



The Tecsun Green-138 Lights Out for the Poor Man?

By Eric Bryan

At first glance, you might think this radio is a multi-band portable from the late 1960s or 1970s that you would have carried to the park or beach. But turn it around, and the generator crank and LED light will tell you the Tecsun GREEN-138 falls into the Emergency Radio category.

My first adventure into the land of windup radios was a purchase of the Grundig FR200. This set had tuning backlash and a temperamental band selector (a slight touch would detune the unit).

Then I found Steve Waldee's fascinating "A Not-Mini Review of Grundig's MINI 100 Radio" online. Here he described his similar experience with the FR200. That sent me back to the store to trade the FR200 for the 100PE. That was it for windup radios for the moment.

Then Tecsun sent me a catalog from Hong Kong which showed the GR-138. Soon the mailman was knocking at my door with an overseas package. It being a windup radio wasn't my only reason for buying. On top of that feature I wanted a solid knockabout SW radio with strong audio and stable reception.

❖ Coverage

The GR-138 includes FM, MW and SW. Coverage is 87-108 MHz, 525-1610 kHz, 3.2-9 MHz and 9-22 MHz. There is some overlap at the tops and bottoms of each band.

Oddly enough, though the thick tuning needle indicates FM and MW frequencies, it doesn't extend down to the SW scale. You must draw an imaginary line down with your eye for SW tuning. A 0-10 scale helps somewhat.

The irony here is that the GR-138's SW calibration is pretty good, the best I've seen on a Tecsun analog radio. The 90 through 13 meter bands are shown on the frequency scale to assist in SW tuning.

When the unit is on, the tuning needle glows, but not the frequency scale. In darkness this gives you a rough idea of dial position. There is no option to turn this light off.

❖ Controls

All is simplicity here: An on/off volume dial, a great big tuning dial, and a smaller fine tune dial. All work in the traditional ways.

On the back is the band selector slider. It's tight and not overly sensitive. Merely touching it won't send you tumbling off frequency like

with the FR200.

Another slider on the back turns on the emergency light for a steady shine or strobe. The LED is set in a reflector and casts a bright, warm glow, similar in color to firelight. The earphone mini-plug is on the back, too.

More on the controls under "Power" and "Selectivity."

❖ Power

All right, to get the simple part out of the way, you can simply open the rear battery cover and insert two AA cells. Now find the switch above the cover, slide it to "AA battery" and you're set to go.

The next method is to use the included 220 V AC adaptor and 110/220 V transformer. Plug the adaptor into the 5V DC jack, and a red LED glows to show you the internal Ni-MH battery pack is being charged.

But this isn't an AC adaptor to run the radio, only to power the charger. You are not to run the radio or light from the battery pack while charging, or risk damage to the adaptor and lamp, the manual says. (Presumably it would be fine to operate the radio from two AA cells while charging the battery pack [the switch selected



to "AA battery"]).

To further complicate matters, there is no automatic charger shutoff nor does the LED blink when the battery pack is fully charged. Furthermore, you are warned to not exceed the eight hour charge time. Doing so could damage the battery pack, the manual states.

The only way to safely charge the battery pack via the AC adaptor is to run the pack flat, plug in the adaptor, and keep track of time. After eight hours, unplug the adaptor, flip the switch to "Recharge battery" and the radio will operate off the Ni-MH pack.

The good news is that, running the radio intermittently but regularly at a "personal" volume level over the speaker, one charge lasts four to five days. Lessen this for listening at "room"



Specifications

Sensitivity

FM < 10 μ v
MW < 1 mV/m
SW < 50 μ v

Output

> 125 mW

Power

Two AA cells 3 V
Ni-MH battery pack 3.6 V, 650 mA
AC adaptor for charger 5 V, 50 mA, center negative

Speaker

2.5 inch

Earphone

8-32 ohm

Dimensions

Approx 8 x 4.75 x 2.35 inches

volume, and increase it if using earphones.

Lastly, for power outages, you can extend the generator crank and turn it at two cranks a second for 30-60 seconds. The manual says 120 turns in one minute powers the radio for a paltry 15 minutes.

I've found that 60 rotations in 30 seconds gives about 20 minutes of SW or MW play at personal volume level before the sound starts to fade. FM lasts 20-25 minutes.

With the radio off, this 30 second charge runs the light for about 10 minutes before it starts to dim. By 15 minutes it's quite weak.

❖ Sensitivity

The BBC on 5975 and the Voice of Russia on 15595 came in at my Washington state location with stunning, perfect reception over the telescopic antenna. Other strong signals from Radio Netherlands, Radio Japan, Radio Korea International etc. were also outstanding.

Receiving over the whip, strong SW signals stay strong after setting down the GR-138. This is a must for a kitchen, shop, bathroom, or deck radio.

Like with the Kaito WRX911, the AGC is such that when first tuning in one of these powerful transmissions the signal is "squelched" for a second before it comes back up.

Clipping a short wire (under 13 feet) to the telescopic antenna gave an ideal boost to SW which helped me to log the stations in Table One.

Table One: Logged Stations (kHz)

Belgium (via Germany) ...	17570
Bulgaria	9700 11700
Canada (CHU)	7335 14670
Croatia (via Germany) ...	9925
Cyprus (BBC)	7265
France	7280
Gabon	5475
Germany	15205
Greece	9420 12105
Israel	15640
Italy	11800 15380
Kuwait	11675 15495 15505
Mexico	6185
Morocco	15345
Portugal (DW)	7170
Saudi Arabia	17560
Serbia-Montenegro	9580
South Africa	7390 9685
Sri Lanka (DW)	17820
Tunisia	7275
Turkey	9460
Vatican	7250

For an external SW antenna, the Chinese manual recommends a plastic-coated wire of 3-4 meters. Connection is made by wrapping the insulated wire around the whip for 5-10 turns without making a metal-to-metal connection (loose coupling). With loose coupling, reception was still solid with excellent signals on 9685 Channel Africa and 11800 RAI Italy. The Voice of Croatia on 9925 sounded almost as spectacular as the BBC and Voice of Russia.

On MW this set has no trouble picking out a distant, weak daytime 1300 signal from a local 1330 station. At night, with decent conditions, the band is teeming with transmissions from

Canada and neighboring states. MW reception is via the internal ferrite bar, but on some signals attaching the wire to the whip gives a significant RF boost.

Turning to FM, I checked for a 90.3 signal from a college station 30 miles away. All I could find was a jumble of sounds, including spurious signals from strong transmissions further up the band.

The telescopic antenna being non-swiveling, I turned and dipped the GR-138 to try to improve reception. It was still a mess. With disgust I collapsed the antenna and was about to turn the unit off when suddenly a clear signal leaped to the fore.

I tuned around again for the 90.3 station. Finding a somewhat scratchy signal, I waited for an ID. I was surprised when it turned out to be a different college station, one which I hadn't noticed on any other radio, from 45 miles away.

Disoriented, I tried again for 90.3. Then I realized that the signal that had come to life when I first folded up the antenna was 90.3, nice and clear.

Leaving the telescopic antenna down and bandscanning, most all the stations now came in well. Some required partial extension of the antenna. (The manual recommends altering the length and position of the whip for FM and SW reception.) Setting the radio at different angles sometimes helped.

Bottom line: The GR-138 is a "live wire" on FM, maybe hypersensitive.

❖ Selectivity

All is fine on FM and MW. But a lot of coverage has been packed into SW1 and SW2. Using the main tuning dial here takes the patience of a SW veteran. The fine tune dial is needed for precise adjustments. But the fine tuning isn't very fine. On SW1, it has a 40-50 kHz spread. On SW2 it covers 130 kHz (e.g., 15-15.130 MHz)!

Despite this, the GR-138 can pick out signals spaced 5 kHz apart when they're of comparable strength. I'm able to separate Serbia-Montenegro on 9580 from VOA on 9575 when the latter isn't too strong. But transmissions with very strong neighboring signals are a different story. A massive 5755 transmission made a medium-strength one on 5765 unusable.

There are no spurious signals on MW from 49 meters on this single conversion radio. But with the wire clipped on, Radio Thailand's giant 5890 relay transmission was audible in the background up 49 meters. With loose coupling, Radio Thailand's 49 meter spurious signals faded away.

The GR-138's LO oscillates at the radio's IF of 455 kHz above tuned SW frequencies. Images of strong SW transmissions are cast 910 kHz below the real signals, so most of them fall outside SW broadcast bands. One main exception is a 5945 ghost from a 6855 transmission. (Of course, 60 meters falls prey to some 49 meter images.)

❖ Drift

Drift on SW is mild and not nearly as troublesome as it is on smaller analog sets. Some

periodic readjustment is necessary, but you don't have to constantly play a game of catch-up following a signal around.

Very strong transmissions can go for a long time without a need to tweak the dial.

❖ Audio

The GR-138's 2.5 inch speaker, assisted by the radio's deep cabinet, has considerable resonance and boom. The strong BBC, VOR etc. broadcasts came in with rich, crystal clarity.

But the most striking sounds came from Ecuador - HCJB's ethnic music program on 9745 kHz (*now, alas, a thing of the past-ed.*). Here the Latin percussion snapped out in sharp, crisp spikes from the full, mellifluous whole of the rest of the instruments.

Another memorable audio experience was listening to Radio Exterior de España's "Musica de Contemplacion" on 15110 while relaxing one afternoon. The Moorish sounds were clear and haunting over the GR-138's speaker, the aural-painting creating a meditative experience.

The speaker has enough oomph to fill a room and to compete with noises in the kitchen or shop. Though I have PLL-tuned SW radios, I find I'm using the GR-138 more than them for casual listening because of its room-filling sound.

Audio is also excellent with a good pair of earphones, though FM is in mono.

❖ Overall

I'm much happier with the GR-138 than I was with the FR200. It's a solid block of a radio, with fairly sturdy and stable controls.

A main drawback is the AC adaptor/charger issues. Not being able to leave the radio on the charger so that it's ready when the lights go out makes this feature of limited emergency-preparedness use. Also the non-swivel antenna is sometimes inconvenient for FM reception.

The chief advantage of the GR-138 over the FR200 is its absence of SW tuning slop and backlash (assisted by using a strip-and-gear, instead of a cord-and-pulley, dial and needle system). But with the GR-138 you do to some extent trade those problems for even more compressed SW bands coupled with not very fine "fine" tuning.

Still, I found the GR-138 more pleasurable and easier to tune on SW than the FR200. The SW tuning can be mastered with regular use. Mainly you tune to one of the meter bands marked on the scale, then gently and slowly hunt for signals (like in the old days).

The GR-138 looks to have the same generator crank mechanism as the FR200, about which some have complained of crank breakages.

Like the good worldband portables of the '60s and '70s, when ionospheric conditions are agreeable, the GR-138 feels "alive" in your hands when tuning around. It receives well.

I bought my GR-138 on eBay from seller Liypn (<http://stores.ebay.com/V-COM-COLLECTIONS>) for \$24.90 plus \$20 shipping (7-10 days to the US). Thank you to Liypn for translating into English the Chinese materials about the GR-138. The radio is still sold on eBay for \$29.90 more than a year later.