

# Detect Killer Tornadoes

## — use an ordinary TV set

**Editor's Note:** This article presents a controversial method for detecting tornadoes. *73 Magazine* urges you, the reader, to consider ALL practical methods of storm detection. We endorse no particular procedure but do encourage experimentation with the Weller Method and other promising ideas. We would like to hear from any group or individual who has automated the Weller Method or used it in conjunction with an amateur radio network. For more information, see *Tornado-Wise* by Vince Luciani. Available from Cologne Press, PO Box 682, Cologne NJ 08213. Soft cover, \$3.95 plus \$1.00 shipping and handling.

**G**rab the cat, Ma! Head for the cellar! The bloomin' TV set just went bright!

How many readers could apply a Sherlock Holmes analysis to those words and come up with the scenario of a tornado watch? A watch in which a family has been using the "Weller Method" of detecting killer tornadoes using a home TV set—and a funnel has just touched down!

Holmes would have had a problem in deciding whether the tornado detector was the cat or the TV set, although the modern detective would know it was the latter. Yet one day there may well be a study of the effect of tornado electrical radiation on cat's fur, for the subject, tornado electrical radiation, is quite controversial.

If you are among the few who have heard of the Weller Method, you may also

be among those who remember what it is and—of much more importance to you, Ma, and the cat—how to use it properly.

Back in 1969, Newton Weller of West Des Moines, Iowa, had a garage packed with over 100 TV sets as he worked on his theory that the electrical radiation from killer tornadoes leaves a "signature" in the air for miles around, a signature that could be detected on an ordinary home TV set.

Technically speaking, the electrical radiation from tornadoes peaks very near to TV Channel 2, and Weller discovered that if you properly adjust your TV set's brightness control, the set could then respond to nothing but the tremendous electrical radiation from killer tornadoes. (A description of the Weller Method is given with this article. It should be read carefully

before attempting to make use of the technique.)

When Weller had checked out every TV set marketed at the time (to make sure they would all respond properly as a tornado detector), he announced his discovery to the press via a Des Moines newspaper which printed the story a day before tornadoes struck the area. Weller's timing couldn't have been better, though Iowans claim that the probabilities of springtime tornado strikes are always uncomfortably high.

Iowans had a chance to check out Weller promptly, and some did exactly that. Several later wrote to thank him for his contribution to their welfare, explaining that their TV sets had, indeed, gone bright from tornado electrical radiation. This feature is the thrust of the Weller Method—that the electrical radiation

from a killer tornado touching down will overcome a darkened screen and cause it to go as bright as a fluorescent bulb.

Closer to home, however, Weller commented, "My wife had all kinds of complaints about those TV sets in the garage, and if that strike hadn't happened when it did I might have given up on the whole idea."

Fortunately, he did not give up. Not that the weather service seems to care. The National Weather Service (NWS) has never cozied up to the notion of a mere TV set "broadcasting" tornado warnings on its own. Despite reports of successful results everywhere, Weller remains largely unrecognized for his work except in Tornado Alley.

NWS has conducted limited testing on tornado electrical radiation. One test, for example, was on a series

of strikes near the National Severe Storms Laboratory at Norman, Oklahoma. Those particular strikes apparently had reflected little electrical radiation—as happens with some—and based on those strikes, the report issued later disputed evidence of significant electrical radiation.

Apparently, several of the nation's leading meteorologists disagreed with the report, as was evidenced in counterpoints (somewhat biting) expressed to the NWS. There is, you see, quite a bit of controversy associated with tornadoes, and we really know very little about what causes them and what sustains them. More than cat's fur has been rubbed the wrong way in the argument over whether killer tornadoes pack significant electrical radiation.

While one side says there isn't any electrical radiation to tornadoes, the other side asks about those reports from people who have actually looked inside a tornado funnel and have lived to tell about it. Such reports have been of constant lightning, brilliantly-luminous clouds, "balls of fire," and rotating bands of deep, blue lights similar to those of an arc welder. And, they add, what about the reports of scorched vegetation along a funnel's path (later seen quite clearly from the air), and of the strong smell of ozone (so characteristic of strong electrical discharges)?

In a pig's eye, some have answered.

Pig's eye or cat's fur—the cat's got no one's tongue in the forever hanging controversy over tornado electrical radiation. The *subject* is quite electrifying, anyway, yet one seldom will read about this feature unless one subscribes to certain stuffy journals and is willing to wade through some weighty statements. Few contemporary writers

who are meteorologically founded will broach the subject. Yet, the public has a need to know.

Readers should be able to choose for themselves. Perhaps, in a moment of off-season nonchalance, one may be inclined to stifle a yawn over a discussion of tornadoes, but if you are in the proper geographical area (as evidenced by having middle-range ZIP codes), and if it is getting on toward springtime, you are well advised to properly learn the Weller Method—its good points as well as bad.

And speaking of the bad side, it is, indeed, a fact that not all tornadoes pack the extent of electrical radiation that makes the TV screen go bright, which is why certain sides contend you've got holes in the bottom of your salt shaker if you even think the Weller Method is reliable.

"Of course it won't work with a weak tornado where the electrical energy is too low," says Weller. "But that weak tornado won't usually do much more than lift the roof off a hog shed—and even a straight windstorm will do that. The TV set does work on killer tornadoes, and they're the ones that count!"

Weller associate Paul J. Waite (Iowa State climatologist) has this to offer: "Until we have the perfect warning system, we should not neglect any opportunities to provide our populace with the means for self-protection from the ravaging destruction of tornadoes." Amen!

How close are we, these days, to perfection with NWS tornado detectors? Not very. Mostly, the NWS relies upon outdated vacuum-tube-type radars. Vacuum tubes, if you remember, were the gadgets that helped us advance our learning until we really took off with the discovery of transistors and solid-

## THE WELLER METHOD

1. Tune your TV set to Channel 13. Adjust its brightness control to make the screen nearly (though not entirely) dark.
2. Switch to Channel 2. Do not make any further adjustments to the set. The screen should still be nearly dark.
3. Sit and wait. If the screen suddenly flashes on brightly and stays lit, move fast! That's the indication that a killer tornado funnel is down anywhere within 5 to 15 miles of you—perhaps, quite near.

### Notes

- Be careful, in Step 1, not to set the brightness control too low, or the set may be so desensitized as to not respond even to the tornado's tremendous electrical radiation. (For simplified understanding, consider tornado electrical radiation as being equivalent to a radio transmitter broadcasting on Channel 2; the analogy is reasonably accurate.)
- Some color sets cannot be made to respond to the brightness control adjustment. Be sure to check your set for this capability.
- If your color set does not turn down with the brightness control, your best bet (always) would be to use a portable black and white TV set for the Weller Method. The added advantage of being battery operated makes it useful when power lines inevitably go down in a tornado strike.
- If you are on a cable TV system, disconnect the cable from in back of the set and connect the built-in antenna.
- A local station on your Channel 2 may, during a tornado warning, cause the darkened screen to switch back and forth a few times from being brightly lit by the tornado to the local TV program. As the tornado approaches, its tremendous radiation will take over and cause the screen to stay bright.
- *Not all tornadoes pack intense electrical radiation.* Continue, therefore, to monitor news broadcasts either on a second TV set or by radio.
- Practice the Weller Method when lightning fills the air. Note how lightning affects your darkened screen, and become familiar with how dark to make the set. You will then be more sure of yourself when the time comes that your screen stays brightly lit.
- Be prepared ahead of time—you and your family—on what to do if the screen goes bright. Know your plan well enough to avoid panic reaction. Know what safety measures to take, and know them well in advance.

state circuitry. NWS definitely needs to replace those old radars.

Exactly, says the NWS, and they have proposed a \$250 million network of modern Doppler-type radars, with a few of which they are currently experimenting. (Doppler, by the way, is a physical principle which involves motion detection; whatever else a tornado's funnel can be characterized as, it is certainly a dynamic picture of nature in motion!) But, a quarter-billion-dollar outlay in today's slash-everything economy? Not very likely.

Even so, Dopplers actually add very little improvement in the accuracy of tor-

nado detection. They offer, instead, a significant increase in lead time once they do spot a for-real tornado. That is important. Lead time, as they like to say in Tornado Alley, carries a mite more concern in a tornado watch than does lead time on a rising covey of quail. Quite a mite more. It shouldn't surprise readers, then, to learn that the most effective tornado detector anywhere is the trained human eye. Which is exactly the talent NWS makes good use of via concerned citizens in an organization called "Skywarn." These are the civilian spotters throughout the country who offer their services

## WATCH FOR OUR NEW PRODUCTS COMING SOON

**HAL 2304** MHz DOWN CONVERTERS (FREQ. RANGE 2000/2500 MHz)  
**2304 MODEL #1 KIT** BASIC UNIT W/PREAMP LESS HOUSING & FITTINGS ..... \$49.95  
**2304 MODEL #2 KIT** (with preamp) ..... \$59.95  
**2304 MODEL #3 KIT** (with High Gain preamp) ..... \$69.95

MODELS 2 & 3 WITH COAX FITTINGS IN & OUT AND WITH WEATHER-PROOFED DIE CAST HOUSINGS.  
 FACTORY WIRED & TESTED ..... \$50 additional  
 BASIC POWER SUPPLY ..... \$19.95  
 POWER SUPPLY KIT FOR ABOVE WITH CASE ..... \$24.95  
 FACTORY WIRED & TESTED ..... \$34.95

**ANTENNAS & OTHER ACCESSORIES** AVAILABLE SEND FOR MORE INFO.  
**COMPLETE KITS:** CONSISTING OF EVERY ESSENTIAL PART NEEDED TO MAKE YOUR COUNTER COMPLETE. **HAL-600A** 7-DIGIT COUNTER WITH FREQUENCY RANGE OF ZERO TO 600 MHz. FEATURES TWO INPUTS. ONE FOR LOW FREQUENCY AND ONE FOR HIGH FREQUENCY. AUTOMATIC ZERO SUPPRESSION TIME BASE IS 1.0 SEC OR 1 SEC GATE WITH OPTIONAL 10 SEC GATE AVAILABLE. ACCURACY  $\pm .001\%$ . UTILIZES 10-MHz CRYSTAL 5 PPM. **COMPLETE KIT \$129**

**HAL-300A** 7-DIGIT COUNTER (SIMILAR TO 600A) WITH FREQUENCY RANGE OF 0-300 MHz. **COMPLETE KIT \$109**

**HAL-50A** 8-DIGIT COUNTER WITH FREQUENCY RANGE OF ZERO TO 50 MHz OR BETTER AUTOMATIC DECIMAL POINT. ZERO SUPPRESSION UPON DEMAND. FEATURES TWO INPUTS. ONE FOR LOW FREQUENCY INPUT, AND ONE ON PANEL FOR USE WITH ANY INTERNALLY MOUNTED HALTRONIX PRE-SCALER FOR WHICH PROVISIONS HAVE ALREADY BEEN MADE. 1.0 SEC AND 1 SEC TIME GATES. ACCURACY  $\pm .001\%$ . UTILIZES 10-MHz CRYSTAL 5 PPM. **COMPLETE KIT \$109**

**FREE:** HAL-79 CLOCK KIT PLUS AN INLINE RF PROBE WITH PURCHASE OF ANY FREQUENCY COUNTER.

### PRE-SCALER KITS

**HAL 300 PRE** ..... (Pre-drilled G-10 board and all components) ..... \$14.95  
**HAL 300 A/PRE** ..... (Same as above but with preamp) ..... \$24.95  
**HAL 600 PRE** ..... (Pre-drilled G-10 board and all components) ..... \$29.95  
**HAL 600 A/PRE** ..... (Same as above but with preamp) ..... \$39.95

**HAL-1 GHz PRESCALER**, VHF & UHF INPUT & OUTPUT. DIVIDES BY 1000. OPERATES ON A SINGLE 5 VOLT SUPPLY. **PREBUILT & TESTED \$79.95**

### TOUCH TONE DECODER KIT

HIGHLY STABLE DECODER KIT COMES WITH 2 SIDED, PLATED THRU AND SOLDER FLOWED G-10 PC BOARD. 7-567's, 2-7402 AND ALL ELECTRONIC COMPONENTS. BOARD MEASURES 3-1/2 x 5-1/2 INCHES. HAS 12 LINES OUT. ONLY **\$39.95**

**NEW — 16 LINE DELUXE DECODER \$69.95**

**DELUXE 12-BUTTON TOUCHTONE ENCODER KIT** UTILIZING THE NEW ICM 7206 CHIP. PROVIDES BOTH VISUAL AND AUDIO INDICATIONS! COMES WITH ITS OWN TWO-TONE ANODIZED ALUMINUM CABINET. MEASURES ONLY 2-3/4" x 3-3/4". COMPLETE WITH TOUCH-TONE PAD. BOARD, CRYSTAL, CHIP AND ALL NECESSARY COMPONENTS TO FINISH THE KIT. **PRICED AT \$29.95**

**NEW — 16 LINE DELUXE ENCODER \$39.95**

FOR THOSE WHO WISH TO MOUNT THE ENCODER IN A HAND-HELD UNIT THE PC BOARD MEASURES ONLY 9/16" x 1-3/4". THIS PARTIAL KIT WITH PC BOARD, CRYSTAL, CHIP AND COMPONENTS. **PRICED AT \$14.95**

**ACCUKEYER (KIT)** THIS ACCUKEYER IS A REVISED VERSION OF THE VERY POPULAR WB4VVF ACCUKEYER ORIGINALLY DESCRIBED BY JAMES GARRETT, IN QST MAGAZINE AND THE 1975 RADIO AMATEUR'S HANDBOOK. **\$16.95**

**ACCUKEYER — MEMORY OPTION KIT** PROVIDES A SIMPLE, LOW COST METHOD OF ADDING MEMORY CAPABILITY TO THE WB4VVF ACCUKEYER. WHILE DESIGNED FOR DIRECT ATTACHMENT TO THE ABOVE ACCUKEYER, IT CAN ALSO BE ATTACHED TO ANY STANDARD ACCUKEYER BOARD WITH LITTLE DIFFICULTY. **\$16.95**

**BUY BOTH** THE MEMORY AND THE KEYS AND SAVE. COMBINED PRICE ONLY **\$32.00**

### PRE-AMPLIFIER

**HAL-PA-19 WIDE BAND PRE-AMPLIFIER**, 2-200 MHz BANDWIDTH (-3dB POINTS), 19 dB GAIN. **FULLY ASSEMBLED AND TESTED \$48.95**

**CLOCK KIT — HAL 79 FOUR-DIGIT SPECIAL — \$7.95.** OPERATES ON 12-VOLT AC (NOT SUPPLIED). PROVISIONS FOR DC AND ALARM OPERATION.

### 6-DIGIT CLOCK • 12/24 HOUR

COMPLETE KIT CONSISTING OF 2 PC G-10 PRE-DRILLED PC BOARDS, 1 CLOCK CHIP, 6 FND COMM. CATH. READOUTS, 13 TRANS., 3 CAPS, 9 RESISTORS, 5 DIODES, 3 PUSH-BUTTON SWITCHES, POWER TRANSFORMER AND INSTRUCTIONS. DON'T BE FOOLED BY PARTIAL KITS WHERE YOU HAVE TO BUY EVERYTHING EXTRA. **PRICED AT \$12.95**

**CLOCK CASE** AVAILABLE AND WILL FIT ANY ONE OF THE ABOVE CLOCKS. REGULAR PRICE \$6.50 BUT ONLY **\$4.50 WHEN BOUGHT WITH CLOCK.**

**SIX-DIGIT ALARM CLOCK KIT** FOR HOME, CAMPER, RV, OR FIELD-DAY USE. OPERATES ON 12 VOLT AC OR DC, AND HAS ITS OWN 60-Hz TIME BASE ON THE BOARD. COMPLETE WITH ALL ELECTRONIC COMPONENTS AND TWO-PIECE PRE-DRILLED PC BOARDS. BOARD SIZE 4" x 3". COMPLETE WITH SPEAKER AND SWITCHES. IF OPERATED ON DC, THERE IS NOTHING MORE TO BUY. **PRICED AT \$16.95**

\*TWELVE-VOLT AC LINE CORD FOR THOSE WHO WISH TO OPERATE THE CLOCK FROM 110-VOLT AC. **\$2.50**

SHIPPING INFORMATION: ORDERS OVER \$25 WILL BE SHIPPED POSTPAID EXCEPT ON ITEMS WHERE ADDITIONAL CHARGES ARE REQUESTED. ON ORDERS LESS THAN \$25, PLEASE INCLUDE ADDITIONAL \$2.00 FOR HANDLING AND MAILING CHARGES. SEND 20¢ STAMP FOR FREE FLYER.

DISTRIBUTOR FOR  
**Aluma Tower • AP Products**  
 (We have the new Hobby-Blox System)

## HAL-TRONIX

P. O. BOX 1101  
 SOUTHGATE, MICH. 48195  
 PHONE (313) 285-1782

"HAL"  
 HAROLD C. NOWLAND  
 W8ZXH

(often, quite courageously) for your benefit and mine.

People from all walks of life have taken up the public service banner in support of Skywarn, though perhaps no group has done so more completely, more effectively, than that special class of citizens known to us as amateur (ham) radio operators.

In Texas, for example, nearly 2,000 ham radio operators are on call to assist NWS when storm alerts are sounded. Most members take annual courses in tornado spotting, not only to improve their effectiveness but also to learn when to zig rather than zag as they are driving out there in the thick of things, spotting a downed twister as it snakes its deadly way across the plains.

Lone Star members of the hobby proved their worth at Wichita Falls, Texas, in 1979, when a

series of killer tornadoes caused a half billion dollars damage. NWS credits the early-warning communications networks of radio amateurs with having saved 1,000 to 2,000 lives there. Such is the dedicated public-service nature of a hobby which includes ditch diggers, executives, and even a US senator!

Through it all, and continuing to survive the test of time (which is an admirable bottom-line characteristic to any theory) is the continuing undercurrent of support for the Weller Method. This is from an informed public, those who like the idea of having a detector for killer tornadoes right there in the house.

Not that the Weller Method works on every funnel that comes puffing and blowing down the field, but when the TV set does go bright... "Grab the cat, Ma! Head for the cellar!" ■

## Iowa's Only Icom Dealer



## G&K Amateur Supply

2920 East 9th St.  
 Des Moines, Iowa 50316

7:00—5:00 Mon-Fri.

7:00—1:00 Sat.

Leroy WD0CZO