SCANNER EQUIPMENT

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Radio Shack PRO-2067 Mobile Trunk-Tracking Scanner

The portable PRO-92 (see January 2000 *MT*) is built for Radio Shack by GRE and is capable of monitoring conventional, Motorola trunked (type I, II, and hybrid), Ericsson EDACS trunked, and LTR trunked systems. The PRO-92 was the first portable alternative to the Uniden-manufactured trunk trackers and hobbyists had high hopes for the new contender.

The PRO-2067 is a newer, mobile version of the PRO-92 and employs a different method of tracking Motorola trunked systems as well as a robust audio amplifier.

Both models tune the upper portion of the 10 meter ham band and the standard "scanner bands," as well as the 806 - 960 MHz range. They also function as a "weather alert radio," displaying SAME messages, but neither supports programming of location codes for local weather alerts.

❖ Mobile Package

The PRO-2067 is billed as a mobile scanner and includes a DC power cord and simple mobile mounting bracket. If you wish to use the PRO-2067 as a desktop unit, you'll need to purchase a 12 VDC 500 mA power supply and, ironically, we use a Uniden wall wart designed for the BC-9000XLT.

The PRO-2067 lacks rubber feet on the bottom of the cabinet to prevent table top scratches. We use an external speaker for better indoor listening because the underside speaker is situated for mobile application.

You can program the PRO-2067 with a computer (interface kit not supplied) or clone one PRO-2067 from another PRO-2067 or PRO-92 using the cable provided.

The keypad is not backlit, which is disappointing for a mobile model. The LCD display is well lit, but too small and busy to be read easily when the PRO-2067 is mounted below the dashboard.

❖ Memory

The PRO-2067 and PRO-92 use the same memory organization – 500 memory channels distributed among 10 banks, numbered 0 - 9.

Each memory channel is programmed with a frequency and what Radio Shack calls a "mode." The modes are AM, FM, Motorola Trunked, EDACS, LTR, PL, and DL (digital PL). You can mix combinations of conventional and LTR trunked frequencies within the same bank, but frequencies for each EDACS and Motorola trunked system must be programmed into their own separate bank.

PL and DPL are abbreviations derived from Motorola's trademarked terms Private Line (con-

tinuous tone coded squelch) and Digital Private Line (digital coded squelch). The PRO-2067 can detect and display a PL or DPL code on a signal almost instantaneously.

Each channel may be easily programmed with a 12 character label which is displayed along with the frequency. Each memory bank may have its own text label, but bank labels are not displayed while trunking or on channels assigned a PL or DPL code.

A built in attenuator may be enabled on a per-channel basis, though we didn't need to use it. Some PRO-2067 users find the attenuator helpful in preventing desensitization from strong VHF-high band signals when their radio is connected to an outdoor base station antenna.

❖ Scanning and Searching

As you might expect, memory banks can be sequentially scanned in any combination. We programmed 2 banks with conventional AM and FM frequencies, 3 banks with different Motorola trunked systems, 2 banks with an EDACS trunked system, and 2 banks with a local LTR trunked business system.

Our PRO-2067 scans all those banks in turn. There is no apparent delay when our PRO-2067 switches among conventional and trunked banks.

For trunking, one can program up to 100 talk group IDs in each of the 10 banks. The only way to program a talk group is to press the Trunk key while the PRO-2067 is listening to a signal on that trunk group. This inconvenience means you must wait around until someone actually uses the talk group, then press the Trunk key quickly, before the transmission ends.

You can lock out talk groups from the lists and conversations in these groups won't be scanned. Talk groups cannot be locked out while searching (i.e., scanning in the Open mode), a drawback when searching a trunked system in which one or more talk groups is dedicated to telemetry or other data.

While scanning trunked systems, you can instruct the PRO-2067 to hold on a particular talk group. It will scan all the trunked frequencies in the current bank, stopping only on conversations in that talk group.

The PRO-2067 provides a search with 10 pairs of frequency limits and you can search multiple ranges sequentially. The 10 ranges are preprogrammed, but their limits and text labels can be reprogrammed via the proper keystroke sequence. Up to 50 frequencies may be locked out in each bank. There is no auto store feature.

❖ Multi Line Display

Both the PRO-2067 and PRO-92 employ a 4 line, dot matrix liquid crystal display, and the PRO-2067 display is brightly lit at all times. One may adjust the contrast through a keypad sequence.

The display shows frequencies, channel, mode, and other indicators. When the PRO-2067 is stopped on a signal, the first line shows the channel number and other status information. For trunked channels, the remaining 3 lines show frequency, channel label, and talk group label.

❖ Subtleties

The PRO-2067 and PRO-92 are complex radios and some aspects of the way they work are not obvious after a quick reading of the owner's manual. Owners of both models share operating hints at the **www.pro-92.com web** site.

You must program EDACS frequencies in the proper order, in a separate bank, starting with the second memory channel (01) in that bank. If you start programming them at the first channel (00), the radio won't track them properly.

Some features, e.g., the 2 second rescan delay, are implemented for conventional systems and don't function while the PRO-92 is monitoring trunked activity. Bank text labels are not displayed for trunked frequencies. The 4th line on the display shows talk group information instead.

As in the PRO-92, the PRO-2067's PL and DPL squelch are only effective while scanning in the Closed mode. We could find no way to configure either radio to sit on a single channel with PL or DPL, and prevent signals without the proper code from opening the squelch.

The Uniden Trunk Trackers support multiple talk group lists per bank vs. one list per bank in the GRE-made competitors. To obtain similar functionality in the PRO-2067, you could program the same trunked system frequencies into several channel banks, and program the corresponding talk group lists differently, e.g., one for police, another for fire, etc.

❖ Performance

Our PRO-2067 (s/n 00315) produces clean, crisp audio and the 1.9 watts is more than ad-

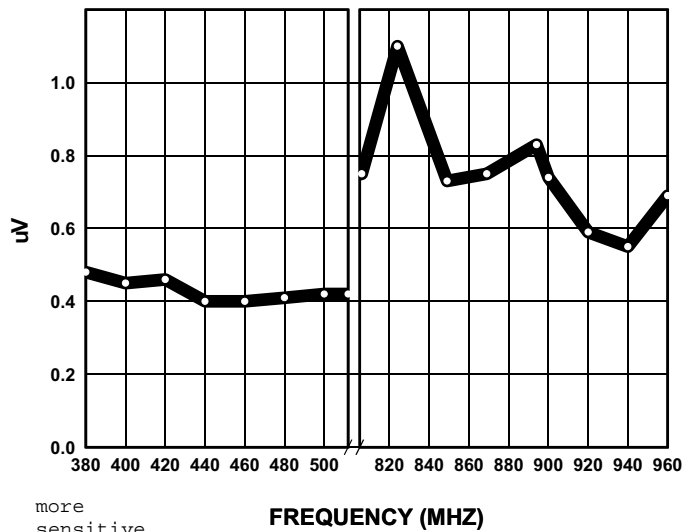## PRO-2067 VHF NFM SENSITIVITY
12 dB SINAD, 3 KHZ DEVIATION, Serial #003315
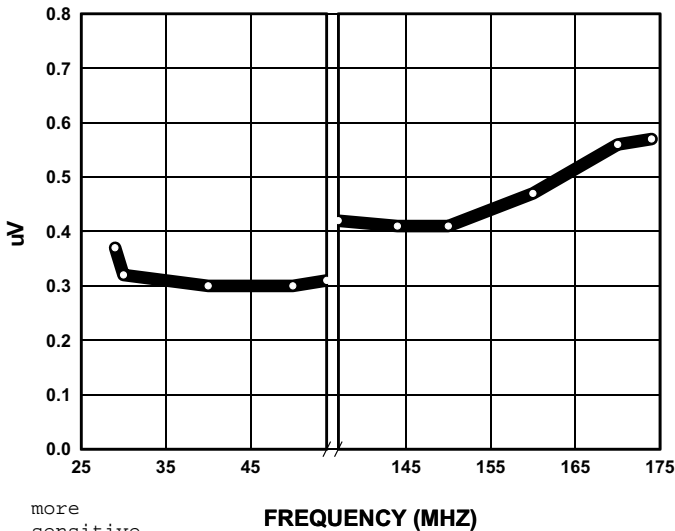
less sensitive

more sensitive

FREQUENCY (MHZ)

PRO-2067 UHF NFM SENSITIVITY
12 dB SINAD, 3 KHZ DEVIATION, Serial 003315

less sensitive

more sensitive

FREQUENCY (MHZ)

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equate when using an external speaker. It is sensitive and has excellent image rejection.

The PRO-92 and PRO-2067 differ in the way they track Motorola trunked systems. The original PRO-92 monitors the subaudible data transmitted "under" voice traffic. It sometimes displays the wrong talk group ID as a consequence, a behavior which has come to be known as "wobble." In contrast, the PRO-2067 implementation uses data transmitted on the control channel, the method used by Uniden.

Our PRO-2067 doesn't have an ID wobble problem, but has a different bug. It sometimes fails to display a talk group label while paused on a transmission in a Motorola trunked system in Open mode. The proper label appears as soon as we press the Manual key.

The PRO-92 we reviewed last January works well tracking the small to medium size trunked systems in our locale, but some PRO-92 users in other areas report problems tracking larger and busier systems (March 2000 *MT*). While the PRO-92 tracks our local systems well, the PRO-2067 tracks them better. It follows conversations when held on a chosen talk group and misses

fewer call backs in the EDACS systems. The 23 channel/sec. scan speed is acceptable, though slower than Uniden models. We don't know how well the PRO-2067 performs monitoring large, heavily loaded, analog trunked systems because there aren't any nearby.

❖ Overall

The PRO-2067 packs a lot of capability into a small package and we are impressed with its performance. The instantaneous PL/DPL code display is fantastic, though the PL and DPL squelch should be designed to function while in manual mode. The alpha channel labeling – a "must have" for scanners with several hundred channels – is easily programmed.

Listeners who concentrate more heavily on trunked systems would appreciate the ability to lock out talk groups while searching and may find the PRO-2067's monolithic talk group lists too restrictive.

The Pro-2067 is available from Grove Enterprises for $339.95 (800-438-8155 to order)