



Frequency Measuring Test — November 2012

**Doppler, decimals and the
FMT — how close will you be?**

This workbench setup by Burt, K6OQK, uses a surplus Hewlett-Packard (now Agilent) synthesizer and selective level meter with Spectrum Laboratory PC software for measuring on-the-air frequencies. [Burt Weiner, K6OQK, photo]

steady temperature before the FMT, you can get quite close to the exact frequency reading. There are more articles and instructions available on the ARRL FMT web page. K5CM's website (www.k5cm.com) also has lots of frequency measuring techniques and exercises.

Here's how the roundtable format works: K5CM will lead off with an initial call-up that lasts for 3 minutes (subsequent call-ups last for 2 minutes). The call-up is followed by a 2 minute key-down period and a handoff announcement. The frequency is then turned over to W8KSE who repeats the process before handing it off to W6OQI and then WA6ZTY (40 meters only). The final transmission is either a notice of band change or the FMT end announcement. Your job is to measure and report the frequencies of all the stations.

The test will begin on 40 meters near 7055 kHz at 10:00 PM EST. That is on Wednesday evening in North America and all times are listed in Table 1. (For our friends in Europe, that is 0300 UTC on the morning of November 15.)

Once the roundtable is completed on 40 meters, the test will then move to 80 meters near 3575 kHz beginning at 10:30 PM and then on to 160 meters near 1845 kHz at 10:55 PM. The 80 meter stations will be K5CM, W8KSE and W6OQI in that order. K5CM will be the sole station on 160 meters. The results from this past April and November (www.b4h.net/fmt) confirm that the test transmissions were heard over a wide area.

For more information and any updates in procedure, check the ARRL FMT web page. Results will be reported using the data entry website provided by WA7BNM at www.b4h.net/fmt/fmtentry.php.

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You, too, can join the ranks of Amateur Radio's metrologists by participating in the annual November Frequency Measuring Test (www.arrl.org/frequency-measuring-test) As always, the FMT will be held during the evening of November's second Wednesday — November 14 is the date and the start time is 10 PM Eastern Standard Time (EST), which is 0300 UTC. The times listed in the table are in Eastern Standard Time to avoid date confusion with UTC. Add 5 hours to EST to generate UTC time.

The test transmissions will be on 40, 80 and 160 meters — sufficiently after sunset for good reception across most of the country and early enough that Western European stations might be able to participate as well. It will be interesting to see what the multiple ionospheric hops will do to the received frequencies "across the pond."

Retaining the popular "roundtable" format, all of the transmitting stations will be close to the same frequency but not exactly on the same frequency. There will be four test-signal stations, K5CM (OK), W8KSE (OH), W6OQI (CA) and WA6ZTY (CA). WA6ZTY will transmit only on 40 meters.

Participating in an FMT has never been easier — the frequency accuracy and stability of many modern radios is

comparable to test equipment used a decade ago. By calibrating your radio's master oscillator (most have the ability by listening to a standard frequency station such as WWV — check the user's manual or service manual for your radio) and letting it reach a

November 2012 FMT Schedule in Eastern Standard Time

40 Meter Time Line (near 7055 kHz)

K5CM	10:00 PM*	call up (3 min)
K5CM	10:03	key down (2 min)
K5CM	10:05	turnover announcement (1 min)
W8KSE	10:06	call up (2 min)
W8KSE	10:08	key down (2 min)
W8KSE	10:10	turnover announcement (1 min)
W6OQI	10:11	call up (2 min)
W6OQI	10:13	key down (2 min)
W6OQI	10:15	turnover announcement (1 min)
WA6ZTY	10:16	call up (2 min)
WA6ZTY	10:18	key down (2 min)
WA6ZTY	10:20	end 40 meter test, announce change to 80 meters

80 Meter Time Line (near 3575 kHz)

K5CM	10:30 PM	call up (3 min)
K5CM	10:33	key down (2 min)
K5CM	10:35	turnover announcement (1 min)
W8KSE	10:36	call up (2 min)
W8KSE	10:38	key down (2 min)
W6KSE	10:40	turnover announcement (1 min)
W6OQI	10:41	call up (2 min)
W6OQI	10:43	key down (2 min)
W6OQI	10:45	end 80 meter test, announce change to 160 meters

160 Meter Time Line (near 1845 kHz)

K5CM	10:55 PM	call up (3 min)
K5CM	10:58	key down (2 min)
K5CM	11:00	end FMT announcement

*10 PM EST is 0300 UTC