's not an IC-2GAT (my first radio). The sensitivity is definitely missing! KD8OCU.

REPLY

Hans

DECEMBER 16, 2014 @ 7:36 AM

Actually, a Baofeng is *very* sensitive, much more sensitive than any old radio I ever owned. However, if receiver filtering is missing or inferior, high sensitivity is totally meaningless. The radio will quickly be overwhelmed by strong signals around you, most of which will be out-of-band. This can lead to a muted receiver, which can be mistaken for a lack of sensitivity.

The original UV-5R manual is mostly useless. Download this one instead:

http://www.miklor.com/uv5r/pdf/uv-5r_v1.0-annotated_by_KC9HI.pdf

REPLY

Karl Erik

DECEMBER 17, 2014 @ 4:58 AM

I bought 4 Baofeng GT-3 Mark II off eBay, from different sellers.

All 4 radios do not supply correct 1750Hz tone for repeaters, but they all supply a 2100Hz tone. Very disappointing that you did not test such an important "must have".

REPLY

Hans

DECEMBER 17, 2014 @ 8:31 AM

If you trust the manual to the letter (something you should not do with a Baofeng) you will get confused. PTT + Band = 2100 Hz. PTT + A/B is 1750 Hz. It took me just 60 seconds to figure that out.

P.S. 1750 Hz burst tones as a way to open up repeaters was abandoned years ago, in favor of CTCSS. Not in your country?

REPLY

Karl Erik

DECEMBER 17, 2014 @ 11:18 AM

What a clever guy

Did you just press any button in blind?

Thanks for your advice – it works.

Hans

DECEMBER 17, 2014 @ 11:27 AM

This hobby assumes one to experiment, with Chinese stuff you **must** experiment. I hit the

right button immediately. After all, there aren't many buttons left after you discard the ones generating DTMF

Vernon

DECEMBER 17, 2014 @ 5:52 AM

Its easy enough to fit a AA battery pack ..
Just need to do some mods ..

<http://www.eham.net/ehamforum/smf/index.php/topic,98691.0.html>

Is this the only GT3 MK2 with a AA battery pack ?

REPLY

Rizki

DECEMBER 17, 2014 @ 12:13 PM

My UV-5r is deaf with outdoor antenna (Hygain V2R) and mobile antenna (larsen) and wont receive any incoming signal but transmitting is excellent is this because of the "strong out-of-band signals" you mentioned?

thanks.

REPLY

Hans

DECEMBER 17, 2014 @ 12:28 PM

Probably yes. It all depends on your location and the amount of RF pollution around you. The problem will hurt you the most when you live in the city; when living in the proverbial 'middle of nowhere' you might never notice it.

My UV-5R can't be connected to an outdoor antenna either, the receiver will collapse immediately. My (recently sold) Kenwood TMV-71 couldn't handle it either, and this is an expensive dual-band radio. The Baofeng GT-3 versions do a better job.

Mono-band handhelds from Yaesu, such as the FT-270R and FT-277R, won't care. These are much more expensive, of course — about 3x the price of a Baofeng.

REPLY

Rizki

DECEMBER 17, 2014 @ 3:27 PM

Hi Again Hans, yes i am living right in the middle of the cit. You said GT-3 mark II does a better job, but is it good enough that it doesnt become deaf at you location where Kenwood TMV-71 and Baofeng uv-5r receiver failed?

My last question does single-band HT in general is better in handling strong out-of-bound signal than dual band HT?

Many thanks.

Hans

DECEMBER 17, 2014 @ 3:36 PM

You could run into a lousy Chinese mono-band too, but yes, mono-band transceivers are generally less susceptible to RF pollution. Whether the GT-3 MK II would do as well at your place as it does here, is hard to predict. The best advice is to borrow one and try it out.

Rizki

DECEMBER 19, 2014 @ 4:46 AM

Well your answer is spot on, I was thinking of getting the GT3 Mark II and wondering if the GT3 Mark II will handle noise better at my location. I guess the only thing to do is to get one since none of my friends has one. I will keep my UV-5R though this is a really nice HT as it is.

Thanks.

8. PINGBACK: [Baofeng GT-3 Mark II en détail | Radioamateurs-France](#)

Vernon

DECEMBER 23, 2014 @ 11:25 PM

?????????

All my handhelds (Baofeng) run off an external (outdoor) antenna just fine ..

I run a Vertical Dipole and SWR is almost 1:1

I have had no issues .. For RF I use the clip on filters you can buy ..

Just clip them onto the coax .. I added a balun to both my dipoles and noticed no difference to not having a balun .. The clip on filters were noticed right away .

Both my dipoles handle 2m and 70cm just fine ..

(Actually I have 3 Dipoles , but never mind) .. The 3rd dipole does not run a balun or filters , and is just as easy to live with as the other two ..

REPLY

John Leake

FEBRUARY 9, 2015 @ 2:01 AM

Hans, do you think the new GT-3 is a better radio than the GT-5 or the UV-82? I have the 82 and I get nothing but compliments when I talk on the 2 meter nets. One ham thought I was running a 2 meter base station and was astonished when I told him what I was using. I have it hooked up to a 2m mobile antenna.

REPLY

Hans

FEBRUARY 9, 2015 @ 7:42 AM

The GT-3 MKII is a better radio when used under more challenging conditions (e.g. RF pollution). If that's not a problem where you live, don't bother. For me, owning about every Baofeng variety, it was a blessing. RF pollution is very high here.

REPLY

Maurizio

FEBRUARY 15, 2015 @ 10:22 AM

@Hans

So you suggest gt-3tp over the gt-5?

Thx

Hans

FEBRUARY 15, 2015 @ 11:17 AM

Yes, especially if you live in an area where RF pollution is a fact of life. If that's not a problem where you live, the GT-5 (which is just a UV-82 in another package) will do fine too.

Ed

FEBRUARY 14, 2015 @ 10:00 PM

What software can I use with GT-3 Mark II?

REPLY

Hans

FEBRUARY 15, 2015 @ 11:15 AM

Standard UV-5R software, or the more advanced Chirp (select UV-5R from the supported radio

models).

REPLY

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