NAT NPX138N VHF-FM Radio Part I

Briefing on General Use and Settings

Ver. 1.0

DEWG CAP

5/23/00

How to Navigate this course

This presentation has animation sequences to help demonstrate the way some things work

In order to allow you to get the most out of these aids, you'll be afforded the ability to move forward at your own pace. You'll know it's your turn
to go forward in the presentation
when you see this button

Press any key once you see this. The space-bar works great as an "any key". If you want to replay animation, use the Page Up key on your PC, and press any key to restart that part

Go ahead and try this on your own:

Good!

We’re now ready to proceed to the training

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This is the *NPX-138* radio from Northern Airborne Technology, Ltd of Canada which has been designated as CAP's aircraft VHF-FM radio of choice.

- **FAA accepted for aircraft use**
- **100 channels within the 138-174 mHz VHF spectrum**
- **"Guard" (priority) channel monitor capability**
- **Programmable from laptop computer in the field**

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Introduction

…if you want to search the built-in tutorials, you can press the white button marked "help" at this time.

Otherwise, you may go to the Channel Display by lightly toggling the BRIGHTNESS switch, also labeled "NEXT", either direction.

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Introduction

The position of the EDIT switch governs the way in which the other switches operate. This is a pull-type lockout toggle switch

The EDIT switch centered, the function of the other chief toggle switches are as labeled above them:

Display, Channel, and Brightness.

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Introduction

Some of the more obvious controls are right here:

- *Channel Select* - Choose the channel you want
- *Brightness* - Adjust the screen brightness

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Introduction

- *Scan Select* - allows scanning or no scanning
- *Guard Channel Volume* and *Guard Select* - allow use of second receiver circuit on a Guard frequency

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Operating the Radio

There are two possible screen readout types to observe, and you may use which ever you prefer:

This “Alpha-Numeric” readout…….

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Operating the Radio

…….Or this “Frequency” readout.

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Operating the Radio

• Switch to the center is the Receive Display. This is the actual receive frequency for this “channel”

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Operating the Radio

- You recall from ROA training that a “channel” is comprised of 1) a radio frequency, and 2) a subaudible note, or tone, which rides underneath the voice audio and opens up other radios’ receivers

- The tone for this channel is 100 cycles, or Hertz

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Operating the Radio

This screen shows everything one really needs to know while in the air:

- The Channel, as known on our other VHF-FM radios
- The normal use or tasking for that channel

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Operating the Radio

- Power display - HI = 10 Watts, LO = 1 Watt
  - HI Power would be the normal setting
- CTCSS Tone On or Off
  - “ON” would be the normal setting

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Operating the Radio

- Notice that we didn't specify the means for changing the variables such as tone, power, etc
- Once this radio is installed and programmed, it should just power up and operate "as is"

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Operating the Radio

- Part II, the Advanced User segment of this training series will cover the specifics of changing the options for tone, power, and other matters
- These functions need not be altered in any way, as long as the display reads as just specified

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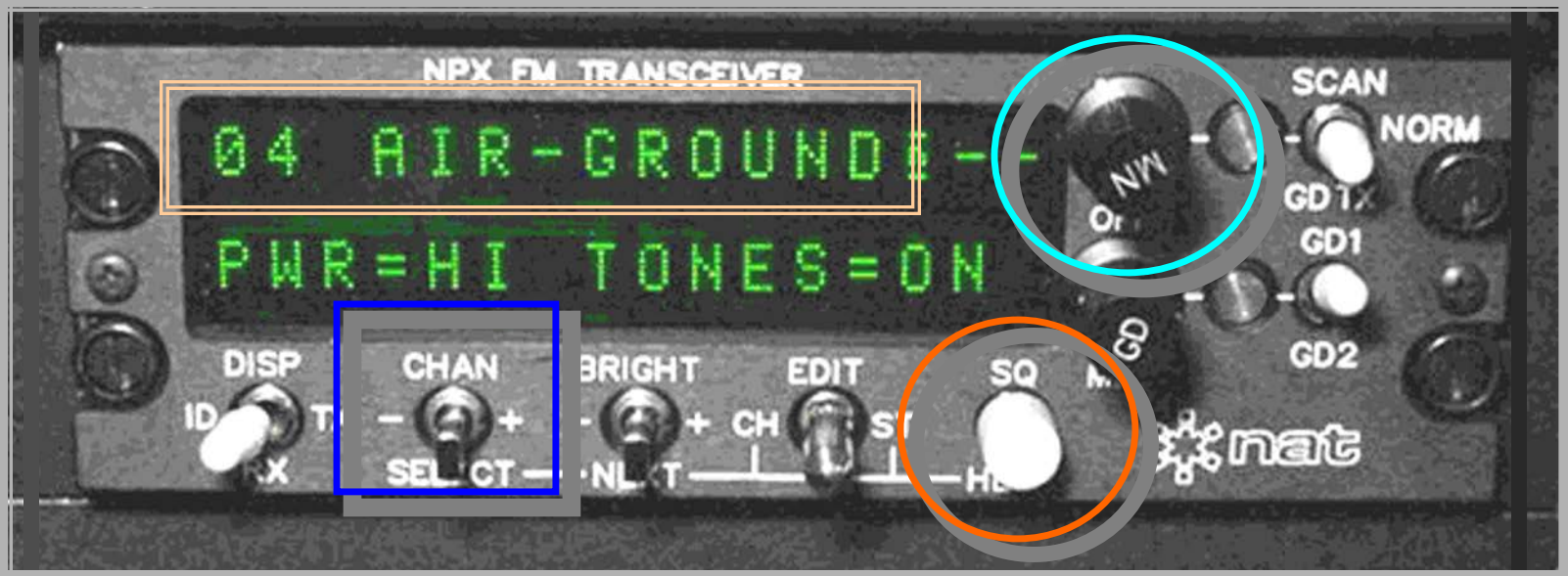
Operating the Radio



Here's an overview of the other chief functions:

- On/Off and Volume - Traditional function and purpose
- Squelch - Push in to hear the weakest of signals
- Channel - Pick the channel of operation desired

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Operating the Radio

- If one considers just this much, the NPX-138N works just like any other VHF-FM radio
- Turn on, set channel, adjust volume as required
- Set display mode and screen brightness
- Set aircraft comm panel as necessary

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Operating the Radio

- If one considers just this much of the radios operation, it works just like any other VHF-FM radio
- Leave the scan select on NORMAL, or centered

Operating the Radio

- If one considers just this much of the radios operation, it works just like any other HF-FM radio
- Leave the scan selection on NORMAL, or centered
- Press in the Squelch button to hear very weak signals

Operating the Radio

- If one considers just this much of the radios operation, it works just like any other VHF-FM radio
- Leave the scan select on NORMAL, or centered
- Press in the Squelch button to hear very weak signals
- Change channels as required during mission

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Operating the Radio

"So, just what is this 'Guard Channel' feature, anyway?"

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Here's how to use the Guard feature:

- National F-1 and F-4 are default programmed as GD1& GD2
- Use the Guard Select switch to choose which guard channel to monitor - the repeater or the air-ground frequency
- Leave the SCAN switch in NORMal mode for now
- Set the Guard Volume to a desired level

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• Choose your other operating channel with the CHANnel switch, in the common fashion for channel selection

• If you hear a call and the lamp immediately to the right of the regular on-off-volume knob lights up, then that was on the regular channel as indicated on your display

• Answer that call in the regular fashion, you don't have to change or move anything on the radio to do so

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- If you hear a call and the lamp just to the right of the Guard Channel (GD) knob lights up - then you would:
  - Adjust the GD Volume if necessary for good audio
  - Change the SCAN/NORM switch to the bottom setting, which is labeled "GD TX" - Guard Transmit
  - All transmissions from you will now go out over the Guard Channel you selected with the switch GD1/GD2

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- It should be pointed out that Guard Channel/Regular Channel co-monitoring is no different than the way we use the aircraft aviation band comm radios… You can hear traffic on either one, but they both have their own volume and TX controls
- Simply set the NPX-138N's two volume knobs as needed & answer either "radio" by means of the NORM - GD TX switch
- Guard Volume has a preset minimum volume level

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Final Practical Review

- You see this “HELP” screen, so you would do what in order to get past this screen and on to business?

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→ Toggle the switch labeled “BRIGHTNESS”/”NEXT”

Final Practical Review

- You can display the Channel by Frequency or by it's "name" or common usage. Choose this how?

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→ Toggle the switch labeled "DISP", for "Display"

Final Practical Review

- We're asked to go off to another channel to assist an outside agency on a mission or work a ground team

- How do we keep an ear out for Mission Base as well?

→ Use the Guard switch, choose GD 2 for CAP-4, & you'll hear calls on either frequency

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Final Practical Review

- ….and so you're on your agency assist and you hear a call from another CAP airplane on GD 2, which you know is CAP's Channel 4
- What's the fastest, easiest way to answer them?

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→ <u>This switch all the way down, and speak to them</u>

Conclusion

- There's absolutely no substitute for hands-on field experience
- Try these basic steps while you're on the ground, so that they become second-nature when you're in the air

This is the end of the Introductory Level Briefing on the basic use of the NPX138N from NAT, Ltd

Continue with the Advanced User Briefing to learn to use Scanning, Priority, and Direct Frequency or Channel Editing