

Pop'Comm Reviews: Realistic's PRO-2005 Scanner

Packs 100 More Memory Channels & Increased Sensitivity in Smaller Package Than Predecessor

RUSS PRINCE, K0DAI

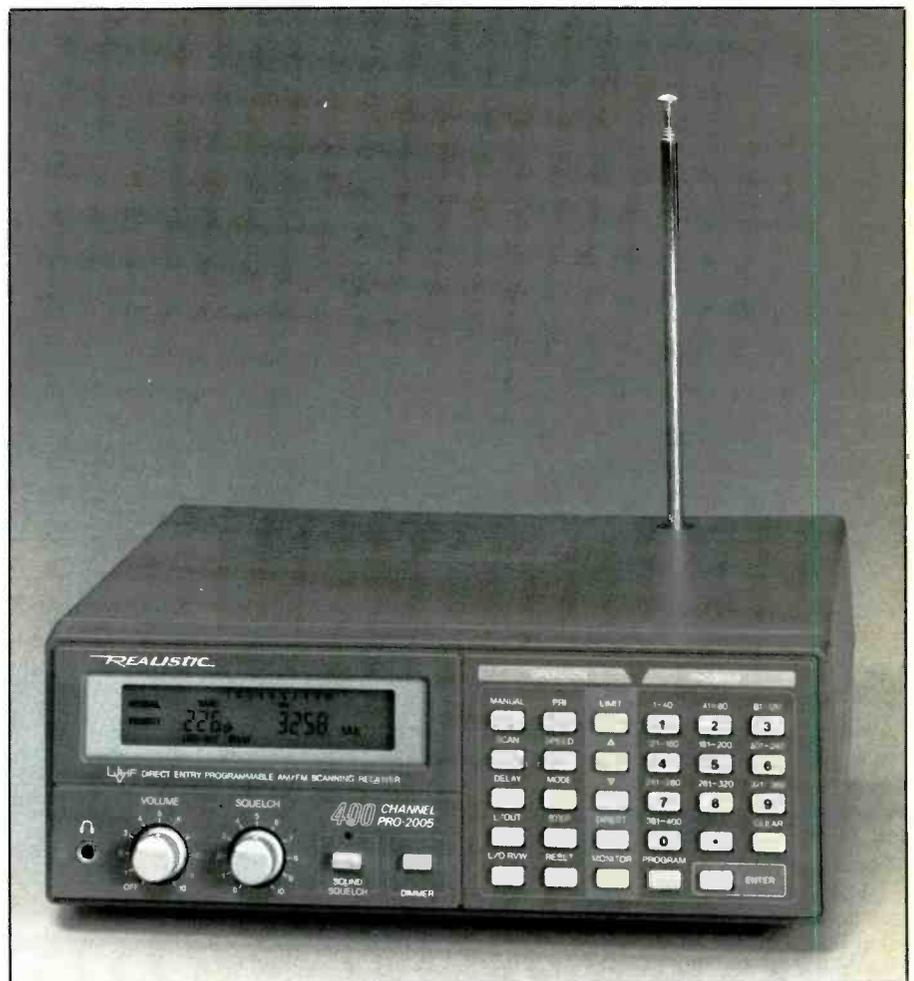
The new Radio Shack PRO-2005 programmable scanner has replaced the PRO-2004 in the line, and it continues the traditions of the earlier model. For amateur use, it covers the ham bands between 10 meters and 1.3 GHz., including 10 meters (28.0 to 29.7 MHz), 6 meters (50 to 54 MHz), 2 meters (144 to 148 MHz), and the rest. Actual coverage ranges include 25 MHz - 520 MHz, 760 MHz - 823.945 MHz, 851 MHz - 868.945 MHz, and 896 - 1300 MHz.

The PRO-2005 has 400 memories, an increase of 100 from the standard unmodified PRO-2004. They are divided into 10 banks of 40 memories each. Each bank may be programmed for automatic seeking of unknown signals and frequencies using the Limit Scan feature. Individual banks of frequencies can be locked out, and individual frequencies within a bank can be locked out, such as the continuous weather broadcasts. Scanning speeds of 8 or 16 channels per second can be selected from the front-panel keypad.

Standard modes include AM, Narrow FM (NFM) and Wide FM (WFM). AM mode is automatically selected for civilian aircraft frequencies (108 - 135.995 MHz) and 10 - 11 meters (25.0 - 29.995 MHz). NFM is selected for all other ranges except the broadcast FM band between 87.5 and 107.995 MHz.

Fortunately, the mode, as well as the scanning steps, i.e., 5 kHz, 12.5 kHz or 50 kHz, may also be selected manually with the Mode and Step buttons on the front control panel. For example, when a frequency, such as 309.500 is entered, the default mode is NFM. To change the mode to AM, press the Mode button until AM appears in the display window. The AM mode indicator flashes whenever the scanner stops on that frequency. You can also perform a limited band scan operation using a non-standard mode, helpful when scanning the 225 - 400 MHz military zero bands which are filled with AM transmissions. In the limited band scan mode, mode and stepping can be changed on the fly by simply pressing the mode or step buttons while a limited band scan is in progress.

Frequencies found during a limited band scan search can be easily written into permanent memory by pushing a couple of but-



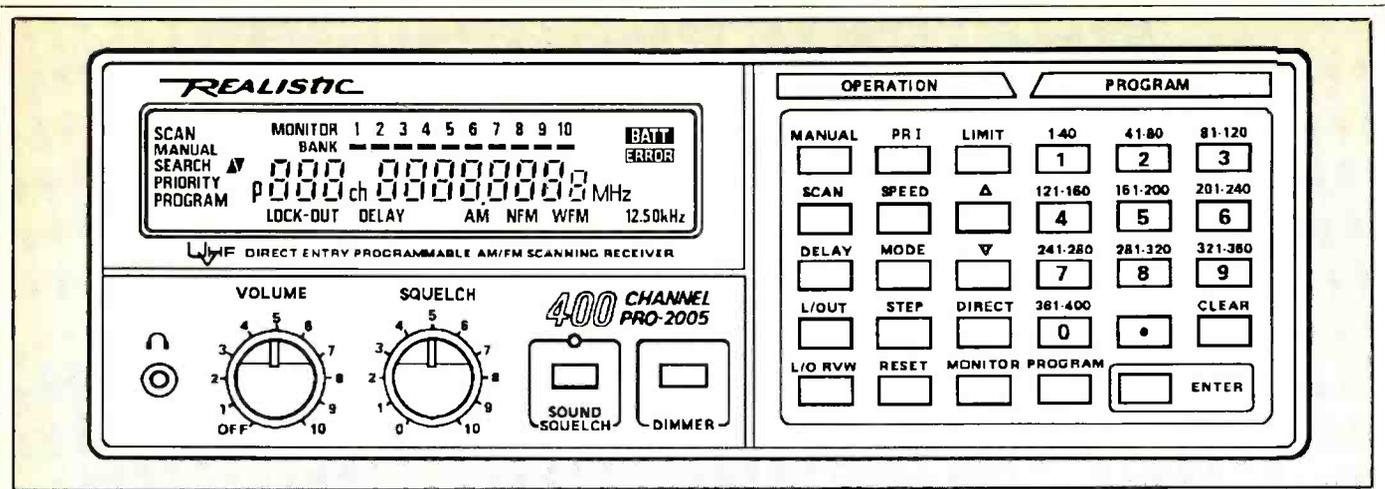
tons. The limited band scan memory holds 10 additional frequencies beyond the 400 permanent memories.

Sensitivity on Narrow FM is a very good 0.5 μ V for 20 dB S/N at 3 kHz deviation from 25 MHz through 1.1 GHz. AM sensitivity for the same range of frequencies is 2 μ V for 20 dB S/N at 60% modulation, while wideband FM sensitivity is 3 μ V for 30 dB S/N at 22.5 kHz deviation. Above 1.1 GHz, sensitivity drops off substantially. Narrow FM sensitivity falls to 3 μ V, Wide FM drops to 10 μ V, and AM sensitivity drops to 5 μ V between 1.1 and 1.3 GHz, but since there is no AM up there, the AM drop is relatively insignificant.

I live in the southern suburbs of Minneapolis, MN and with a R/S discone monitor antenna side-mounted 35 feet up my tower, I regularly pull in weather broadcasts from Rochester, MN, 65 miles to the south, and marine radio signals from the Mississippi and St. Croix Rivers, 20 to 25 miles distant.

An interesting frequency range is 46 to 50 MHz for cordless telephones. It's amazing how many of these signals (and baby room monitors) that can be heard on this receiver with a good outdoor antenna!

Mobile cellular telephone frequencies have been purposefully blocked out on the PRO-2005, however I understand a mod is possible similar to the simple diode removal



used in the PRO-2004.

Other features of this high-performance receiver include a telescoping antenna, a built-in AC power supply, a blue backlit LCD display which shows both the channel storage number as well as the actual frequency, a selectable 2-second scan delay, 9-volt battery backup for the memories, a built-in 3" speaker driven by a 1.3 watt audio amplifier, headphone and external speaker connections, a BNC style external antenna input, a TAPE OUT jack on the back panel, and a 13.8 VDC power input jack to power the rig from DC power sources. The front "feet" fold out to elevate the front panel for better viewing.

A programmable priority frequency can be set to any of the 400 frequencies in memory. If 167.050 MHz in memory position 42 is to be your priority frequency while scanning other memory banks, the scanner will be look at your priority frequency once every 2 seconds and lock on if a signal is heard. Scanning automatically resumes when the priority frequency drops out.

The PRO-2005 receiver is physically two inches narrower than the PRO-2004, measuring just 2 1/8" high by 8 1/2" wide by 8 1/4" deep. It weighs only 2.4 pounds. The case is made of medium gray plastic and the LCD display has a pleasant blue backlight with a dimmer control. The 29 control buttons are an off-white rubberized material and provide a good tactile feel. I've heard some grumbling about the new all-plastic case, however it appears sturdy and I have experienced no receiver interference as a result of running other electronic equipment, i.e., two computers, six amateur rigs, and a TV. Inside the PRO-2005, the key mixer modules are completely contained within metal shielded boxes. The few birdies I have found correspond with those listed in the operators guide which came with the unit and pose no serious problems.

A nifty feature is the Lockout Review button on the front panel. If you've locked out one or more continuous or busy frequencies from scanning, and later want to review them, simply press the Lockout Review button and each frequency which is locked out

will temporarily be activated in sequence and displayed on the panel with each press of the button. This saves time, especially when trying to remember which few of the 400 memories have been locked out!

Overall, the rig is an exceptionally versatile scanner for the monitor fan interested in a wide-coverage receiver. The new keyboard layout is easy to work and can be programmed easily. The PRO-2005 keyboard is nearly vertical, unlike the sloped keyboard of the PRO-2004, and features real buttons rather than the sometimes unresponsive membrane touchpad style used on the PRO-2004. This is a definite plus in the 2005's favor as far as I'm concerned!

The frequency banks, each of which hold 40 frequencies, are large enough to put an entire service into one bank, such as 2-meter ham, marine, 220 and 440 ham, 10 meters, federal, public service, FM broadcast, aircraft, CB, cordless telephone, military aircraft and others. Banks can be switched in and out at will depending on your listening pleasure.

The limit-scan feature allows programming of 10 separate limit scan frequency pairs and you can jump quickly from one to another by selecting a new bank.

If you already own the earlier PRO-2004 and have made the 400 frequency modification, you may not see enough difference to rush out and purchase a new PRO-2005. But, if you don't already own a mega-memory, wide coverage quality scanner, this one should be given your consideration. The programming is intuitive (read that "easy") and the keyboard has a positive feel and response. You can make this scanner do just about anything you can imagine without constantly referring to the manual. I've used mine in the house, in the car and on a boat with excellent results. It looks nice enough that my XYL, on rare occasion, has even let me bring it into the family room on slow TV nights! The PRO-2005 is available at all Radio Shack stores for \$419.95. The manual is instructive and filled with illustrations. The PRO-2005 receiver is expensive, but is a quality, full-featured and versatile receiver.

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