SAME codes for your NOAA Weather Radio

SAME (Specific Area Message Encoder) codes are also known as EAS (Emergency Alert System) codes. Many programmable weather radios are available commercially, and NOAA's National Weather Service does not manufacture weather radios, nor does it endorse any particular brand of weather radios. Users of programmable weather radios can choose the type of weather warnings or watches that will alarm, as well as a particular county or counties for which they wish to be alerted.

What counties do I want programmed into my weather radio?

If you live in Bismarck, for example, you would probably want to program Burleigh County's SAME code in your weather radio…but you might want Morton County programmed as well, since Bismarck is near the Burleigh/Morton County line. Some Bismarck folks might also be interested in hearing alerts for Emmons or Oliver County, since northern Emmons or eastern Oliver county is relatively close to Bismarck. However, most people living in Bismarck would probably not be interested in having alarms going off in their home or office that pertain only to Grant, Sioux, Mercer, Sheridan, or Kidder counties. SAME codes are sent from the Bismarck transmitter at St. Anthony for all of these aforementioned counties.

Here is a list of counties for which SAME codes are sent from each NOAA Weather Radio transmitter, with the transmitters' broadcast radio frequency:

Bismarck transmitter (162.475 MHz): Burleigh, Emmons, Grant, Kidder, McLean, Morton, Oliver, Sheridan, Sioux, Wells
Dickinson transmitter (162.400 MHz): Adams, Billings, Bowman, Dunn, Golden Valley, Grant, Hettinger, Morton, Slope, Stark
Jamestown transmitter (162.550 MHz): Barnes, Dickey, Foster, LaMoure, Logan, McIntosh, Stutsman
Kidder County transmitter (162.400 MHz): Burleigh, Emmons, Kidder, Logan, Stutsman
Minot transmitter (162.400 MHz): Bottineau, Burke, McHenry, McLean, Mountrail, Pierce, Renville, Rolette, Ward
Newtown transmitter (162.525 MHz): Dunn, Mountrail
Williston transmitter (162.550 MHz): Divide, McKenzie, Williams, Richland County and Roosevelt County in Montana
Willow City (162.450 MHz) and Rolla (162.475 MHz) transmitters: Bottineau, McHenry, Pierce, Rolette, Towner

The SAME codes for counties in North Dakota are listed on this website through another link in the "Weather Radio" section. Other NOAA Weather Radio transmitters located in the eastern part of North Dakota are managed by the Grand Forks National Weather Service office. Visit the Grand Forks office online at www.crh.noaa.gov/fgf for information on NOAA Weather Radio in the Grand Forks forecast area of eastern North Dakota and northwestern Minnesota.

What do the SAME codes look like, what do they mean, and how can I test that my weather radio is working and programmed properly?

Each Wednesday between 11am and noon Central time (or between 10 am and 11 am Mountain time) a Required Weekly Test is broadcast from each NOAA Weather Radio transmitter. This test message consists of an audio alarm tone (the 10-second high pitched tone familiar to many weather fans that precedes a tornado or severe thunderstorm warning announcement, for example) and SAME codes (heard as three 1-second low pitched tone bursts) for all counties within each transmitters' broadcast area (see listed counties above).

The SAME code for the Wednesday "Required Weekly Test" from the Bismarck transmitter for Wednesday, July 6th of 2005 (day 187 in the Julian calendar) if they are transmitted at 11:14 am CDT (1614 UTC or Universal Coordinated Time) should look like this:

ZCZC-WXR-RWT-038015-038029-038037-038059-038065-038085-038043-038057-038083-038103+0015-1871614-KBIS/NWS-

** **WXR** means a weather message
** **RWT** means the Required Weekly Test
** The string of "038nnn" numbers (nnn stands for the 3 remaining numerical digits, for example the 015 in the string of 038015, which is Burleigh County's county code number) are the county SAME codes for each county in the transmitter area. 038 are the first three numbers for any county within North Dakota; 030 for Montana counties; 046 in South Dakota, etc.
** **+0015** means the test announcement will be in effect for 15 minutes (hhmm format)
** **1871614** means day 187 in the Julian Calendar (Jan 1 is day 001, Dec 31 is day 365, etc.) and 1614 UTC or 11:14 am CDT or 10:14 am MDT. (Note: during Standard time, 1714 UTC is 11:14 am CST or 10:14 am MST
** **KBIS** means from the Bismarck Forecast Office
** **NWS** means from the National Weather Service

A **sample severe thunderstorm warning** for Mercer and Oliver Counties on June 17, 2005 (Julian day is 168) at 4:40 pm CDT (2140 UTC) in effect for 45 minutes until 5:25 pm CDT (3:40 pm MDT until 4:25 pm MDT):

ZCZC-WXR-SVR-038057-038065+0045-1682140-KBIS/NWS-

A **sample winter storm warning** for all of central North Dakota broadcast at 4:00 am CST (1000 UTC) broadcast on Jamestown's radio transmitter on March 30th 2005 (Julian day is 089):

ZCZC-WXR-WSW-038021-038031-038045-038047-038051-038093+0600-0891000-KBIS/NWS-

note for long-term events: this winter storm SAME code indicates the winter storm warning is in effect for 6 hours (+0600). This is a "default time" chosen arbitrarily for long-term events. The warning may be "in effect" for 24 hours…beginning at 6 am that day and last through 6 am the following day. However…weather conditions change and the warning may end sooner than forecast or may have to be extended longer in time than forecast. The SAME codes and alerts/alarms that accompany them are just that - "alerts." They are intended to alert the user to a hazard…and the user should listen to NOAA Weather Radio or local TV or radio stations for more detailed information concerning that hazard. Long-term events are not events in which literally "seconds count" for immediate action, unlike during short-term events such as a tornado or severe thunderstorm or flash flood.

What kind of SAME code events are broadcast by NOAA Weather Radio transmitters in western and central North Dakota?

Event	3-letter ID	SAME codes?	Audible Alarm tone?
Required Weekly Test	RWT	Yes	Yes
Tornado Warning	TOR	Yes	Yes
Severe Thunderstorm Warning	SVR	Yes	Yes
Flash Flood Warning	FFW	Yes	Yes
Flood Warning	FLW	Yes	Yes (not for some long-term river floods)
Tornado Watch	TOA	Yes	Yes
Severe Thunderstorm Watch	SVA	Yes	Yes
High Wind Warning	HWW	Yes	No
Flood Watch	FFA	Yes	No
Blizzard Warning	BZW	Yes	No
Winter Storm Warning	WSW	Yes	No

Event	3-letter ID	SAME codes?	Audible Alarm tone?
Heavy Snow Warning	WSW	Yes	No
Ice Storm Warning	WSW	Yes	No
Wind Chill Warning	WSW	Yes	No
Winter Storm Watch	WSA	No	No
High Wind Watch	HWA	No	No
Civil Emergency Message	CEM	Yes	Yes
Child Abduction Alert (Amber alert)	CAE	Yes	No

Newest additions from the Department of Homeland Security

Event	3-letter ID	SAME codes?	Audible Alarm tone?
Administrative Message	ADR	Yes	No
Avalanche Watch	AVA	Yes	No
Avalanche Warning	AVW	Yes	Yes
Child Abduction Alert (Amber)	CAE	Yes	No
Civil Danger Warning	CDW	Yes	Yes
Civil Emergency Message	CEM	Yes	Yes
Earthquake Warning	EQW	Yes	Yes
Evacuation Immediate	EVI	Yes	Yes
Fire Warning	FRW	Yes	Yes
Hazardous Materials Warning	HMW	Yes	Yes
Local Area Emergency	LAE	Yes	No
Law Enforcement Warning	LEW	Yes	Yes
National Information Center	NIC	No	No
National Periodic Test	NPT	No	No
Nuclear Power Plant Warning	NUW	Yes	Yes
Radiological Hazard Warning	RHW	Yes	Yes
Shelter in Place Warning	SPW	Yes	Yes
911 Telephone Outage	TOE	Yes	No
Volcano Warning	VOW	Yes	Yes

SAME codes and/or audio alarm tones are not sent for any weather advisories (winter weather, snow, blowing snow, freezing rain, dense fog, wind chill advisories)