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The GE Superadio/Cassette #3-5280B

by Michael A. Sapp

Most DXers use a tape recorder while DXing. They may keep a tape as proof of reception or send tape reports with their verification requests, while still others just keep the recorder going to play back the tape in case an ID was missed. Other DXers listen remotely, while they sleep or are away, and listen to the tape later.

Also, most DXers use at least one portable receiver. Wouldn't it be nice if there was a high quality receiver that was combined with a cassette recorder? There are many radio/cassette recorder combinations around. The question that the DXer asks is, what about the BCB section? In my experience most AM/FM cassette recorders have terrible BCB sections. Some of those giant, high audio power portables do have an RF amp on the BCB, and they are fairly sensitive, but the selectivity is wide as the proverbial barn door.

The General Electric Model 3-5280B, Superadio/Cassette, is the only one I'm aware of that is good on BCB. I have owned the receiver for about 14 months, and used it a lot, so I am going to try to pass along some comments about its ability and worth to the BCB DXer.

The circuit is basically a GE Superadio with a cassette recorder attached. Some of the features are as follows:

- Tuned RF stage on BCB as well as FM
- Air ganged tuning capacitor
- 7 7/8" ferrite rod antenna
- 4 IF tuned circuits on the BCB
- 5" woofer and 2" tweeter speakers
- Separate bass and treble controls as well as a loudness switch
- 5 segment LED signal strength, VU, and battery strength meter
- Digital tape counter
- Direct recording from the radio, built-in condenser mike, or external microphone.
- AM beat cancel oscillator switch
- Sleep feature
- CrO₂/Normal tape select switch
- Operates on 6 "D" cells, 9v DC, or on 120 VAC, with detachable line cord
- Power output (10% THD): 2 watts minimum.
- AM Sensitivity @ 20 dB quieting: 130 uV/M
- Cassette S/N ratio: 44 dB



This receiver is no compact. It measures 15x11 1/4 x 4 1/4" with carrying handle up and weighs approximately 12 lbs. with 6 "D" cells. The set is done entirely in silver; the dial is silver with black markings with a silver pointer. A little black to set off the silver would have improved the looks.

Performance

Frequency Readout.....from 550 to 800 kHz the dial is marked every 100 kHz; from 800 to 1000 kHz it is marked every 200 kHz and from 1000 to 1600 kHz it is marked every 300 kHz. There is a logging scale with fifty marks for the length of the BCB. When properly aligned the dial pointer is accurate to marked points. Still it is very difficult to interpolate frequency closer than 50 kHz on the high end of the band. A digital LCD readout would be a big plus for this receiver.

Sensitivity.....In side by side comparisons with a 12-655 TRF and a Panasonic RF-2200, very little difference could be found in sensitivity. If there is a slight edge to any, the Superadio/Cassette is possibly superior. This apparent sensitivity may be due to the more powerful audio amplifier rather than the RF circuitry. I don't have a Superadio to compare it with, but the Superadio's 20 dB quieting figure is 150 uV/M while the Superadio/Cassette's is 130 uV/M. I haven't been able to equate the

still a superior FM DX machine. The Superadio/Cassette does have switchable AFC and is fine for general listening, but it lacks the guts for FM DXing.

Overall.....There is now an updated model out, the 3-5280C, but I don't know what changes have been made. The Superadio/Cassette is a good performer and definitely has a place in the BCB DXer's equipment lineup. Many DXers use a portable as their main receiver, and this portable has many qualities to recommend it. Now if we could get the same performance from a downsized model. The Panasonic RX-1820 is a very compact AM/FM cassette recorder with an RF stage on the BCB! Maybe this could be the one....

20 dB quieting with the 10 dB S+N/N ratio more familiar to DXers, but to make it short, the sensitivity is as good, if not better, than the much talked about 12-655 TRF, which is certainly no slouch.

Nulling Ability.....The Superadio/Cassette is able to null stations slightly deeper than my TRF. While I do not have the facilities to measure this accurately, there were deeper nulls on my locals using the GE. Several semi-local stations were nulled completely with the Superadio/Cassette, while a little audio was detected with the TRF. The RF-2200 nulled similarly to the GE. Maybe the nulls of the TRF are slightly skewed in my unit as stations nulled in a slightly different direction from my Superadio/Cassette. The main problem with the GE is that it's just too big and bulky to rotate and tilt very easily.

Selectivity.....For selectivity the Superadio/Cassette uses 4 tuned IF transformers, and there is only one selectivity position. Most of the Panasonic and Sony portables use ceramic filters for selectivity, but GE's different philosophy seems to get the job done. While the GE's selectivity curve seems to be broader at the top than the RF-2200 or the TRF, it catches up at the edges as the sides seem to be steeper. The GE compares favorably with the TRF and the broad position of the RF-2200, but loses to the RF-2200's narrow position, though not by much. The domestics and the strong splits are fine on the current selectivity, but the tougher splits will require better selectivity. Adding a ceramic filter would be difficult, as a single integrated circuit houses the mixer, oscillator, IF amp, detector and audio preamp.

Audio.....The audio is clear and sharp. Having the flexibility of separate bass and treble controls helps tailor the sound to many DXing conditions. Power output is very strong. Even though the audio is good, two portables that I have used have better sounding audio in my opinion, the Panasonic RF-2600 and the Sony TFM-1600.

General.....No spurs, whistles, images, or shortwave feedthrough have been noted, even when using an untuned long wire antenna at this location (Woodbridge, VA). The receiver does not seem to overload easily.

There are 3 screw terminals on the back of the receiver for external antennas, one AM, one FM, while the center is common to both. I have had good success using the Radio West loop and the SM-2 with the GE. An untuned random wire and the DA-100 active antenna also couple well through the external antenna terminals. The nulls with an external loop attached to the terminals are pretty good for a poorly shielded plastic body portable.

The five segment LED signal strength meter is useless as it comes. It will only light up on super strong stations. This does not help in nulling. There is a trimpot to adjust the meter which I used, which helped its sensitivity a little, but there is still no registering on weak stations. Give me an old fashioned meter anytime.

The whip antenna is held at the swivel with a small Phillips head screw that constantly comes loose; the head gets stripped out with constant retightening. The antenna will not stay vertical when it gets loose--a minor inconvenience, but one nonetheless.

Knobs and cassette keys are on the front panel, not on top as is the case with a lot of machines. Battery life for the 6 "D" cells varies with how much recording is done. I recommend using alkaline batteries; recording will deplete general purpose batteries very quickly.

Cassette Recorder.....The cassette section is mono, but of good quality. The recordings off the radio are very clear and accurate reproductions. There is a two position AM beat cancel switch. This shifts the bias oscillator frequency, so that it does not make a beat note with the station you are recording on BCB. One of the positions should cancel any beat note. On some stations however, the beat note is not completely cancelled. A switch to the CrO₂ type tape position will sometimes help this problem.

FM.....Although we are BCB only, I know many members DX FM also. I'll make a quick mention of the Superadio/Cassette's performance on that band. The FM section uses 3 IF transformers, and one ceramic filter, but even with this, the Panasonic RF-2200 and RF-2600 run rings around it in both sensitivity and selectivity. The RF-2200 has 3 filters while the RF-2600 has only 2 ceramic filters and a non-defeatable AFC, but it is