The DE1102 Mini-Cookbook
VERSION 1 ©2006

The information below is not guaranteed to be error free.

1. Introduction

The DE1102 is a portable combining digital tuning, PLL frequency synthesis (little drift), double conversion (reduces images), two bandwidths (adjusts tone and helps reduce adjacent interference), decent SSB (reduces selective fading distortion), 133+ SW memories, diminutive size, light weight, and low cost ($64). Each unit includes an AC adapter, three NiMH rechargeable batteries, an external wire antenna, stereo earphones, a manual, and a cloth pouch. I recommend purchase from *Liypn* on eBay who also includes a needed 220V to 110V AC converter.

Many portables fall short by comparison. To help with selective fading either SAM or SSB is necessary. The KA1101, ATS-606AP, SW40, and SW35 have no SSB while the YB-80, YB-400PE, G4000A, ATS-818ACS, and ATS-505P have poor SSB. The ATS-909 is large and costly. The SW07 is very costly. The SW7600GR features SAM and is an *excellent SWL choice* albeit larger and more expensive. The DE1103 is better for DX due to its sensitivity and overload immunity; however it is larger and SSB is not as good (newer DE1103 units have improved SSB).

2. Tuning Tips

Manually tune in AM mode using the narrow bandwidth to insure stopping on the center frequency. Once there switch to the wide bandwidth for music (increased treble) or stations in the clear. With adjacent interference keep the narrow bandwidth and detune higher or lower by one or two kHz. This same procedure allows adjustment of tone (fidelity). For selective fading chose the narrow filter, switch to *Page 9*, engage SSB, detune by plus three or minus three kHz, and fine tune using the BFO wheel. The DE1102 is quite good on SSB for a low-cost portable. Tip: tune ECSS using wide until minimum warble then switch to narrow. The narrow filter will also improve sensitivity, lower noise, and decrease pumping. Filters work best when fed low power signals. Therefore, engage LOCAL (versus DX) and/or reduce antenna length as long as 3 or 4 of the red signal meter LEDs are still lit. Overly strong signals in AM mode or SSB mode will cause distortion.

For usage on the ham bands first tune to a high power AM (DSB) signal, chose the narrow filter, switch to *Page 9*, engage SSB, detune by minus two kHz for LSB or plus two kHz for USB, and fine tune using the BFO wheel. Then switch back to the ham band and as long as the amateur is broadcasting on a 1 kHz boundary they will become audible when stepping through the band. The displayed frequency will be off by 2 kHz (low on LSB and high on USB) from what a tabletop would show. For example: 3863 kHz on the DE1102 display would represent 3865 LSB on a tabletop; likewise, 14.250 MHz would represent 14.248 MHz USB.

On MW the unit selects the internal ferrite antenna: the radio must be rotated from front facing to side facing for optimal reception. On FM antenna height and direction are critical. FM has several options including mono or stereo, music or news (via headphones), and bass boost. The DE1102 backlight comes on automatically (photosensor) when buttons are pressed in the dark. Note: If the AC adapter is plugged in while backlighting is on it will remain on only if the sensor detects darkness (cover the LCD with your hand before and during attachment of the DC plug).

3. Initial Setup and Charging

Function	Sequence	Comments
TIME FORMAT	ENTER ENTER <1 or 2>	Remove battery for ~30 seconds.
MW STEPS	ENTER <1 or 2>	Remove battery for ~30 seconds.
CHARGING	CHARGE 7 ENTER	OFF Seven hours for full charge.

OFF indicates that the unit must be off for the function.
Note: Battery removal [MCU RESET] retains memories but not the clock or alarm.

4. Time Related Functions

Function	Sequence	Comments
SET CLOCK	ENTER ENTER <time>	OFF
VIEW CLOCK	EXIT	
SET ALARM	ENTER ENTER ENTER <time>	OFF BEEP outputs through speaker only.
VIEW ALARM	EXIT	OFF Alarm BEEP duration is 60 seconds.
CANCEL ALARM	ENTER ENTER ENTER EXIT	OFF
SET SLEEP	EXIT ENTER <01 to 99>	Sleep defaults to 99 minutes.
CANCEL SLEEP	EXIT ENTER EXIT	Sleep is on by default.
SET "ON-OFF" TIMER	ENTER <S1-S2-S3> <time> <FM-MW-SW> <frequency**> <VOLUME> [ENTER <01 to 99>]	OFF S1-S2-S3 are speaker symbols. ** ENTER confirms last preset as frequency. OFF time starting with ENTER is optional.
VIEW TIMER	<S1-S2-S3>	OFF
CANCEL TIMER	<S1-S2-S3> EXIT	OFF
ACTIVATE TIMER	<S1-S2-S3> ENTER	OFF

GREEN indicates that the button must be depressed and held.

5. Memory and Scanning

Function	Sequence	Comments
SET PAGE	P <0 to 9>	P0: ATS. Paging alters tuning steps… P1-P6: FM-50kHz, MW-9/10kHz, SW-5kHz P7: FM-10kHz, P8: MW-1kHz, P9: SW-1kHz
STORE MEMORY	M/LOCK <digits>	Use 1- for numbers 10 through 19.
RECALL MEMORY	<digits>	Use 1- for numbers 10 through 19.
DELETE MEMORY	DEL DEL	P0: remaining memories compressed for ATS.
MEMORY TUNE	SCAN+-	Press SCAN until display reads MEM.
MANUAL TUNE	SCAN+-	Press SCAN until display reads STEP.
AUTO SCAN	SCAN+-	Press SCAN until display reads STEP. P1-P6.
MANUAL SCAN	P 9 SCAN+-	Press SCAN until display reads STEP. Hold SCAN+- down continuously. Scan speed automatically slows on signals.
AUTO TUNE SCAN (ATS)	P 0 SCAN+-	Press SCAN until display reads STEP. Enter frequency and memory to start from.
COPY PAGE 0	P 0 P 0 <1 to 9>	Band must match for P7-P9.
DELETE PAGE	P <0 to 9> DEL DEL	Hold DEL till the page number blinks.

SCAN+- are the (-) and (+) keys below the SCAN button.

6. Miscellaneous

Function	Sequence	Comments
FREQUENCY ENTRY	ENTER <digits>	EXIT clears digits or backs out. ENTER for quick input of trailing zeros.
SW METER BANDS	SW	49M-41M-31M-25M-22M-19M-16M
FM BASS BOOST	FM	For headphones as is MUSIC-NEWS.
KEYPAD LOCK	M/LOCK	Toggles on and off.

7. Eton E1 "Comparison"?

The Eton E1 is an excellent SWL radio. However there are attributes that the DE1102 has over the E1. The DE1102 is 13% of the cost ($64), 10% of the size (21 cubic inches), and 19% of the weight (12.3 ounces with batteries). The DE1102 comes with a carry loop, protective pouch, earphones, rechargeable batteries, 13 foot external antenna, MW ferrite rod, and 70 MHz to 76 MHz FM coverage. The DE1102 has convenient battery access and charges batteries within the unit; a photosensor driven blue backlit display and keyboard; no display hash or ghosting; FM bass boost, an optional 12-hour clock format, three event timers, automatic tune scanning (ATS), a commonly available antenna connector, and an attenuator. Note that DE1102 display contrast is best when the unit is laid face (speaker) upward.

SWL involves reception of relatively high powered DSB stations. In side by side testing the DE1102 using its included 13 foot wire antenna heard almost all the signals present on the E1 using its whip. This included both SW and ham signals. The DE1102 had the advantage on MW because its internal ferrite rod could null out competing stations on the same frequency.

Although the DE1102 has no SAM its SSB capability is sufficient to handle both one-sided interference and reduce selective fading distortion. The E1 SAM is much easier to use than the manual BFO of the DE1102. Adjusting the BFO takes finesse and every now and then voices start sounding mechanical due to drift. During selective fading the E1 SAM sounded better when listening to music. However the DE1102 is quite capable when tuned to hams, news, or talk radio programming. Music sounds good on the DE1102 in AM mode when there is no selective fading.

It was surprising to hear programs sounding better on SSB using the DE1102 than on SAM using the E1. That said: the E1 is outstanding on SSB. SSB often sounds better than SAM during selective fading because the resultant audio is disturbed less during carrier dropouts. The DE1102 experiences negligible SSB warble when detuned as per the "Tuning Tips" section above.

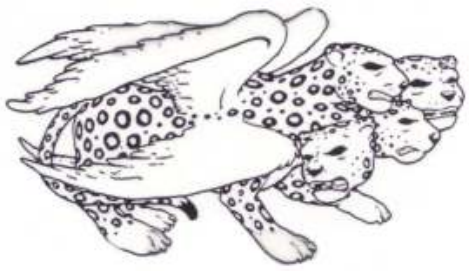
Obviously the E1 is the technologically superior radio. However I find myself using my DE1102 more than my E1 because it is so portable: 21 cubic inches, 12.3 ounces, chargeable batteries, and convenient carry loop. *The downside is that SSB drift mandates frequent retuning.*

8. Conclusion

The DE1102 makes an ideal ultra-portable for SWL. Using the DE1102 does necessitate learning some tuning tricks and retuning the BFO when using ECSS (tuning DSB signals as SSB to reduce selective fading distortion). The incredible $64 price tag reflects the Chinese devaluation of their Yuan. Although having no SAM, the *Degen* DE1102 offers the portability of the $355 SW07. For portable SWL I *highly recommend* this remarkable little radio.

Contact

Please direct comments to just_rtfm@<NOSPAM>yahoo.com. dr phil :)



The high minded man must care more for the truth than for what people think. –*Aristotle*