

Uniden Raises the Bar Again – BCD396T

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Bob Grove says it's "the most advanced scanner ever designed." And when you look at all the scanning capability built into this small package, truer words have never been spoken. The new Uniden BCD396T handheld is truly a marvel of modern scanning technology.

Released hot on the heels of the extremely popular Uniden BC246T scanner, many of the innovative features included in that scanner can be found in this new release. Some of the features have been expanded and updated, and new features have been added. You can read our complete review on the BC246T in the December 2004 *MT First Look*, pages 79-80, or on the *Monitoring Times* website at: <http://www.monitoringtimes.com/html/mtuniden246t.pdf>.

❖ Case, Controls and the Antenna

The BCD396T is a descendant of the popular BC296T scanner. However, other than sharing some of the same frequency coverage and the same basic RF and trunk capability, there is very little similarity between them.

The 396 case is much smaller than its 296 predecessor, measuring 2.40 (W) x 1.22 (D) x 5.35 (H) inches and weighing in at 9.6 ounces with batteries, four ounces without.

There is a cobalt blue backlight system for the 1-5/16 by 13/16-inch liquid crystal display.

There are four user selectable menu options for display backlighting: backlight on for 10 or 30 seconds (push button selectable), squelch (backlight illuminates when the squelch opens and stays on for five seconds), keypress (backlight turns on when any key is pressed then stays on for 10 seconds), and infinite (backlight turns on when you press the multi-function power on/off key, then stays on until you press it again). The keyboard is also backlit using the same color and control features that the LCD screen uses.

There is only one knob (scroll type) on the top of the unit that controls a variety of the scanner's functions. Depending on which other controls are depressed, the multi-function scroll knob is used to set volume and squelch levels, adjust menu settings, enter text, change channels in the hold mode, resume scanning, and change display screens.

There are two push buttons on the side of the 396 that perform the same operations as the buttons on the side of the 246 – function and menu selections. These controls are the heart of the scanner's menu, display, and additional control functions, in conjunction with keys on the front

of the scanner.

In a major departure from previous Uniden scanners, the 396 uses a flexible antenna with an SMA connector. They have included a BNC to SMA adapter for additional antenna connection options. Antenna jack impedance is 50 ohms.

❖ Checking under the hood

Looking inside the radio we found a world of scanning capability. Here are some of the features that BC246T owners will be familiar with.

- Close Call[®] RF capture technology can set the scanner so it detects and provides information about nearby radio transmissions. In a head to head test we performed between the 246 and 396, the Close Call[®] function was much improved in the 396 due to the increased sensitivity figures that the 285/296/396 scanners have over the 245/246 series of radios.
- Dynamically allocated channel memory was first introduced in the 246 (see our review mentioned above for a detailed description of how this works). This type of scanner memory can be organized so that the scanner operation more closely matches how radio systems actually work, making it easier to program and use the scanner, and to determine how much scanner memory is being used and how much is left. The 246 has a total of 2,500 memory locations used for frequencies, talkgroups, and

alpha tags. The 396 has a whopping 6,000 memory locations for programming for the same uses mentioned above.

- Searches – There are over 160 preprogrammed systems covering police, fire, and ambulance operations in the most populated counties in the U.S., plus the most popular digital trunk systems. The unit also has a custom search feature that lets the user program any of 10 custom search ranges simultaneously.
- 100 Quick keys let the user quickly select systems and groups by using the keypad. This makes it easy to listen to or quickly lock out those systems or groups to scan or not to scan.
- 12 Service Searches – Frequency ranges are programmed for searches of the following radio services: public safety, news, amateur radio, marine, railroad, civilian air, CB radio, FRS/GMRS, racing, TV broadcast, FM broadcast, and special searches.
- Personal computer (PC) control allows the user to transfer programming data to and from the 396 and a PC, or actually control the scanner's operation using a computer. Uniden will be supplying 396 owners their free UASD PC control and programming software on their company website <http://www.uniden.com>.
- Cloning over-the-air and wired – User can clone all data over-the-air (frequency is selectable by the user) from a PC to one or more 396 scanners (a new feature from Uniden). Cloning includes all programmed data, the contents of the scanner's memory, menu settings, and other parameters. Cloning is also possible from one 396 to another 396 using a serial computer cable, null modem adapter, gender changer (not included), and the computer interface cable included with each unit.
- Like many of the recently released Uniden scanner models, the 396 will perform a NOAA weather band search, SAME weather alert, and weather priority scan. There is also a very fast CTCSS/DCS tone search capability. This feature has been much improved over earlier Uniden scanners that included this capability.

There are a lot of other BC396T features that BC246T users will recognize – far too many to include in this review. You can get more information on these features by viewing a copy of the owner's manual on the Grove Enterprises website at: <http://www.grove-ent.com/bc396tman.pdf>.

❖ New Trunk Tracking Capability

The BCD396T is a Trunk Tracker IV[®] model scanner. Like its 246 sibling, this lets the user follow unencrypted conversations on analog Motorola, Motorola mixed mode (3600



4-3/4 Stars



MT First Look Rating (0-10 scale)

Audio Quality.....	8
Audio Levels	9
Backlight/Display	7
Battery Life	8
Ease of Use	8
Feature Set	9
Keyboard/Button/Control Layout	8
Overall Construction	8
Overall Reception	8
Owners Manual	8

baud) systems, Motorola Astro 25 (APCO 25 9600 baud) systems, EDACS (wide and narrow), EDACS SCAT, and LTR trunked radio systems. Trunk systems in VHF, UHF, the new 700 MHz public safety band, 800 MHz, and 900 MHz bands can be programmed. This includes trunk systems now being installed by the Department of Defense in the new 380-399.9 MHz LMR subband. This makes the 396 the first scanner capable of following trunk systems in all the bands where trunk systems are operational. The scanner can also scan both conventional and trunked systems at the same time.

In addition, the 396 does Motorola control channel trunking: If the scanner is set to scan Motorola trunk frequencies, the user sets it so it tracks the trunk system using only control channel data. In this mode, as long as all possible control channels have been programmed into memory, you do not have to program the system's voice channel frequencies.

❖ What's New

There are several new features and innovations in the 396. This is the first Uniden scanner that has the APCO digital card built in (no extra card to purchase).

Other noteworthy new features include:

- **Adaptive digital threshold** – Automatically sets the digital decode threshold for APCO digital systems. User can also manually adjust or reset to default digital reception levels.
- **Analog and digital audio automatic gain control (AGC)** – Helps automatically balance the volume level between different radio systems, both digital and analog.
- **Fire tone-out standby** – Lets the user set the scanner to alert you if a two-tone sequential page is transmitted. You can set up to 10 settings (transmit frequency, tone frequencies, tone duration and tone gap) then select one of the programmed positions for standby monitoring and alerting.
- **Broadcast screen** – Sets the scanner so it ignores Close Call® or search hits on FM/TV broadcast frequencies, including known pager frequencies.
- **Custom screen** – Lets you input up to 10 frequency ranges that the scanner will ignore during Close Call® or search operation.

❖ What's in the box?

In addition to the BCD396T scanner, accessories included in the box include a PC interface cable, three "AA" 2300mAh rechargeable batteries, wrist strap, AC adapter/charger, swivel belt clip, rubber duck antenna, BNC/SMA adapter, owner's manual, Bearcat frequency guide, and a National Public Safety Trunk System frequency

guide.

Unfortunately, the two printed frequency guides included in the box are out-of-date. If you are looking for current information I recommend you visit the Radioreference.com website or purchase a current *Police Call* book for your area.

❖ Overall Rating and Final Thoughts

Most of the complaints about the Uniden BC246T I penned in my review last December have vaporized with the release of the BCD396T. Overall, I am very impressed that Uniden has packed so much into such a small package.

Milair enthusiasts are the big winners with the release of the 396 and they are going to love this scanner. Imagine going to an airshow not knowing any of the frequencies being used, and being able to find most of the active frequencies using the 396 Close Call feature in the 225-400 MHz band. That is a huge plus for milair monitoring.

I do have three minor complaints with the BCD396T: audio quality, backlight of the display, and keypad durability.

While the scanner's audio quality is very good, it falls just a notch below the audio delivered by the BC246T. The addition of the analog and digital AGC circuitry is a big plus for audio levels, however.

The cobalt blue color of the backlight doesn't impact keyboard usage nearly as much as it does the display portion of the unit. Even with maximum contrast dialed in, the screen can be difficult to see in certain lighting situations. While the overall display has improved over the BC246T, the blue backlighting still makes viewing difficult.

Finally, I am concerned about keypad durability and the permanence of the keypad button printing. Some have complained of the imprinting wearing off the buttons on the BC246T, and this could still be an issue with the BCD396T. Only time will tell.

Bottom line, Uniden has raised the scanner market bar again. No one in the marketplace currently offers a scanner – whether handheld or base/mobile – that equals the frequency coverage plus listening capability to be found in the BCD396T.

Table One: BCD396T Frequency Coverage

Freq Range (MHz)	Default	Modulation
25.0000-27.9950	AM	5.0
28.0000-29.6800	NFM	20.0
29.7000-49.9900	NFM	10.0
50.0000-53.9800	NFM	20.0
54.0000-71.9500	WFM	50.0
72.0000-75.9950	FM	5.0
76.0000-87.9500	WFM	50.0
88.0000-107.9000	WFM	100.0
108.0000-136.9750	AM	25.0
137.0000-143.9875	NFM	12.5
144.0000-147.9950	NFM	5.0
148.0000-150.7875	NFM	12.5
150.8000-161.9950	NFM	5.0
162.0000-173.9875	NFM	12.5



174.0000-215.9500	WFM	50.0
216.0000-224.9800	NFM	20.0
225.0000-399.9500	AM	50.0
400.0000-512.0000	NFM	12.5
764.0000-775.9875	NFM	12.5
794.0000-805.9875	NFM	12.5
806.0000-823.9875	NFM	12.5
849.0125-868.9875	NFM	12.5
894.0125-956.0000	NFM	12.5
1240.000-1300.000	NFM	25.0

Note: The scanner's frequency coverage is not continuous and does not include the cellular telephone, UHF TV bands, or the 956-1240 MHz ranges.

Table Two: Miscellaneous Specifications

Dynamic allocation capacity	
Systems: 400 maximum	
Groups: 20 per system	
Channels: up to 6000 (3000 typical)	
Channels (talkgroups) per trunk system: Up to 200	
Operating temperature:	
Normal -20°C to +60°C	
Close Call -10°C to +60°C	
Scan rate:	
100 channels per second (conventional mode)	
Search rate:	
300 steps per second (5 kHz step only)	
Scan delay:	
0-5 seconds	
Audio output:	
400mW nominal into 24 ohm internal speaker	
30 mW nominal into 32 ohm headphone	
6 mW nominal into 64 ohm earphone	
Power Requirements:	
3 AA Alkaline batteries (4.5V DC),	
or 3 AA rechargeable batteries (3.6V DC),	
or AC adapter (6 VDC 800mA regulated) (Model AD-1001)	
External speaker jack: 3.5mm	
DC power jack (EIAJ TYPE-2 center positive): 5.5mm	
Remote jack: 4 pin mini	
Note: Features, specifications, and availability of optional accessories are all subject to change without notice by the manufacturer. Information presented above was based on the test unit provided by the manufacturer.	

The Uniden BCD396T (SCN 47) is available from Grove Enterprises (1-800-438-8155 or <http://www.grove-enterprises.com>) for \$524.95 plus shipping.