

## Radio Shack PRO-2066 Mobile Trunking Scanner

**T**he new PRO-2066 is a mobile scanner made in the Philippines for Radio Shack by Uniden. It differs from its mobile predecessors in two significant ways: trunking capability and improved image rejection.

The PRO-2066 can follow conversations among talk groups in most Motorola trunked systems in addition to scanning to activity in the conventional frequency domain. Though you could use a BC235XLT portable or large BC895XLT in your car, the PRO-2066 is specifically marketed for mobile use and is built in a DIN-E size cabinet.

It employs triple conversion and a 380.7 MHz IF (intermediate frequency) which rejects images better than its PRO-2046 (reviewed in Oct. 1996 *MT*) and BC760XLT ancestors, which used 10.85 and 10.8 MHz IFs, respectively.

### Physical

The PRO-2066 is housed in a metal case and has a plastic front panel. There's lots of extra space inside the cabinet. This model is marketed for mobile use, but the rubber keys are not backlit and the numeric keys are tiny — their labels are difficult to read. Key depressions are confirmed by a tone burst, which can be disabled.

A steel mounting bracket is supplied, but there are no rubber feet to prevent the bottom of the cabinet from scratching a table. The internal 8 ohm, 5 watt speaker is bottom mounted and a 1/8" external speaker jack is located on the rear panel.

An AC power supply is not included. You must connect the included DC cable to a source of 13.8 VDC or purchase an optional power supply capable of furnishing at least 500 mA. The external supply should be well filtered and our PRO-2066 seems fussy in this regard. The Uniden AD580U 700 mA wall wart furnished with our BC9000XLT has a 98 millivolt AC ripple that causes our PRO-2066 to hum loudly.

There is no hum when using a high quality laboratory power supply that furnishes cleaner DC voltage with only 3 millivolt AC ripple. Neither do we hear ignition noise when using the PRO-2066 mobile, even though it's connected to the cigarette lighter outlet.

We won't modify the PRO-2066 because it is on loan from Tandy headquarters. However, experimenters can access the PRO-



2066's circuitry to tap the baseband audio for a CTCSS reader or data slicer by removing the four screws that hold the RF/IF board. You can then unplug the ribbon cable from the motherboard and tilt the RF/IF board up to reveal the IF chip. The board is attached to the BNC antenna jack by a bare wire that appears easy to unsolder if required.

Gobs of hard, black epoxy cover the front end bandswitching circuitry to hamper virtual downconversion tinkering.

### Memories and Scanning

The PRO-2066 provides only 150 programmable memory channels, organized into five banks of 30 each. You are warned when you try to program a duplicate frequency into a memory channel in trunked mode, but not in conventional mode. A 2 second rescans delay and lockout flag may be associated with each channel for conventional scanning. Banks may be scanned individually or in any combination at about 70 channels per second during conventional memory scanning. One channel in each bank may be designated as a priority channel and checked for activity at 2 second intervals.

Motorola 800 MHz Type I, Type II, and hybrid analog trunked systems may be scanned, too. Like other Radio Shack and Bearcat trunk scanners, only one trunked system may be scanned at a time and you cannot scan a mixture of trunked and conventional systems simultaneously.

Talk group and fleet numbers, not frequencies, are displayed while searching or scanning in the trunked domain. The index number of the channel (i.e., 1 to 5 in a five-channel trunked system) is displayed as well. The PRO-2066's rescans delay, hold, and lockout operation is similar in both trunk and conventional domains, like

the other trunk tracking models.

As in the PRO-91 (reviewed in Dec. 1998 *MT*), the PRO-2066 can search or scan for active talk groups in the trunked domain and lock out up to 100 uninteresting talk groups. Trunk groups can

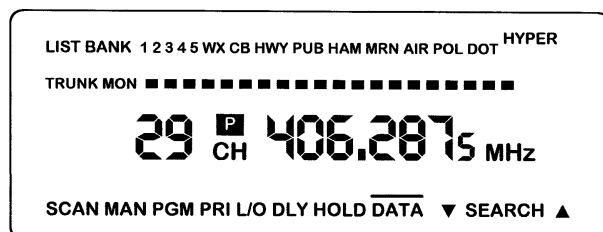
be stored temporarily into the five monitor memories during a search. You can program up to five lists per bank with talk group numbers for scanning. Each list can hold up to 10 group IDs.

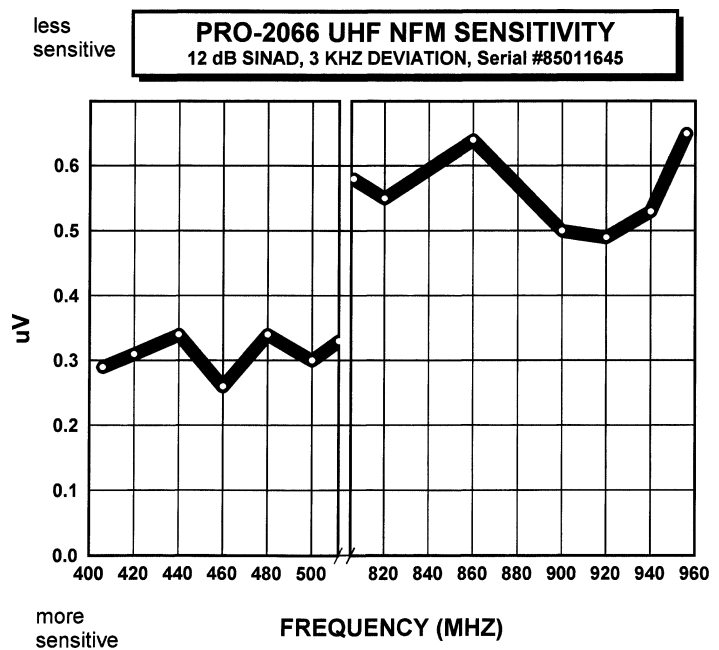
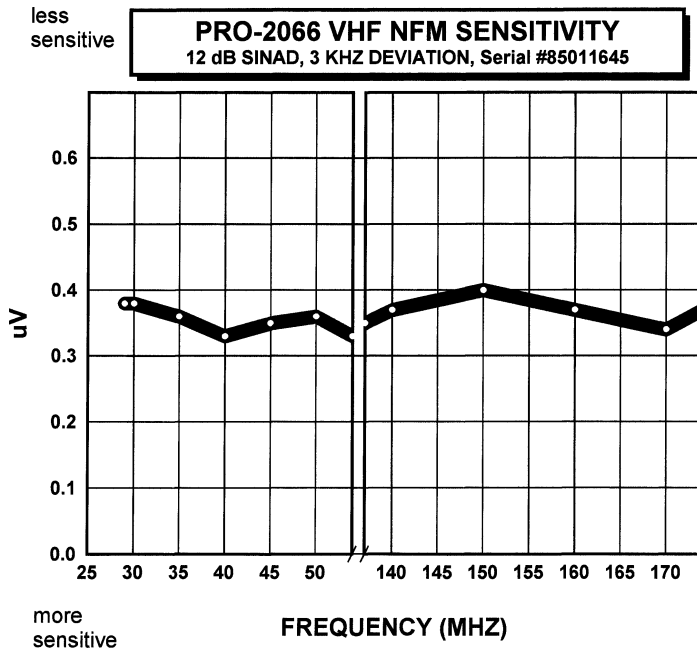
Most of the trunked systems we monitor use five frequencies. Rather than "waste" the remaining 25 channels in the bank, we program the 25 in conventional mode and lock out the trunked frequency channels. If the lockout is performed while in conventional mode, you can still scan the trunked frequencies in trunked mode and the other 25 channels in conventional mode (though not at the same time).

### Searching

The PRO-2066 supports three types of searches: Limit, Direct, and Service. One pair of limits may be programmed for a Limit search. The Direct search starts searching from the currently displayed frequency, somewhat akin to a VFO.

There are nine sets of preprogrammed frequencies for Service search, including groups for Weather, Citizens Band, Highway, Public Safety, Ham, Marine, Air, Police, and DOT (Department of Transportation) frequencies. The CB service bank is new and sometimes fun to monitor. As in the PRO-91, the Police bank omits 460 - 460.5 MHz frequencies, which are used by Chicago PD and others. We don't know if this omission is intentional or merely an oversight.





You can skip up to 20 frequencies during a Limit or Direct search. Another 20 frequencies can be skipped during Service searches. Pressing the Hold key temporarily halts any of the searches.

### ■ Usability and Performance

Our PRO-2066 has little or no image problem and only 13 birdies strong enough to break squelch during a search, all occurring above 406 MHz. It does suffer from pager intermod on several 157 MHz marine chan-

nels and occasional intermod in the 462 MHz range.

We torture mobile and portable scanners by parking 1/4 mile away from a combined cellular phone and PCS (personal communications system) transmitter site. Under these line of sight conditions, our PRO-2066 hears lots of cellular signals in the VHF-low band, some in the air band, and just a few in the 800 MHz range. Once we leave the cell site, the problems disappear and mobile reception shines over the RELM MS200 and Uniden BC760XLT.

There are no noise bursts at the end of trunking transmissions; however, there is a noise burst of moderate duration while the squelch closes after each conventional transmission. The PRO-2066 audio is substantial when used with an external Motorola speaker inside our pickup truck.

### ■ Bottom Line

The PRO-2066 is a good mobile scanner, especially for people who live in areas served by trunked systems. It provides cleaner reception than its predecessors, though we wish it contained a CTCSS decoder and lighted controls. The requirements for a well-filtered AC power supply, lack of rubber feet, and a bottom mounted speaker make our PRO-2066 less suitable for base use.

### ■ Improved Feel for Drake R8B Tuning Knob

The R. L. Drake R8B's plastic tuning knob

is hollow and lightweight. J. W. Schermerhorn weighted the R8B tuning knob by using steel BBs to give it a heavy flywheel feel.

He wrote, "I mixed the BBs with slow setting epoxy and poured it carefully into the knob. I used as many BBs as I could fit in the knob and distributed them evenly for good balance. I left some space on the surface to level the epoxy so the BBs wouldn't stick up. It's important to use slow set epoxy so you have enough time to fill the knob and level the mix. I'm very satisfied with this mod. It gives the knob a nice flywheel effect."

### ■ Download Uniden User Manuals

Lose your Bearcat instruction manual? Thinking about buying a new Uniden scanner? User manuals are now available for download free from Uniden's web site: <http://www.uniden.com/docs/service/support.htm>. To read the manuals, you need to have a copy of Adobe's Acrobat reader program on your computer. Thanks, Uniden!

**MEASUREMENTS**

**RADIO SHACK PRO-2066 SCANNER**  
S/N 85011645

**Frequency coverage (MHz):**  
 26.965 - 27.405 (AM, 5 kHz steps)  
 29 - 54 (5 kHz steps)  
 108 - 136.975 (AM, 12.5 kHz steps)  
 137 - 174 (5 kHz steps)  
 406 - 512 (12.5 kHz steps)  
 806 - 823.9375, 851 - 868.9875,  
 896.1125 - 956 (12.5 kHz steps)

**FM modulation acceptance:** 13 kHz  
**Image rejection due to 1st IF:**  
 53 dB at 155 MHz

**Audio output power**  
 1.77 W @ 10% distortion

**Birdies strong enough to break squelch during search:** 13

**Practical memory scan speed:**  
 70 channels/sec.

**Search speed, Turbo:** 299 steps/sec.  
**Search speed, regular:** 97 steps/sec.

**Intermediate Frequencies:**  
 380.7 (approx), 10.85, and 0.450 MHz

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You choose the map center location—your neighborhood, near your office, around sports stadiums—anywhere within the United States. We adjust map coverage for best readability, depending on transmitter site density.

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