



Español

EMERGENCY WARNINGS FOR PEOPLE WHO ARE DEAF OR HARD OF HEARING

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The material provided is intended as general information on how NOAA Weather Radio (NWR) can be used as an emergency warning tool for people who are deaf or hard of hearing. It is not intended to be an all inclusive listing of how the system can be used, what products are available, or an endorsement of any product or vendor listed herein.

In several cases there are complete off-the-shelf NWR receiver based systems available that will perform the required emergency warning function as they come from the box. In some cases, where a home alerting system is already in place, the NWR receiver can be connected to the existing alerting system, much the same as a door bell, smoke detector, or other sensor. In other cases, persons with some electronic skills can purchase the NWR receiver and other components and assemble them into a system designed to meet their own special needs.

In simple systems, alarm devices can be directly connected (hardwired) to the output of the NWR receiver. In more complex installations, using wireless and wired remote modules, connections are made through devices that allow more remote and versatile placement of alarms. Alarms may require external power from batteries or modular power supplies. Care should be taken that the complete alerting system works when commercial power has failed. See the block diagram ([below](#)) for system layouts.

The NOAA National Weather Service (NWS) does not guarantee the proper operation of any of the equipment and systems listed herein and is not liable for any damages as a result of non-receipt of alarms, alerts, or warnings from these systems. Inclusion of a product in this document does not imply endorsement by the NWS.

The following are general questions regarding use of NWR by people who are deaf or hard of hearing:

1. **QUESTION:** Why should I be interested in NOAA Weather Radio (NWR)?
2. **QUESTION:** What good is a radio to people who are deaf or hard of hearing?
3. **QUESTION:** How does it work?
4. **QUESTION:** What should I do when I receive a Warning from NWR?
5. **QUESTION:** Where can I get additional information about the event that caused the Warning to be issued?
6. **QUESTION:** Where can I get the necessary equipment and what does it cost?
7. **QUESTION:** What should I do if I'm interested in using NWR to get warnings of life threatening weather or other hazards?
8. **QUESTION:** Where can I buy an NWR receiver and accessories for people who are deaf and hard of hearing?
9. **QUESTION:** Is anything being done to improve the delivery of warnings of life threatening events to people who are deaf and hard of hearing?

1. ANSWER: Warnings provided by NWR can save your life during periods of local severe weather or other life threatening hazard conditions

2. ANSWER: The voice broadcast of NWR is of no value to people who are deaf and of limited value to many people who are hard of hearing - very little of the audio information broadcast can be understood by individuals with moderate to severe hearing loss.

However, other non-verbal information is imbedded in these broadcasts that can provide timely, critical warnings of life threatening events to people who are deaf or hard of hearing.

The NWS uses something called Specific Area Message Encoding (**SAME**) technology to send warnings of imminent severe weather or other hazard conditions from any of 122 Weather Forecast Offices directly into homes, offices, public buildings, churches, hospitals, nursing homes, and to many other locations using the National NWR network of transmitter stations. At least 97% of the American population is covered by NWR. The NWS is working toward a coverage level of 95% in every State.

Special NWR SAME radio receivers can be programmed to set off an alarm for specific events (tornado, flash flood, toxic spill, evacuate, etc.) and specific locations (your county) of interest to you, the listener. Some receivers are also equipped with special output connectors that activate alerting devices - bed shakers, pillow vibrators, sirens, and strobe lights or other alerting systems.

Those who use hearing aids or cochlear implants equipped with telecoils may also be able to use Aloop technology to listen to NWR broadcasts. Many receivers are equipped with external output connectors that will accept a Aneckloop. The Aneckloop creates an electromagnetic field that couples the NWR receiver to the telecoil in the hearing aid or cochlear implant, allowing the user to hear the broadcast. FM, infrared, and loop based Assistive Listening Devices can also be used. There are also some hearing aids and cochlear implants with adapter cables that can connect directly to the output of an NWR receiver.

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3.ANSWER: Forecasters at your local NWS Weather Forecast Office (WFO) decide that a severe weather event is occurring or about to occur, or local authorities determine that a hazardous event (nuclear power plant problem, a chemical or biological accident, etc.) has occurred and is a threat to the local populace. The information is immediately input into a computer at the local WFO and immediately broadcast by NWR transmitters that cover the areas at risk. Digital codes are added to each broadcast identifying the event (tornado, flash flood, local civil emergency, etc.) and the location (Montgomery, Prince Georges, and Anne Arundel Counties). When the Warning is received by an NWR SAME receiver, the receiver turns itself on, sounds an alarm, activates a warning light, writes a short message (TORNADO) on the display, and activates any external devices (strobe lights, sirens, vibrators, etc.) connected to the receiver.

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4. ANSWER: If the Warning is for a Tornado or Flash Flood you should immediately take steps to protect yourself. Every household should have an emergency plan in place that includes pre-established actions that need to be taken to lessen the likelihood of injury or death. These may include moving to the basement, a special safe room, or lower, interior levels of your home during a tornado or evacuating to higher ground along a pre-established, safe route during a flash flood. Household emergency plans can be developed with assistance from your local, county, or state emergency management office and or the Federal Emergency Management Agency.

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5. ANSWER: The NWR SAME Warning message broadcast you receive also triggers the Emergency Alert System at your local television stations. The message is also immediately available on the internet at sites accessible from the NWS Home Page at www.weather.gov. Either or both of these sources of text information can be monitored to get additional

information, if you can do so without putting yourself at risk. There are also numerous sources of emergency information supplied by Email by various commercial telecommunication service providers on cell phones, pagers, and other personal digital devices, however, these may not be as timely as the NWS services.

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6. ANSWER: NWR SAME receivers with features useful to people who are deaf and hard of hearing, such as an output to activate external devices, an LCD display, and battery back-up power are manufactured and/or sold by several companies, including Radio Shack, Midland, Recom, Homesafe, and First Alert. Connecting some of them to external alarm devices requires knowledge of electronics and some electronic technician skills for proper installation. However, there are systems that have been assembled, tested, packaged, and marketed by Silent Call, Harris Communications, Compu-TTY, and Homesafe that are simple to install and use. The cost of a basic NWR SAME receiver is \$50 to \$90. Systems packaged with external alarm devices start at \$100.

The Consumer Electronics Association (CEA) and NOAA collaborated on the development of an industry standard and a certification program for Public Alert (NWR capable) electronic devices that include displays and external alarms useful to deaf and hard of hearing people. Purchasing a Public Alert certified NOAA Weather Radio assures that you are getting a high quality receiver, however, you still need to make sure it works for you in your location and that it is able to activate any external alarms you want to use.

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7. ANSWER: Satisfy yourself that your area is vulnerable to weather or hazard conditions that warrant expenditure for an emergency warning system. The National Weather Service believes that NWR receivers should be as common as smoke detectors. Visit the NWS web site at www.weather.gov/nwr to learn more about NWS and NWR and to determine if the area in which you live is covered by NWR. The web site has very specific information, including coverage maps, state and county listings, and codes needed to program receivers.

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8. ANSWER:

Contact any of the vendors listed below:

Vendors of NWR receivers packaged for Deaf and Hard of Hearing People

Silent Call - 800-572-5227 - www.silent-call.com
(Download catalog, page 12-14)

Harris Communications - 800-825-6758 - www.harriscomm.com
(Search on Weather)

Homesafe, Inc. - 800-607-6737 - www.homesafeinc.com

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More NWR Alerting Equipment

9. ANSWER: Yes, there are currently efforts under way that will have a direct impact on warning systems to serve the deaf and hard of hearing.

The NOAA Weather Wire Service (NWWS) provides the direct delivery of text warning messages via Email by subscription. This provides Email delivery to any device (pager, cell phone, PDA, PC) capable of receiving text Email. Messages are selected by event type (tornado, flash flood, etc.) and issuing office (Washington, DC, New York City, etc.) and can be

used to supplement NWR SAME warnings or to get specific information on severe weather anywhere in the country.

NOAA and the Consumer Electronics Association developed a standard (CEA-2009) and a certification program (Public Alert) based on NWR SAME technology. Most Public Alert certified devices are able to provide an alarm output that can drive devices to warn the deaf and hard of hearing. Public Alert certified devices are currently available from a number of manufacturers.

NOAA NWS has initiated a Weather Radio Improvement Program that includes greatly improved access for people who are deaf or hard of hearing.

All of these innovations have direct, significant application to deaf and hard of hearing warning improvement.

NWR Alerting Equipment

NWR Receivers with NWR SAME and an Alarm Output

Special receivers that can tune to NWR frequencies and trigger an auxiliary output on the basis of a received All Hazards warning from the NWS for a specific event in a specific state and county. Items with an asterisk (*) can be purchased as a system with external alarms (bad shaker, strobe, siren, etc.). Items in bold type are Public Alert Certified. Items in italics are out of production, but still may be available.

First Alert WX-167 Homesafe 2000HS* Midland 74-200
 Homesafe 2005HS* First Alert WX-67 Radio Shack Model 250
 Radio Shack Model 262 Midland WR-30 Radio Shack Model 258
 Midland WR-300 Midland WR-100 Radio Shack Model 261
 Reecom R-1650 First Alert WX-167 Radio Shack Model 249
 Silent Call WX-67S* Midland R-300 Reecom-1630

Power Module Interface or Signaler: Converts the output of the NWR SAME receiver into a signal that is carried by electrical wiring in the home or by means of a wireless transmission that can be received anywhere in the home.

Radio Shack (X-10 Powerhouse Modules) Alertmaster AM-AX, AM-DX
 Sonic Alert DS 700 Silent Call X67T*
 Silent Call SC-DOT1003-2 Compu-TTY KA300TX

Remote Modules or Receiver: Receives the signal from a Power Interface or Signaler and converts it into something that can activate an internal or external alarm.

Radio Shack (X-10 Powerhouse Modules) Alertmaster AM-RX2
 Sonic Alert SA 201 & 101 Compu-TTY KA300RX
 Silent Call SC-REC09214, SC- REC1001-N

Alarm Devices: Converts the alarm signal into visual, audio, or mechanical form that is more easily sensed by a person with a hearing disability. (Some of these do not meet Americans with Disabilities Act requirements, but may be useful in special circumstances.)

Strobe Light

Radio Shack 49-527 Homesafe Kit*
 Harris HAL-2737 First Alert WX-TRS*
 Harris DATA-1005 Reecom R1603
 Silent Call X67-S* Midland 18-STR

Siren

Radio Shack 49-490 or 49-488

Bed /Pillow Shaker

Harris SA-SS120V, SS-SS12V , NFS-BV6670
 Silent Call X67-V* , Homesafe Kit*

Appliance module

Radio Shack (X-10 Powerhouse Modules)

The above are available from the sources listed below:

Radio Shack - See local store
www.radioshack.com

Harris Communications 1-800-825-6758*
www.harriscomm.com

NFSS Communications 1-888-589-6670
www.nfss.com

Potomac Technology 1-800-433-2838*
www.potomactech.com

Homesafe, Inc. 1-800-607-6737*
www.homesafeinc.com*

Midland Consumer Radio 1-800-241-8500
www.midlandradio.com

Silent Call 1-800-572-5227*
www.silentcall.com*

Compu-TTY 1-817-738-2485 or 1970 (TTY)*
www.computty.com*

Sima Products 1-800-345-7462*
www.simacorp.com*

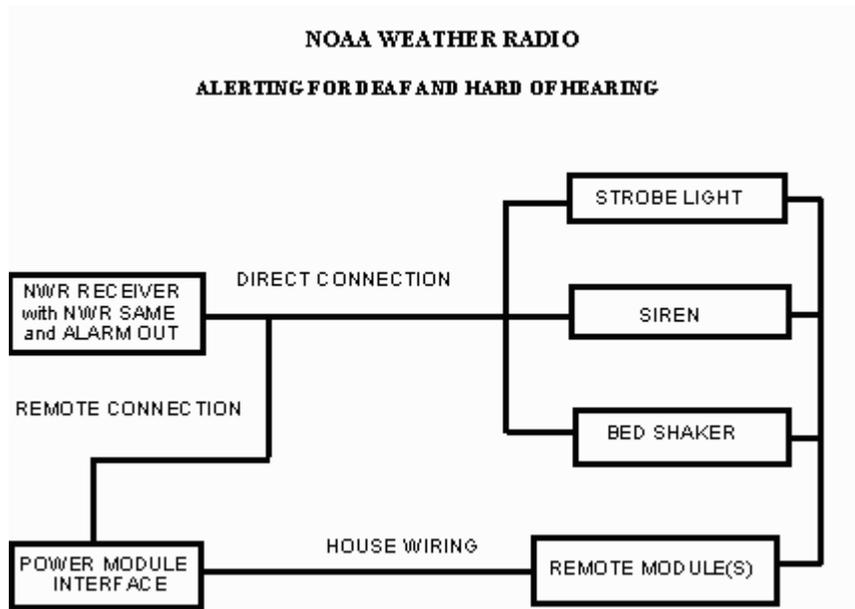
*Vendors of Silent Call, Homesafe, Compu-TTY, and First Alert packaged systems for the deaf and hard of hearing.

Other websites for NOAA Weather Radios:

www.noaweatherradiostore.com*

www.weatherconnection.com

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