

Alinco DJ-G7T Hand-Held, Tri-band Transceiver

By Bob Grove, W8JHD

The universal appeal of a compact, hand-held radio is well acknowledged. Whether it's a telephone, a ham radio set, a fireman's or police officer's radio, or a scanner, clutching one of these is reassuring. Instant communication, a market well attended by myriad manufacturers.

Alinco's recent entry into the fray is well placed. The DJ-G7T is compact (2.33 inches wide, 4.5 inches high, and 1.25 inches deep) and weighs 9.5 ounces. It comes equipped with a Li-Ion battery, rubber whip, drop-in charger with 120 VAC/12 VDC adapter, belt clip, hand strap, and a comprehensive, 113 page manual.

A top-of-the-case, water-tight jack is provided for an optional earphone/microphone combination. An SMA connector is used to attach the antenna.

So what makes this radio stand out in the crowd? First, it's a tri-bander, transmitting in the 144-148, 430-450, and 1240-1300 MHz ham bands. Second, it has continuous reception coverage from 530 kHz-1300 MHz (cellular blocked) in AM, FM, and WFM modes.

This offers the dual capability of licensed amateur radio service as well as scanning the spectrum for monitoring broadcast signals and two-way VHF/UHF communications. Tuning steps in the VFO mode may be chosen as 5.0, 6.25, 8.33, 10, 12.5, 15, 20, 25, 30, 50, 100, 125, 150, 200, 500, and 1000 kHz.

Pressing the transmit button when non-ham frequencies are selected will bring up a "Disabled..." message and the transmit attempt will be ignored.

The keypad is intuitive to follow and allows a large number of options available to the operator.

A 'scope function permits a spectrum display of signals present within +/-30 kHz of the displayed frequency. A top-panel knob may be rotated to slew the frequency bands. Discrete frequencies may also be entered directly from the keypad.

It is also possible to start a scan sequence and watch the signals drift by as the frequencies shift. The sequence can pause automatically as a busy spike passes the center of the screen to be monitored, then the sequence activated again with the scan key.

The keypad is a busy place, but it's well marked with its functional responsibilities:



- 1 This wild key allows assignment of user-chosen memory functions
- 2 Transmit power selection (multiple values from 0.3-5 watts)*
- 3 Signal attenuation for strong-signal environments (four levels)
- 4 Modes may be chosen for AM, NFM, or WFM modulation
- 5 CTCSS tone squelch, digital code squelch (DCS), or modulate-carriers may be selected or cancelled
- 6 The channel scope shows a selectable switch of spectrum with signal spikes**

- 7 Step intervals for slewing across a reception band
- 8 Microphone gain may be adjusted to suit the environment (four levels)
- 9 Press to recall the channel that was previously selected
- 0 Priority frequently samples important frequencies for activity
- . The decimal key is used in direct frequency input as well as clearing memory channels
- ENT Is used to determine input/output frequency separation on a repeater
- MAIN Allows switching between main frequency band and the dual/mono band
- SUB Switches between the sub band frequencies and dual/mono band frequencies
- V/P/M Alternates memory registration, editing, and naming
- SCAN Is the standard automatic sequencing of memory channels to find activity
- FUNC Selects the second function of each key

* Power levels vary with use of internal battery or external DC source, and band chosen.

** Spectrum displayed is 11 adjacent frequencies or memory channels

A side-located pushbutton powers on the rig, and it's rather cantankerous. Roughly 1/4 inch in diameter, hard-rubber covered, and flush with the case, depressing it with a thumb is impossible, and with a finger tip unlikely. Pressing it substantially with my fingernail was the only way I could activate it.

But once it's activated, the green-lit LCD display reveals its information. Two frequencies, one from the primary and the other from the secondary receivers, may be displayed. The multi-purpose, concentric controls on the G7T's top can be rotated to change those frequencies and also serve to control squelch and volume levels.

A sampling of the LCD window shows the familiar lockout key symbol to prevent



accidental or intentional resets. Battery condition charge level is also revealed by the standard cell segments symbols. ATT reminds you that you've activated the attenuator when you can't figure out why signals sound so weak. Relative signal strengths are revealed by a bar graph.

Audio clarity is excellent; no tininess as familiar on many teeny speakers, and voice contoured to reduce extraneous hiss. At loud levels, the voice is clear and undistorted.

In strong-signal environments, an attenuator with four successive levels of signal-strength suppression may be selected to reduce adjacent-channel interference.

❖ Menu Settings

The G7T offers a considerable number of menu options to customize your personal settings. These include power source, screen appearance, sounds, transmitter keying, receiver settings, memory characteristics, scanning functions, and keypad assignments.

❖ Flexible Memory

The G7T has seven memory banks:

1. General (Stores and recalls up to 1000 frequencies)
2. Program Scan (Searches between a span of frequencies)
3. Dual Frequency (Memorizes up to 100 pairs of frequencies)
4. Priority Scan (Favors up to 100 frequencies for preferred recall)
5. Call Channels (Registers frequencies to be used for calling)
6. Search Pass (Allows skipping up to 100 frequencies during search)
7. Transmitter Detection (Memorizes up to 100 found frequencies during search)

Additionally, a permanent memory of commonly-used bugging frequencies may be interrogated for activity.

Memory channels can be moved from one bank to another. Channel identification may be displayed and described alphanumerically with up to 16 letters and numbers.



❖ Scanning

In the VFO mode, scanning across a selected band can be customized by choosing the step size. A custom range of frequencies may also be programmed. The scan function will also work in memory banks and presets.

During any of the scan sequences, scanning can be stopped by simply pressing the push-to-talk (PTT) button. Pressing the function (FUNC), SCAN, or W/P/M key will also stop the scan sequence.

But the G7T is foremost a transceiver, and secondarily a scanner. Scan speed is a sluggish five or six channels per second compared to the lightning-fast 100-200 steps per second of a Uniden dedicated scanner.

Determining the squelch tone or DCS code being used by a transmitter is done automatically by selecting the Tone Scan or DCS Scan function. When operating, the display will show the progressive standard tones or codes in rapid order, then stop when the correct tone frequency or code has been resolved. A beep will confirm the find.

❖ Transmitter Detector

Not really a bug finder, this interesting feature allows you to enter a discrete frequency, then change your location while listening to the pulsing tone. As you get closer, and thus the signal gets stronger, the tone will pulse faster.

While this function does not allow listening to the contents of the transmitted signal, that can be heard by pressing the monitor key (MON).

Using a directional antenna will help with direction finding. If the signal gets closer (stronger), the attenuator can be called into use to prevent overloading the detector and confounding the pulse tone.

This is a good gimmick for radio fox hunts, and can act as a bug detector if the frequency of the hidden transmitter is known.

❖ Bug Detection

The G7T does include a method for searching for surreptitious listening devices. A special memory consists of known frequencies utilized by bug manufacturers. By invoking that function, the scanning sequence will search for activity on those known frequencies.

If a signal is discovered a "DETECT!" message will show on the screen accompanied by an unpleasant sound from the speaker (or earphone if used for stealth). The sound grows louder as the signal source is approached.

❖ The Bottom Line

The Alinco DJ-G7T is well thought out, cleverly designed, and highly functional. It has the reassuring feel of a substantial "brick," and the white-against-black key legends are easy to read.

Naturally, multifunction keys and sub-menus take a while to learn, but it's the only way a limited-size piece of equipment with multiple functions can operate.

The Alinco DJ-G7T lists for \$289.95 and is available from *MT* advertisers.

SPECIFICATIONS

Receive Frequency Range: 530 kHz-1299.995 MHz (Cellular Blocked)
Transmit Frequency Range: 144-147.995, 430-449.995, 1240-1299.995 MHz
Antenna: 6-1/2 inch rubber, SMA base, 50 ohm impedance
Operating Voltage: 7.4 VDC (Li-Ion battery pack supplied)/4.5-16 VDC external supply
Current Consumption: 1.8 A max (430 MHz transmit)/200 mA receive/56 mA battery save
Operating Temperature Range: +12 to +113 degrees F
Frequency Stability: +2.5 parts per million (-10 to +45 degrees C)
Dimensions (Excluding Projections): 2.35 inches W x 4.53 inches H x 1.18 inches D
Weight: 9.55 oz.
RF Output Power (Approximate): 144/430 MHz, 5/2/1/0.3 W; 1200 MHz, 1/0.3 W
Modulation Modes: 5 kHz FM deviation transmit; FM, AM, WFM receive
Spurious Transmit Emissions: -60 dB or less
Receive System: Double conversion superheterodyne (single conversion on WFM)
First And Second IF: Main band FM, 51.65 MHz/450 kHz; Sub band AM/FM, 50.75 MHz/450 kHz; Sub band WFM, 10.7 MHz
Sensitivity: -15 dBu typical on main band
Selectivity (-6/-60 dB): AM/FM, 12/35 kHz; WFM, 130/300 kHz
Audio Output Power: 400 mW at 8 ohms, 10 percent THD

CC GOZO AM/FM Radio

By Larry Van Horn, N5FPW

The C.Crane Company has an impeccable reputation for providing consumer-driven radio products, and their newest entry, the CC GOZO AM/FM radio, is another in a long line of electronic hits.

The hallmark of this newly-introduced radio is high audio fidelity normally found in more expensive desktop radios. Voice replication is clear and precise while delivering natural sounding vocals. This is accomplished with an additional passive radiator speaker. C. Crane says this is the first radio in their line that was specifically developed for high fidelity audio.

Although it doesn't pull in weak AM stations as well as some of the other C.Crane radios I have tested, the FM reception on the test unit was very good. I was receiving FM stations with full quieting from Nashville, Tennessee more than



200 miles away using the whip antenna included with the radio.

This radio is the epitome of simplicity: an ON/OFF knob, a TONE knob, an AM/FM/AUX knob, and a large tuning knob on a backlit analog dial. The dial light turns off 11 seconds after the power is turned on, the band is changed or the tuning is adjusted. That's all the controls you get and it's really all you will need with this radio.

On the rear panel there's an MP3/AUX input should you wish to plug your MP3 player or smartphone into the radio to share your music using the radio's robust speaker. They have included a short cable for use with an iPod/MP3 player or other aux input device. The other two jacks on the rear panel include a headphone jack for personal listening (no headphones or buds included) and the input jack for the AC adapter.

Powered with six AA batteries for portable use, the company says new alkaline batteries rated at 2500 mAh will last for 12 hours at a moderate volume level. The unit does come with an AC adapter that is a linear wall transformer power supply, so there is no noise from the supply as there can be with switching supplies.

The CC GOZO is only 7.5 inch wide x 4.5 inches high and 3.25 inches deep. It weighs 1.5 pounds (without batteries), and the 2.25 inch six ohm speaker puts out 10 Watts.

The CC GOZO is a unique AM/FM radio with audio that is best described as surprisingly full, pleasant and bright. The cabinet has a nice solid feel and the operating controls all work smoothly, although the main tuning is a bit stiff on the unit we tested. At \$109.95, the CC GOZO gives you the quality of more expensive desktop radios in a size that is flexible for home, boat, or RV.

You can get more details on the company website www.ccrane.com or phone them from the U.S. and Canada at 1-800-522-8863. Local and international callers should use (707) 725-9000.

SPECIFICATIONS

Input Power: AC Adapter: 12 VDC 650 mA tip positive or (6) AA size (not included)
Power Consumption: AM 3.5W, FM 4W
Audio Output: 3.5W
Speaker: 2 .25 inches, 6 Ohms, 10 Watts
Frequency Coverage: AM 520 - 1710 kHz, FM 87 - 108 MHz
AM Antenna: Internal Ferrite Bar, FM Antenna: Telescopic whip antenna
AM Sensitivity: $\leq 3\text{mV}$ (S/N=20dB)
FM Sensitivity: $\leq 3\text{uV}$ (S/N=30dB)
AM Selectivity: $\geq 25\text{dB}$ ($\pm 10\text{kHz}$)
FM Selectivity: $\geq 40\text{dB}$ ($\pm 400\text{kHz}$)
One Signal Selectivity: $\geq 30\text{dB}$
Earphone Jack: 1/8 inch (3.5mm) Stereo 32 ohm
Aux in Jack: 1/8 inch (3.5 mm) stereo
Dimensions: 7.3 inch W x 4.2 inch H x 3.25 inch D
Weight: Approximately 1.5 lbs without batteries.
Warranty: One Year Limited Warranty
Included Accessories: AC Adapter and Manual
Note: Specifications are subject to change without notice.