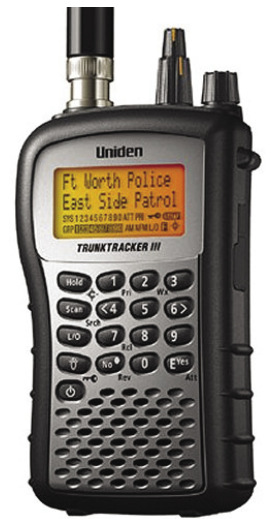# FIRST LOOK

A New Era in Scanning -
First Look at the Uniden BC-246T
By Larry Van Horn, N5FPW, Grove Technical Department

MT Rating: ★★★★☆

When I sat down to test the new Uniden BC-246T handheld scanner, I was also keeping one eye on the television watching my favorite college football team play their arch rivals. While my team marched the ball down the field, I was unpacking this new scanner, attaching accessories, loading the batteries and prepping the radio for operation. So far, so good, both on the football field and with the 246T.

As my team approached the goal line for their first score, I was also making progress in sifting through the manual preparing to enter my first frequency in the scanner. That all came to a sudden stop. My football team fumbled the ball and I fumbled the entry of my first frequency into the scanner.

Like the football that my team had lost on the field, I found out that I had lost a key feature that scanner hobbyists have grown used to since the advent of the first programmable scanner – frequency banks.

With this new scanner, banks are out and systems, groups, and channels (both frequency and talk groups within trunk systems) are in. How high tech are we? No channel numbers or systems are used: This scanner has a memory management display that shows you instead how much memory you have used and how much you have left. Bet you don't have one of those on your present scanner!

But my team did managed to recover the old pigskin and I managed to enter my first system, group and frequency in the scanner, thanks to sticking with the manual and taking the learning process one step at a time.

The more time I spent with the manual and the radio in hand, the more these new concepts became actually easy to understand. Programming became easier (albeit still laborious), and the features that make the BC-246T unique are ones that users will come to truly appreciate.

❖ What's New?

The BC-246T handheld is the latest in a string of innovative new scanners from Uniden, starting with the introduction of their first trunk tracking scanner (BC-235) in 1997. This radio introduces two more revolutionary innovations – the aforementioned dynamically allocated memory system and Uniden's exclusive Close Call™ RF Capture Technology

The BC246T dynamically allocated memory system allows the user to program its 2500 channels into any configuration. While traditional scanners have been limited to 10 to 20 banks, the BC246T groups channels (frequencies) into systems (trunk or conventional), allowing for up to 200 systems to be programmed and scanned. Systems can be quickly enabled or disabled using the 0-9 keys, and each system can contain up to 20 groups composed of an unlimited number of conventional frequencies or talk groups within the system. Both systems and groups can easily be selected or deselected.

❖ How Does Dynamic Memory Work?

The dynamically allocated memory system gives the scanner hobbyist a flexibility long sought, but never realized until now. To better illustrate how this works, Table 1 is how I decided to configure our test version; each numbered quick key is a system, and each letter represents a group within the system.

Of course, within each group I had the frequencies for that group. And I had a choice to display the frequency I had programmed in each of the memory channels or to put an alphanumeric tag instead of the frequency, although this uses another memory channel.

One of the real benefits of this scanner's dynamically allocated memory system is its flexibility in programming trunk systems, especially EDACS and LTR systems. Here in our local area we have a little three-channel EDACS trunk system I like to monitor. Using an older bank type scanner such as the Uniden BC-245, 250D, or 296D, etc., I would put those three frequencies into a bank, but because an EDACS or LTR system has to be in Logic Channel Number (LCN) order, only those frequencies associated with the trunk system could be programmed into that bank. Unlike a Motorola trunk system, you can't program additional conventional frequencies in an EDACS or LTR trunk bank. Thus, you would always waste a lot of memory channels in the bank when you programmed an EDACS or LTR trunk system.

But, since the 246T has no banks, if your EDACS or LTR trunk system consists of only

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Table 1

Systems (numbers)/Groups (letters)

1. North Carolina Public Safety Conventional
A. Cherokee County	B. Clay County	C. Graham County
D. Macon County	F. Swain County	G. Jackson County

2. Georgia Public Safety Conventional
A. Towns County	B. Union County	C. Fannin County
D. Gilmer County	E. Hall County	F. Rabun County
G. Murray County	H. White County	

3. Tennessee Public Safety Conventional
A. Polk County	B. Bradley County	C. Hamilton County

4. Federal/Military Conventional
A. Interagency	B. Forestry	C. Federal Law Enforcement
D. TVA	E. Department of the Interior	F. Department of Defense
G. Miscellaneous Agencies	H. Unidentified Frequencies	

5. State Agencies Conventional
A. North Carolina	B. Georgia	C. Tennessee
D. Alabama	F. Highway Departments	G. Unidentified Frequencies

6. Business Conventional
A. FRS/GMRS	B. Business Confirmed	C. Fast Food Kiosk
D. Itinerants	E. Unidentified Frequencies	

7. Utility Companies Conventional
A. Power Companies	B. Water Companies	C. Telephone Companies
D. Gov Public Works		

8. Trunk Systems — Note: Each trunk system programmed into the 246T counts as one system up to 200 trunk or conventional systems.

9. Aircraft/Railroad/Marine Conventional
A. Confirmed Aircraft	B. Confirmed Railroad	C. Marine
D. Aircraft Holes	E. Railroad Holes	

10. Unknowns and Holes Conventional
A. Unknowns (not included in other systems above)	
B. Frequency Holes	

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three frequencies, that is all this revolutionary new memory management system will use. The days of losing whole banks of memory locations with an EDACS or LTR trunk system are history with the Uniden's dynamically allocated memory system.

❖ Close Call™

The second major new feature is Uniden's Close Call™ RF Capture Technology. Think of Close Call as a frequency counter with a speaker. Actually, it is much more than that. Close Call zeroes in on nearby transmissions without the need for programming, even when the BC246T is in other modes, or is scanning, searching or holding on a frequency. For example, if someone transmits within a few hundred feet (range depends on transmit power and other radio traffic in the area), the scanner immediately detects and tunes to the transmission – ideal for use at events where the frequency being used is unknown.

Unlike most of the frequency counters in the marketplace today, Close Call puts the received signals it intercepts through a series of tests to ensure that the signal is a valid transmission and the frequency being displayed is accurate. In addition, you can program the scanner to detect and display CTCSS/DCS tones in use, and enable an automatic "repeater output find" function when monitoring the input to a repeater system.

Another nice feature of Close Call is a setting in which the scanner alerts you when it detects a valid signal; it can even be set to work in a particular band(s) to look for signals. Like some of the more expensive frequency counters, Close Call can automatically store frequencies it finds for later recall in up to 256 memory channels.

The 246T also takes care of the pager problems that frequency counters and other scanners encounter in the search modes. You can activate a menu option that will screen out paging transmissions found on common pager frequencies in the VHF/UHF ranges.

We field tested the Close Call and were very pleased with the following results, using a 130 mW ERP Family Radio Service radio in a variety of environments, including urban, rural, and near wilderness:

Average Detection Range: 130 feet
Minimum/Maximum range: 50/300 feet
98% Confidence Interval: 85-174 feet
(i.e. 98% of the time, using a 130 mW radio will achieve a detection range of 85-174 feet)

This range in itself isn't impressive, until you consider that most commercial handhelds are at least 2 watts, mobile transceivers are typically 25 Watt, etc. So, like its frequency counter brethren, you will have to be fairly close to the source of low powered transmitters when using the stock antenna. We noticed a definite range increase when we went mobile using our Grove Stealth Antenna on the car. More powerful, nearby transmitters such as pagers and repeater output frequencies could be received at greater distances.

❖ Other Great Features

The BC-246T scanner is also preprogrammed with over 400 channels, covering police, fire, and ambulance operations in the 25 most populated counties in the US. This is designed to save the user a considerable amount of time in startup operation, especially when traveling. Our chief concern here is that the information is only as good as it was on the day it was preprogrammed. Changes to systems can and do occur on trunk systems.

Another first for Uniden with this scanner is the elimination of the proprietary battery pack. Finally, after years of constant complaints, Uniden has done away with those expensive Nicad battery packs. The BC246T comes complete with two NiMH AA batteries and an internal recharging system, or, with a flip of a switch in the battery compartment, you can use regular AA batteries. I will caution all users of the 246T to take *great care* to flip the switch when using non-rechargeable batteries – regular batteries can overheat or even burst, ruining your radio.

Battery life with this scanner was excellent and audio quality was among the best I have heard. Other key features include:

* 25-54, 108-174, 216-225, 400-512, 806-956, 1240-1300 MHz frequency coverage
* Selectable frequency step lets you select a step (5, 6.25, 7.5, 10, 12.5,15, 20, 25, 50 or 100 kHz) for manual mode and chain search mode. Auto step lets the scanner automatically choose the correct step.
* Selectable and preprogrammed mode: AM, NFM, FM
* TrunkTracker III technology (Tracks Motorola, EDACS, EDACS SCAT and LTR analog trunk systems)
* Comprehensive analog trunk capability including I-calls, emergency alert, trunk Search and ID scans and blockouts
* System, channel group and channel alpha tagging (both frequencies and talkgroups)
* Ten programmable search ranges that can be chained in any combination for searching
* Ten preprogrammed service searches: Public safety, news, amateur radio, marine, railroad, air, CB radio, FRS/GMRS, racing, and special (kiosk and wireless mike frequencies)
* CTCSS/DCS rapid decode
* SAME weather alert including FIPS encoding
* Repeater reverse sets the scanner to switch to the input frequency on a conventional repeater system
* Backlit display and compact housing (4-1/2" x 2-3/4" x 1-1/4")

❖ What's in the Box?

In addition to the BC-246T scanner, you will get a wrist strap, computer connection cable to scanner (user must still supply a serial cable or serial to USB port cable for computer operation), AC adapter for recharging batteries or for AC operation with alkaline or no batteries installed, two AA rechargeable batteries, standard 6-1/4 inch rubber duck antenna using BNC connectors, belt clip and screws, printed owners manual, Bearcat frequency guide, and a *National Public Safety Trunk System* frequency guide.

Unfortunately, the two printed frequency guides are out-of-date; for some systems you will need to use an online source such as Radio-Reference.com or a current *Police Call* book.

❖ Overall Rating and Final Thoughts

Finally, I have only four complaints with the BC-246T and they are: no military air coverage (which makes the radio useless for most air show monitoring), no APCO-25 digital capability, lack of fully functional computer software bundled with the unit to assist in programming, and the owners manual. It is a bit vague on some key programming points, suffers a bit on overall organization, and is poorly bound.

However, like the outcome of the football I watched when I tested the 246T, Uniden really has a winner here. They have done a good job in bringing an innovative project to market. And once you break through the initial complexity, I think you will find this radio a winner in your radio shack, too. The BC246T has a MSRP of $299.95.

MT First Look Rating (0-10 scale)
Audio Quality..........................9
Audio Levels............................9
Backlight/Display 7
Ease of Use 6
Feature Set 8.5
Keyboard/Button Layout 8
Overall Reception....................8
Sensitivity................................7
Selectivity................................6

The Uniden BC246T is now available as SCN46 from Grove Enterprises (1-800-438-8155; http://www.grove-ent.com) for $229.95 plus shipping.