

Review Of The Tecsun PL-600 Radio

-With Comparisons To The Kaito 1103
 -And a slant towards medium wave reception

-by Radio-Timetraveller

Purchased From: www.amazon.com
 US Distributer: Kaito Electronics
 Price: \$79.99 + shipping

Overall Size: 7-3/8" x 4-1/2" x 1-1/4"

Serial #: 20090220

ARRIVAL

My new radio arrived from the Kaito distributor in California after a one week UPS trek across country. The PL-600 and accessories themselves were in a box of their own inside the shipping box which was stuffed with Chinese newspapers - I had no doubt that this Tecsun had come straight out of China! Adequate it seems, as everything arrived in good shape. Lots of Chinese writing all over the radio box, English as well, this ought to be interesting!



The PL-600 is available in three colors - a medium grey, silver, and black. Kaito sent me a grey one, though the Amazon ad depicted a black unit. Good enough.

ACCESSORIES

The PL-600 comes with a nice accessory package. Inside was an extremely nice foldover velcro travel case, external antenna wire wound on a spool (including mini connector and curtain clip), earbuds, 4 NiMH batteries (1000mAH), a 6 volt wall-wart AC adaptor (for 110V), and manuals.

MANUALS

Yes, manuals. Both English and Chinese manuals were included. The Chinese manual has many graphics depicting the use of the controls, and even some of the textual balloons are in English, though 99.9% of the manual is Chinese of course. The English manual is mostly a textual explanation of radio operations with a few pertinent graphics on pages 3 and 4. The Chinese manual contains a lot of numerical specifications that are not presented in the English manual.

SETUP

The radio requires 4 AA batteries. Battery level is displayed on the screen, and is accurate for either NiMH batteries (~1.2 volts) or standard alkalines (~1.5 volts). When you set up the radio, you tell it through a

system set code whether you are using alkalines or NiMH. The NiMH batteries are chargeable right in the radio using the AC adaptor. You can even set up the charge rate too. Charging automatically shuts off when finished. Excellent. The radio came preset for NiMH batteries.

The radio was also preset for North America, in that the medium wave (MW) broadcast band split was already set up for 10KHz. The long wave band (100KHz - 520KHz) was already activated too (the LW band on this radio is activated/deactivated by setting a system set code).

No other setup was required.

QUALITY AND ERGONOMICS

The PL-600 build and fit quality is good, about the same as the Kaito 1103. The telescoping whip antenna seems a little cheaper in quality. My top section was slightly bent the first time it was pulled out, but easily straightened. It is the same length as the whip on the 1103, though not chromed as much.

Buttons are square on this radio, and give a nice solid click when pressed. Lettering is next to each button (usually above or below), not on the button itself, so it can't be worn off by repeated pressing of the button. Good thinking. Keypad is layed out very well. Very intuitive. Ergonomically, this radio is a near masterpiece. You hardly need the manual to learn how to use it.

A front-firing, round speaker is to the left, nearly 3 inches across. The left side of the radio has an external antenna jack, a three-position attenuator switch, a two-position tone switch (favoring treble or bass), a headphone jack, and a power jack for the AC adaptor (6 volts, center pin is negative, by the way).

Three knobs are on the right side of the radio. They are tuning, volume, and BFO (used for tuning SSB). The BFO has a center detent, a nice feature.

On the back of the radio is a flip stand for elevating the PL-600 if set on a flat surface. The PL-600 also comes with a handstrap.

THE LCD DISPLAY

The display is clear and easy to read, contrast is good (better than other reviews seem to have indicated). Backlight is yellow with a faint greenish tint to it. I like it, as it seems more natural and warm. It is 1000% more readable than my Eton E1, which was five times the price. The clock shows all the time, and in 24 hour format, hours and minutes only, no seconds.



Two timers are available which can activate the radio for up to 90 minutes.

The PL-600 also has a nice 5-section signal strength bar, with 5 hash marks per section. I find it reads a little high, but it is an admirable effort at showing signal strength. It does catch your attention, much more so than the tiny Kaito 1103 signal strength bar.

THE BFO

The BFO covers a little more than 2 KHz either side of the tuned carrier, wider than the Kaito 1103. The BFO at detent was close to but not exactly zeroed on the carrier frequencies of the MW stations I checked (perhaps ~500Hz off). It is touchy to adjust when attempting to tune an AM station using the ECSS method, but no touchier than tuning a Sony SRF-59! I will call it okay for a small portable - at least it has a real knob to grip and a wide range.

I find the recovered audio weak when tuning AM stations in the ECSS mode, so I probably won't use this technique much on this receiver. The BFO works well for normal CW or SSB though, and is fun and easy to tune in stations operating in these modes. It also works well for detecting weak carriers on the MW band.

ANTENNAS

The PL-600 employs a ferrite antenna (4" in length) for the LW and MW band frequencies (up to 1710 KHz). Signal nulling is excellent, and slightly better than my Kaito 1103. It is probably the best signal nulling radio I own, including the ultralights. Its null is very distinct, where the 1103's seems broader and a fraction less deep. It's peak also has more of a sharpness to it which I don't notice in the 1103. It couples well to a passive loop, though not as well as the 1103. Coupling distance needs to be closer than the 1103, and the sweet spot is about two inches down from the top of the radio on the back side.

Shortwave and FM employ the telescoping whip antenna. An external antenna jack is at the left side of the radio, usable for shortwave and FM, defeating the whip.

ATTENUATOR SWITCH

The attenuator switch (Local, Normal, DX) works for shortwave and FM only. Beware - the manual errs in stating it works for AM and shortwave only. It does not work for AM, unfortunately. While tuning shortwave, I found the attenuator switch attenuated signals too heavily even in the "Normal" position, so I left it in the "DX" position at all times. It seems to work okay on the FM band.



SENSITIVITY

Sensitivity of the PL-600 is good. On the MW band it is just slightly down from my Kaito 1103 across the band. Judging by ear on a weak station at noise level, I would figure it to be some 3-6 dB down from the 1103 at worst. For example, a signal barely above the noise level on the PL-600 which is 50% copyable (by voice

intelligibility) will be just at the threshold of 100% copyable on the 1103. Used as your primary receiver, the slightly less sensitivity of the PL-600 on MW becomes a moot point if combined with a signal enhancing agent like a Q-Stick or even a small tunable passive loop.

On FM, the PL-600 is about the same sensitivity as the 1103. A cursory check was done on several weak stations, and strength was identical in all cases.

Sensitivity on the shortwave bands is so close I can't tell a difference. A few extra feet of wire clipped to the whip greatly enhances shortwave signal strength.

TUNING

In tuning the radio, no chuffing or dropout is apparent, and tuning is very smooth. Two tuning speeds are available, slow and fast, selectable by pressing a button on the front of the radio. In the fast speed, the radio tunes in 9 or 10 KHz increments on the MW band using the tuning dial or up and down buttons, 5 KHz on the shortwave bands, and 100 KHz on the FM band. Fast speed tunes through the LW band in 9 KHz increments. In the slow speed, the radio tunes in 1 KHz increments on the LW band, MW band and shortwave, and 10 KHz on the FM band.

Direct entry tuning couldn't be easier, and is the best on any radio I have used lately, including the Eton E1 and my old Drake SW-8. Simply punch in the frequency and the radio tunes to it - no pressing an "Enter" key, or period "." key twice, etc. It does in fact have an "Enter" key, however it is generally only needed on the FM band for MHz operations if you choose not to enter the trailing zeroes. Also, general band selection can be done by the "carousel" method. There is a button which takes you through LW-MW-FM, and another button that carousels you through the shortwave bands.



SCANNING

Scanning is simple. Simply press and hold the "Up" or "Down" tuning button for a couple of seconds and the radio will scan in that direction through the current band. The PL-600 has a special function called Automatic Tuning Scan (ATS), which will scan both the MW and FM bands for receivable stations. Those found are saved in the P0 (Page 0) memory bank. Up to 100 can be saved. Simply press and hold the LW-MW-FM button and the ATS scan starts. A very nice feature.

FILTERS

Two filter widths are available for LW, MW and shortwave - wide and narrow, most likely 6 KHz and 4 KHz. The English manual does not specify the filter widths, although I am fairly certain the narrow filter is a 4 KHz one.

I tested both against strong local channels on the MW band. Both radios have front-end overload tendencies

in an extremely strong signal area, and at my location I have one problem station: a 20KW transmitter at 4.9 miles distance. Both radios suffer mild overload and desense with the 20KW station at full daytime (20KW) power in the wide filter setting, though dramatically less in the narrow filter setting. This is not a defect in either radio at signals of this magnitude with standard filtering (non-DSP), considering their price point. My problem station drops its power to 500 watts at night, so further testing was done at that time.

Continuing on after dark, the wide filter feels slightly wider than my Kaito 1103, and a little extra slopover is heard on the PL-600 at +/-10 KHz either side of a strong station. The PL-600 wide filter setting introduces a bit of treble hiss into the audio, more than the 1103. This is natural of its own right, regardless of the radio, though I attribute this on the PL-600 to the audio curve tending much more towards the treble end of the spectrum than the 1103.

The narrow filter is very close in performance to the 1103's. Adjacent channel slop is minimal on strong stations and about the same as the 1103. In an additional bonus, I found the narrow filter on the PL-600 to be lengths ahead in audio intelligibility as opposed to the 1103's. To me, the 1103's narrow filter sounds muffled. Not so on the PL-600. Signals are crisp and intelligible like tube sets used to be. Old timers will remember this sound, almost a feeling of being out there in the "ether", a third-dimensional feeling. Which brings us to audio....

AUDIO

Audio seems to be the sticking point for most critics of this radio. The complaints I have read indicate that it sounds harsh or distorted. It definitely tends towards the treble end of the spectrum, both with the wide and narrow filters, which is not to the taste of many people. I found YouTube to be a great source when pre-screening a radio for purchase, as you can not only SEE, but HEAR it in actual use.

So check out the video reviews on YouTube. They give you a pretty good idea of the audio quality. Some will like it and some will not. I actually like my audio a bit harsh, skewed to the treble side. I think it aids in intelligibility with identifying DX. Many sets have too much injected bass, which muddies the signal. I always felt the renowned Sony 2010 was the worst offender here - great audio in the wide filter position, but total unintelligible mush in the narrow position, like someone speaking through a pillow. Why have a narrow filter if the audio is so unintelligible it's not usable? Another tip - use headphones. Audio is always better in headphones.



Lastly, the PL-600 does not incorporate a Line-Out jack, where the Kaito 1103 does. This would have been helpful.

IMAGES

Both the PL-600 and the Kaito 1103 do have some image problems (what radio in this price range doesn't?). I found my PL-600 images to be about the same number and strength as my 1103 on each filter setting. A good way to tell? Tune your radio down in the long wave area between 100 KHz and 520 KHz and look for AM broadcast band signals 2 times (2X) the IF frequency down (910 KHz for the PL-600, and 900 KHz for the

1103). Another good place to check for images is in the 60 meter shortwave broadcast band, 4750 KHz - 5100 KHz. Strong stations in the 49 meter band (5750 KHz - 6200 KHz) will produce images here, at 900 or 910 KHz lower. Both radios show problems in this band as well.

SIGNAL SPURS

In a quick check of the MW band, I found a couple of signal spurs on the PL-600, showing up as weak heterodynes. One was at 550 KHz, which was probably a weak image combination with another local AM powerhouse station at 1460 KHz. The Kaito 1103 had a nice image of this station at 560 KHz, with full but weak audio. No image audio of this station was apparent on the PL-600 at 550 KHz, just the weak heterodyne, which by the way was nullable, another indication it is image-related.

NOISE IMMUNITY

The PL-600 seems less noise-prone than the Kaito 1103. In that, I mean it has less susceptibility in reproducing household RFI noise than the 1103. I can take both radios to a particular part of the house plagued with RFI from computers, switching supplies, lighting, etc., and the 1103 is always markedly noisier. The PL-600's LCD display is also quite a bit cleaner than the 1103. Moving your hand close to the 1103's display produces a tremendous amount of hash. Not so with the PL-600.



MEMORY

The PL-600 has 600 memories, divided into ten pages of 50 each, and one page of 100. Even this can be modified when you set up the radio. I've never been one much for using memory on radios, preferring to tune. But memory operation couldn't be simpler, and is very intuitive. Tune the station, press the Memory button, select the memory slot#, press Memory button again to store a frequency. You can even copy a memory location into another one, a nice feature. Recall is even easier.

SUMMATION

I find the Tecsun PL-600 to be a marvelous radio for the price, and one I will keep. It is a strong contender against the Kaito 1103 in performance/price range, stronger than any other I know at this time, and definitely worth the \$79.99 asking price. Realize it is near half the asking price of a Grundig G5 or a Sony SW7600GR, and 95% as able. Though the audio might be considered a little harsh depending on taste, it is adequately sensitive, selective, and has great nulling and peaking ability on medium wave. It has terrific ergonomics and software, 600 memories, and adequate filters - specifically the narrow filter having excellent audio recovery (particularly apparent in headphones). It has two tuning speeds, a well-designed BFO, a main tuning knob including up and down tuning buttons, a real volume control, a bright (with backlight) easy to read display, and a well-supplied accessory package. It will make a great substitute for my ailing 1103, and a great spotting radio for MW band DX.

