Types of Warning Systems

Type	Characteristics	Advantages	Disadvantages
Emergency Alert System	▪ Furnishes real time information to the public in a national, regional or local crisis. ▪ Network of AM, FM and television stations ▪ May be activated at State and Local level ▪ Anyone with a decoder can pick up the signals. When tone is decoded a forecast is then automatically scrawled on TV's or interrupts radio programming.	▪ Uses existing communication networks. ▪ Public acceptance is high ▪ Capability to issue alerts in other languages. ▪ Provisions for hearing and visually impaired people.	▪ If dedicated monitor is not available radio or TV must be turned on and tuned to EAS station ▪ May not reach people out of doors. ▪ May cover a large area
Tone Alert Radio System	▪ Provides emergency broadcasts that can be received using a tone alert radio receiver. ▪ Normally works in stand-by mode and can be activated remotely by transmitting special codes. ▪ Often used by businesses, hospitals, nursing homes, and schools. ▪ Can be connected to PA systems and other building alarm systems.	▪ Can receive both an alerting signal and a specific verbal message. ▪ Can operate under very adverse situations. ▪ Usually has battery backup in power failures.	▪ Availability of receiver equipment may be limited. ▪ Receivers are expensive. ▪ Cannot warn people in cars or outside.
NOAA Weather Radio	▪ Dedicated to provide public information in severe weather situations. ▪ Can be used for non-weather hazards ▪ Major Metro Area Coverage ▪ Tone-Alert Radios Available ▪ Relatively Inexpensive ▪ Regular Weather Updates	▪ Uses existing radio transmitting equipment ▪ All stations operate on a 24 hour basis ▪ NOAA activates and monitors ▪ Alert-Tone feature	▪ Some areas are not covered ▪ Residents may not own specially equipped radios ▪ Cannot warn people in cars or outside. ▪ Not "engaged" in calm weather conditions.
Telephone Systems-Manual or Automatic Dialing Systems that Dial Actual Telephone Numbers of Households	▪ Uses computer database of numbers to call. ▪ Computer can retry busy and no answer numbers ▪ Computer can be programmed to first call houses/businesses closest to hazard	▪ Will work during power failures if backup power is available ▪ Manual system has little cost and may be suitable for rural areas. ▪ Calling areas may be prioritized.	▪ Manual system slow and time consuming ▪ Simultaneous calling of entire database unlikely ▪ Busy lines must be retried. ▪ Disconnected lines and those without phones will not be reached.
Telephone Systems – Non-dialing/office based systems	▪ Calls a block of telephone numbers simultaneously with recorded emergency information. ▪ Uses equipment located at the telephone central office. ▪ Telephone system is modified to produce a distinctive ring.	▪ All subscribers may be rung simultaneously. ▪ Call waiting for busy lines. ▪ Capable of silent testing. ▪ New residences, businesses automatically become part of the system.	▪ Expensive ▪ Does not provide warning outdoors or to those without phones.

Types of Warning Systems (Continued)

Type	Characteristics	Advantages	Disadvantages
Sirens	▪ Outdoor alerting system used to gain people's attention. ▪ Different tones or tone patterns my have different meanings ▪ Comprise the attention getting phase ▪ Public must be educated where to get additional information.	▪ May already be available in the community. ▪ Can gain attention of people outdoors. ▪ Supplement an indoor system.	▪ Cannot always be heard over background noises. ▪ Notification information must be provided. ▪ Alert is "non-specific".
E-Mail	▪ Communities can maintain a special e-mail list to disseminate disaster warnings and emergency information. ▪ Information can be transmitted to a PC, digital cellular phone, alpha-numeric pager, or personal digital assistant (PDA)	▪ Can disseminate warnings quickly to subscribers. ▪ Can provide emergency information when you are out of your home or out of siren range.	▪ Must subscribe and have appropriate equipment. ▪ Relies on phone lines that might be affected in a disaster. ▪ Must have equipment active to receive message in a timely manner.
Emergency Managers Weather Information Network	▪ A system that transmits live weather information to computers. ▪ Emergency managers can retrieve weather data and retransmit it through local radio frequencies. ▪ Can be accessed through the Internet on the Internet Weather Information Network.	▪ Can configure your computer to trigger alarms for specific hazards. ▪ Alarms can be programmed for activation of lights, sirens, printers, pagers, or e-mail. ▪ Good system for people who are on the go, disabled, or in emergency operations centers	▪ Must understand how to use computers and the Internet to establish communication flow. ▪ May require equipment unavailable to average citizen.
Pagers	▪ Can be used to transmit limited warning information. ▪ Pagers can be interfaced with the NOAA radio and Emergency Alert System.	▪ Can reach people away from their homes or outside.	▪ Need to establish a relationship with paging networks. ▪ Not easily established in most communities at this time.
Cell Phones	▪ Cell phone systems cover 80-85 percent of the U.S.	▪ Can reach people way from home or outside.	▪ Cell phones currently do not interface with EAS or NOAA weather radio. ▪ Any communication must be made through short messaging services available on some cell phones.