

# ALERT AM<sup>®</sup>

## EMERGENCY ADVISORY RADIO SYSTEM



Hundreds of communities as well as universities, airports and government agencies across America now operate their own “Emergency Advisory Radio Stations” specifically to tell citizens what to do during industrial accidents, terror threats, school incidents, earthquakes, hurricanes, tornados, flooding and other critical situations. Over conventional AM radio channels received in vehicles, emergency managers themselves give motorists repeated, up-to-the-minute reports, alerts and relevant instructions, directly — eliminating the need to rely on mass media.

The ALERT AM Emergency Advisory Radio System provides emergency managers the ability to record libraries of messages and quickly create broadcasts to match anticipated emergency scenarios. Up to three hours of audio and up to 1000 messages may be recorded in ALERT AM’s expansive audio memory — the largest of any station available to date. For new situations, via user-friendly telephone or computer interface, operators may efficiently drop in newly recorded messages.

The ALERT AM System also offers “live” broadcast ability and can operate for days in the absence of power and telephone service. Two-way redundant control, standard with each station, uses customers’ push-to-talk transceivers and the same, familiar broadcasting protocols and voice prompts as with regular phones.

Each fixed ALERT AM station covers a 3-5 mile radius or about 28-78 square miles. ISS can locate and help test available frequencies as well as assist in acquiring from the Federal Communication Commission the station’s operating license. The FCC allows noncommercial, public-safety broadcasting on AM channels 530-1700 kHz and provides a 9.3-mile protection zone inside which no other community may operate on the same frequency.

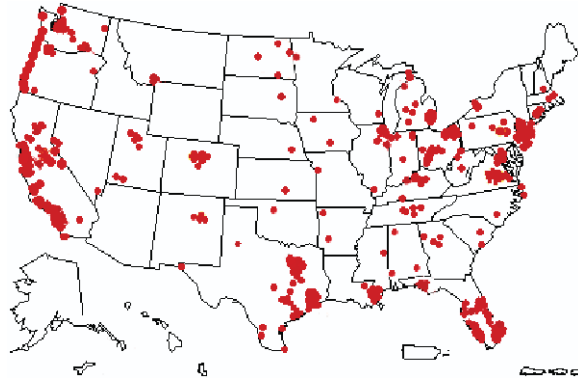
ALERT AM antennas are generally installed in association with a host building in an adjacent yard. However, ISS packages accommodate other antenna setups with indoor and outdoor electronics enclosures designed and located to minimize site impact and maximize site aesthetics.

When NOAA’s Emergency Alert System issues specified hazard warnings for counties, the ALERT AM Emergency Advisory Radio System may be pre-programmed to immediately broadcast the alerts relevant to counties that emergency managers have designated.

During non-emergency times, ALERT AM’s ever-present signal may inform motorists of upcoming events, street repairs, public notices, daily weather, city tours and visitor information (non-commercial content). All the while, broadcasts remind listeners to tune to the channel when situations become critical.



**When seconds count, count on ALERT AM.**



*ALERT Stations across America*

Special street signs may be installed in conjunction with ALERT AM Emergency Advisory Radio Systems, triggered remotely to flash warning beacons that tell motorists to tune in immediately. When the beacons are not flashing, sign text reminds citizens of the service and the channel.

In addition to Flashing ALERT Signs, the ALERT AM System offers a variety of options. For example, a battery backup system allows stations to remain on the air up to four days during a power outage and to notify service personnel automatically when power goes out. Workstation Audio Control and Signalcast<sup>IP</sup>™ Broadcast Management Software allow convenient message management from a single or network-based computer. Due to ALERT AM's modularity and range of options, customers may choose to add features over time.

Many emergency managers publicize the stations on their websites and, during initial operation, offer news releases about the new stations to local media.

An ALERT AM Emergency Advisory Radio System is an affordable communication service that a community can control and call its own. A complete ALERT AM station, licensed, with delivery, engineering, turnkey installation and staff training typically range in cost from \$24,000 to

\$30,000, depending upon selected options (e.g., computer audio control, four-day battery backup, power loss notification, synchronized satellite stations and flashing signs).

Station operators and licensees who join AAIRO (the American Association of Information Radio Operators) receive from ISS complimentary professional broadcast message recordings of general messages. (Visit [www.AAIRO.org](http://www.AAIRO.org) to learn more about free membership in this nonprofit organization, designed to help sustain traveler information radio.)

ALERT AM turnkey packages include all hardware, software, site preparation, installation, licensing and on-site training, backed by 20+ years of commitment, a nationwide support network and a promise of technical support for the life of the product.

In addition to fixed ALERT AM stations, ISS offers portable systems that allow you to take emergency advisory radio on the road to meet the need where it happens.

Visit [www.theRADIOsource.com](http://www.theRADIOsource.com) for details.

# Who uses ALERT AM?

Public safety agencies, HazMat industries, military bases, airports and universities count on ALERT AM Emergency Advisory Radio 24 hours a day, 7 days a week to keep citizens and visitors informed.

## Fort Bend County, Texas, Hurricane



Located near the Texas Gulf Coast in hurricane country, this county is the 20th fastest growing in the United States. At any given time, thousands of motorists could be on more than 2,000 miles of roads; i.e., evacuation routes Interstates 59 and 90 and Texas Routes 6 and 36 crisscross the County. The County has set up 10 synchronized ALERT AM stations and 2 portable stations, 75% funded by FEMA's Hazard Mitigation Grant Program. They chose the Vertical Profile Antenna System, ANSI/TIA-rated for hurricane-force winds.

## Fort Lewis Military Base, Washington



On a day-to-day basis, this military base broadcasts messages about gate status and who should use the gate during certain hours, schedule changes, social and family resources, etc. The second tier of use is to cut in for NOAA Emergency Alert System or weather alert. The third tier is to automatically cut over to recorded messages on a RapidReach Automated Notification System. The fourth tier is for manual override messages.

## Los Alamos, New Mexico



It's clear why Los Alamos County was selected as the site of the Manhattan Project during WW II: there are only two roads in and out. The County is located at the rim of a dormant volcano. With such access, options for evacuation are limited. Emergency Director Philmont Taylor needs to disseminate emergency information to the public in a timely and efficient manner. Says Taylor, "Every time someone even smells the slightest whiff of smoke, our 911 and emergency call center lines are swamped with callers asking if they need to evacuate." Twin ALERT AM stations in Los Alamos and White Rock not only provide information about wild fires but also can broadcast info about traffic accidents, road construction and emergency drills at the Los Alamos National Laboratory.

## San Marcos Pass, California, Wildfire



Fires pose a serious problem in California's San Marcos Pass. They sit high above sea level, relatively isolated; winding mountain roads inhibit evacuation. To combat peril, they formed an association that oversees an all-volunteer fire department with initial attack capabilities and prevention services. Director Michael Williams has, among other things, added a state-of-the-art ALERT AM Emergency Advisory Radio System. His system incorporates highway signs, provided by Caltrans, to tell motorists within range about the station. "The phone interface for creating and updating broadcasts works really well," Williams notes. "Through specific-area message encoding technology, the system can be programmed to automatically receive and re-transmit national emergency and weather alerts to the specific area being served."

## University of Maryland Traffic



During non-emergency times, University of Maryland's emergency advisory radio system is used for traffic and parking control for faculty, staff, students and guests, especially to recommend alternate routes during football game days.

## Port of Oakland Airport Parking



Parking and security are the two primary uses for this typical ALERT AM Emergency Advisory Radio System airport application.

## Fort Jackson Military Base, South Carolina



At Fort Jackson, ALERT AM serves as a community bulletin board to update base families about events and about serious weather alerts, road closings and major traffic alerts. Sergeant first class Rick Ellis, the system operator, says, "I like the system; it's used often."

# Plan Your Station

Much of ALERT AM's success is attributed to the ease with which the system can be planned and installed. Below are considerations for setting up an ALERT AM Emergency Advisory Radio System in your community. ISS offers free planning assistance at 616.772.2300.

## Step 1 - Find a general location.

On a local map, find the approximate geographic center of the area to be covered. One ALERT AM signal will propagate to a radius of three to five miles from this point in all directions. If this coverage will not encompass the desired listening area, consult ISS about adding satellite stations to your system.

## Step 2 - Ensure good National Weather Service "all-hazard" alert reception.

Verify reception of a National Weather Service channel (162.400 to 162.550 MHz) at the desired location. You may see coverage areas online at the NOAA weblink <http://www.erh.noaa.gov/gyx/nwrhist.html>.

## Step 3 - Choose a specific location.

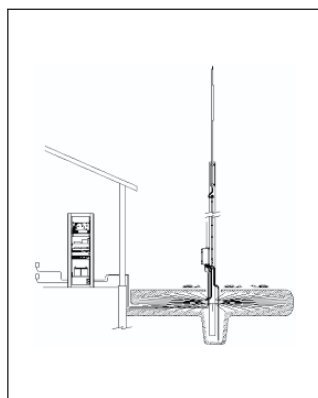
Select a property near the geographic center for antenna installation. Keep in mind there must be no obstructions taller than the antenna in close proximity. The radio station and transmitting antenna should not be installed on, or within 50 feet of, the building that contains the radio station's electronics. This does not apply to non-building oriented situations such as isolated-style installations in which a cabinet containing electronic equipment is attached to the antenna support pole. Consult ISS on the proposed location, before the decision is finalized. ISS offers two antenna installation styles, each with a Vertical Profile Antenna System option:

1. In the yard adjacent to a building.
2. At an isolated location with no building.

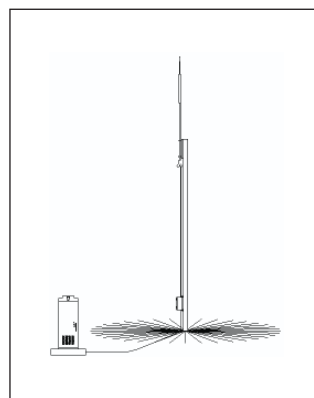
**Yard Style** – equipment in building with antenna system in adjacent yard. Advantages: low cost, high security. Installation requirements: an area within 50' of the building; no underground obstacles or structures taller than 25' in immediate vicinity.

**Isolated Style** – equipment and antenna are installed on a pole. Advantage: high flexibility of location. Installation requirements: no building required; 120 volts of AC power and telephone service must be available at the site and that there is a 20'x20' area of open ground for pole and groundplane installation.

**Vertical-Profile Option** (may be used with yard or isolated styles) – antenna mounted in special pole (provided) with groundplane part of the pole itself. Advantages: best when yard space is at a premium; minimal ground disturbance. Installation requirements: pole placement commonly within 50' of a building (may be greater if required) in grass, dirt or paved areas; vehicles may park nearby; no objects taller than 25' within 50'; coaxial cable may be buried or strung overhead to the support pole; 6" diameter pole is set in 6' post hole with good earth contact in the lowest 4' of the hole. (When used on AM frequencies below 1000 kHz, a 20' solid groundrod is driven beside the pole.) Concrete, asphalt or tamped dirt may surround the pole to 2" below grade for stability.



*Yard-Style Antenna Mount*



*Isolated-Style Antenna Mount*

# Services

## Step 4 - Select the best frequency.

ISS will provide a menu of AM frequencies (that meet FCC separation standards) from which you may choose; and we will give you our seasoned recommendation on how to evaluate them.

## Step 5 - Apply for a FCC license.

A 10-year, renewable FCC license is required to operate your ALERT AM station, secondary to standard AM broadcast stations. Because FCC processing time is unpredictable, we recommend you request licensing services from ISS as soon as you are certain you will have a station, definitely no later than when you place your radio equipment order. To do so, complete and return a simple questionnaire available from ISS (or you may download it from <http://www.theradiosource.com/services-license-frequency.htm>). The questionnaire requests basic contact information, details about the proposed antenna location and frequency chosen for broadcast, with which ISS can also assist you. Upon receipt of your completed questionnaire, ISS prepares necessary engineering work and submits to the FCC a formal license application. ISS will also manage any modifications or additional filings required to get your station up and running and will let the FCC know when station construction is complete, as required.

## Step 6 - Determine which options you need.

For the ability to control broadcasts when cell and telephone systems go down. The 4-Day Battery Backup option keeps the station on the air during AC power loss. If the station is in an unattended location, the Power Loss Notification Module is useful. If you want to control stations from a computer, yet retain the ability to override via telephone, consider Workstation Audio Control or Signalcast<sup>IP</sup> Software, which provide unlimited numbers of messages and recording time, single computer or network control, text-to-speech, scheduling, etc. See also "Technical Spec System Options" following.

## Step 7 - Obtain a formal quote.

Request a formal quote from ISS. Provide your name, agency, phone, fax, email, desired antenna style (steel-roof, yard or isolated) and options from the price page of this brochure. Indicate if you would like turnkey installation or illustrated instructions for preparing your own transmitter site.

## Site Visits

ISS has a network of representatives across the country. If one is located near you, there's no cost for a preliminary visit to determine the best available antenna locations and assist with frequency choice. Ask if this free service is available in your area. If not, ISS will help you plan your station remotely. Call for details.



## FCC Licensing Services

ISS offers an array of services to properly document your station and register it with the Federal Communications Commission (summarized in Steps 4 and 5, left). These services may be purchased individually or in a complete package. Pricing details are available at theRADIOsource.com from the "Services" menu (at the top of each webpage); choose "Frequency/Licensing." Note: The FCC considers emergency advisory radio station licenses secondary to full-power broadcast stations. This means that if a full-power station on the same frequency should move into your area (unlikely), you might need to change your frequency. ISS can assist with this and any future license modifications or renewals you might need long term.

## Installation, Training & Technical Support



ISS offers "turnkey" installation services or illustrated instructions to install your own station(s). Training services come with each purchase; and ISS also offers guidelines on how to plan and organize emergency broadcasts. If you require after-sale technical support, ISS offers email/phone help for the life of the product at no extra charge.

## Professional Broadcast Message Recording

Station operators who join the American Association of Information Radio Operators (membership in the nonprofit is free) receive professional broadcast message recordings of general messages. Visit [www.AAIRO.org](http://www.AAIRO.org) for details.

## Communication Aids

In addition to road signs, it's wise to begin right away to develop communications to publicize your station so listeners can be made aware of its existence and purpose. Continue communicating about the station at regular intervals to keep it present in listeners' minds. ISS can provide you examples of these types of communications on CD at no extra charge.

# ALERT AM Budget

The base ALERT AM Emergency Advisory Radio System includes the transmitter; antenna/groundplane system; digital message player with 3 hours of recording time and a 1,000-broadcast-message, 50-playlist capability; local and telephone control interfaces; a programmable NOAA EAS/NWS receiver; 2-way redundant control; external triggering via pushbutton, siren or other alarm; indoor dual-door rack cabinet; mounts, connectors, cables and wiring; power supplies and lightning arrestors. Diagnostic metering and test equipment are also included for system setup and maintenance. ALERT AM Systems come with illustrated instructions and ISS' promise of no-charge operational support via phone or email for the life of the product.

\*\$16,995

## Antenna-Installation-Style Options

- Yard Style: antenna is pole-mounted (in building yard) No Charge
- Isolated Style: equipment housed in weatherproof cabinet (no building required) \$1,995
  - Vertical Profile Style: option for above Yard or Isolated Style (minimum space required) \$2,495

## System Options

- **Four-Day Battery Backup** \$3,495
- **Uninterruptible Power Supply** (recommended for systems without 4-day battery backup) \$625
- **Power-Loss-Notification Module** (calls or pages if 120-volt-AC power is lost) \$525
- **Workstation Audio Control Hardware, Software & Factory Setup** \$6,995
- **Signalcast<sup>IP</sup> Broadcast Management Software Package** \$16,795
  - NX6000 Digital Message Player (minimum of one required, more for certain setups) \$3,995
  - PC Mic/Headphones \$89
  - Optional RAS6000 Remote Access Server (for dial-up control of Message Player) \$1,795
  - Optional Host Server with Software Installed \$5,295
  - Additional Product Support & Warranty after First Year (per year) \$650
  - Onsite Installation & Training Inquire
- **Satellite Station** \*\$15,495
  - Wireless Audio Link Receiving System (for each location) \*\*\$5,995
  - Receiving Antenna Support Pole \$1,225
  - Wireless Audio Link Transmission System (for each location) \*\*\$5,995
  - GPS Frequency Stabilization (for each satellite station in the system) \$3,500

## Companion Product

- **Flashing ALERT Sign System:** Trigger flashing LED signs throughout the community, telling motorists to tune to the ALERT AM frequency or take other action "if flashing."
  - **Remote Control Power Unit (RCPU):** manages up to 4 signs, powered by the sun, triggered through your existing VHF or UHF 2-way radio system; provide only the support and attachment hardware (not included: wiring from RCPU to signs). \$1,995
  - **Sign:** aluminum traffic sign (36"x24") with embedded LED beacons, custom lettering and design; larger versions available; controller (above) required. \$495

\* Add \$1,500 per station for system engineering and planning.

\*\* Price might vary with operating frequency.

## Service Options

**Site Choice and Frequency Monitoring Assistance:** ISS technicians will visit and assist in selection of transmitter location(s) and monitor candidate operating frequencies. Ask ISS whether this service is recommended for your project. There is no charge, if an ISS rep is in your area. Call ISS to discuss.

No Charge

**FCC 10-Year License Application:** Package price includes AM frequency search, engineering study, FCC filing and FCC-required construction notification. (A FCC license is required unless you are a federal agency and will obtain the license through federal channels.)

\$790

**Turnkey Installation:** ISS provides the complete installation solution.

Inquire

ISS physically prepares the transmitter/antenna location, including installing the antenna support wood pole or ISS-provided antenna stand), ISS-provided cabinet, coaxial cable, groundplane, power and telephone services into the cabinet. ISS installs and tests all electronic components, wires the components, prepares cables, tunes the antenna system, provides FCC-required field testing and documentation, complete staff training and custom materials. Price includes all travel, labor and expenses. Depending on the style of installation, included might be excavation work, conduit and electrical service components (e.g., circuit breakers, meters or fuses) and access devices (e.g., ladder or bucket truck). The customer provides access to any preshipped components and to the transmitter and antenna locations to facilitate installation and tuning of electronic components.

### Professional Message Recordings

No Charge if Member of AAIRO  
Quoted if Not

General Messages.

Event-Related Messages:

Annual with 1 message change	\$ 195
Seasonal with 4 message changes	\$ 495
Monthly with 12 message changes	\$ 995
Weekly with 12 message changes	\$1,995

## Shipping, Terms, Warranty

Ground freight is prepaid by ISS in the contiguous United States. Product availability is typically 30 days after receipt of the order. Terms are net 30 days to governmental entities and their agents; check-with-order or cash-on-delivery for initial orders from private-sector entities. Mastercard/VISA accepted for contracts under \$3,500. Prices listed above are suggested retail prices, subject to change without notice. Call ISS for a firm quote, guaranteed for 180 days.

There is a one-year parts-and-service warranty on the host ALERT AM system. ISS provides technical support by phone or email for the life of the product, 24/7. The warranty is void if the customer modifies the product. Purchases from ISS are subject to a standard terms and conditions agreement signed by the purchaser, becoming part of the contract.

Hardware by Dell for Workstation Audio Control has a 3-year, onsite warranty with next-day service. The software has one-year email support. The Audio Science sound card has a one-year manufacturer warranty. Upon delivery, one year of phone support is provided by ISS (24 hours/7 days a week) technical staff for operation and troubleshooting all Work Station Audio Control hardware and software. Warranty is void should the configuration of components, hardware or software be modified (modified with respect to their operating environment) subsequent to delivery.

# Technical Specifications

## The ALERT AM System . . .

- Operates according to Federal Communications Commission (FCC) rules, Part 90.242.
- Achieves a maximum FCC signal level of 2.0 mV/m at 0.93 mile; effective coverage range is three to five miles (28-78 square miles).
- Operates within the 530 to 1700 kHz, AM frequency range.

## The system requires these utilities . . .

- Underground, 110-volt AC, single-phase/50/60 Hz, less than one amp AC operating current, 4-amp maximum AC charging current (20-amp breaker, non-GFI circuit).
- Standard business telephone line ("central office" type, shielded).

## The basic equipment array includes . . .

### Transmitter

- 0-10-watt operation, Class D, high efficiency output; internal components rated to 3 times operating wattage, uses 2 output devices.
- Federal Communications Commission certified for Travelers Information Service in the United States under Part 90.242., Certification Number B7MTR-6000TIS-WB.
- IPC-610 certified.
- Manufactured in compliance with Class 3 wavesolder standards.
- Approved for US military use.
- Single-board design with all RF, power and audio circuitry.
- Integral LED wattage and VU reference meters.
- Remote broadcast monitoring control.
- Synthesized frequency selection, compander-style audio processing.
- Defeat-able LED operation to save power.
- 24-volt DC, fully regulated power supply.
- 530 to 1700 kHz AM frequency range.
- Frequency stability +/-20 Hz.
- Continuously adjustable power and audio modulation controls, externally accessible on front panel.
- Tunable series filter on RF output.
- Audio distortion: less than 1.2%, 100 Hz to 3 kHz.
- Noise level: 70 dB below 95% modulation level, 100 Hz to 3 kHz.
- Modulation: 99%, -40 dB to #20 dB.
- Temperature: -40 to +85 degrees Celsius.
- Humidity: 95% (non-condensing).
- External audio, power and synchronization inputs.
- External PL-259 UHF style RF output and 1/4" audio headphone output driven by detector circuit to provide positive modulation indication.
- Rack, panel or shelf-mountable cabinet.
- Slim-line design (7.5" high, 17" wide, 1.5" deep), 4 pounds.
- Mean time between failure: in excess of 60 years.
- Estimated product life: in excess of 30 years.

### Digital Message Player

- Voicemail-style natural voice operation with 800-word/phrase capability; voice prompts and status report on available recording time, sequences, security codes, programming parameters and complete status of current audio program, relay states, power.

- Identical remote and local control codes.
- High-quality (16-bit sampling rate) recording process, yielding 5500-Hz dynamic range.
- 1,000 independent broadcast messages of any length; each message may be independently monitored and later erased.
- Automatic message scheduling by time, day, date. Internal clock never requires setting, keeping time even with total loss of power.
- 50-message playlists that may contain hundreds of broadcast messages, up to 3 live sources (each with independent timing control), commands for up to 4 external relays, other (nested) playlists and differing output levels for each audio output. Playlists may be created, recreated or appended locally or remotely.
- Selection of active playlist locally or remotely.
- 3 hours of recordable time in dynamic flash memory.
- 3 audio inputs for separate and independent live program feeds, each with independent audio level controls.
- 3 audio outputs with audio levels settable locally, remotely or programmed to change automatically.
- 1-9-digit security access code, defeatable phone prompting, programmable locally or remotely. User-settable number of retries and timeout period for maximum security.
- 5-second and full-message survey monitoring of all stored messages and playlists.
- 8 prioritized control closures to trigger message sequences remotely.
- Control closure prioritization allows automatic interrupts for emergency messages and automatic National Weather Service all-hazard radio notifications (weather and EAS).
- Includes prerecorded messages by professional announcer for emergency advisory radio application – ready for broadcast immediately.
- Station-identification message that broadcasts every half-hour.
- Two-way redundant control allows full control of the NX8R Digital Message Player via appropriate push-to-talk-style 2-way radio transceivers (not included) in parallel with and having priority over telephone control. Uses same commands and protocols as telephone control, providing the same voice prompts and control options.
- Rack mountable, slim design, 1 RU high.

### National Weather Service All-Hazard Notification System

- Specific Area Message Encoding (SAME) for 2,000 counties.
- Program changes are triggered based on NOAA-EAS/weather-encoded messages.
- Receives all 7-channel, VHF, NOAA weather frequencies and EAS codes.
- Field programmable/upgradable.
- Front-panel diagnostics and audio test port that accepts recorded .wav files.
- Stores most recent alert for local speaker replay.
- 600-ohm continual output, man/autoscan tuning; integral speaker/vol control.
- Steel chassis; rack mountable with external antenna, cut for the EAS/weather radio frequencies and mounted with threaded UHF connector, balun and weatherproof gasket.

### Antenna and Groundplane System

- Yard, or isolated antenna installation styles. (See also “System Options,” below in red, for Vertical Profile Antenna with low ground disturbance.)
- Whip-style antenna 15-25' long; maximum 2" OD, tapering to 0.5"; black anodized aluminum for maximum ice dissipation; stainless-steel tuning tip; aluminum construction, black finish color to discourage ice buildup; UV resistant finish; architectural anodization process #801.
- Wind rating: antennas 1230 kHz and above 100 mph; 80 mph with 1/4 radial ice; antennas 1220 kHz and below 80 mph; 50 mph with 1/4 radial ice. All hardware and mounts.
- Patented PowerPlane® groundplane with 1,250' of wire, 10-to-20' radius.

### Lightning Arrestor System, Enclosure and Ground Bus

- Provided in a weatherproof NEMA4 cabinet, arrestor bonded to aluminum panel that supports the lightning grounding and groundplane connection clamps.
- Capacity of 50,000 amps surge; clamping speed of fewer than 2.5 nS.
- 2 UHF connectors; aluminum flange ground connection.

### Standard Indoor Security Cabinet for Yard Styles

- Freestanding cabinet with window-doors, front and back, and keyed locks.
- Footprint with 4-day battery backup: 75.5" high, 25.5" deep, 22" wide. 19" dual doors open 90 degrees front and back, window on front door; 496 pounds, including rack-mounted components.
- Footprint without battery backup: 48" high by 24" deep by 22.75" wide; 19" dual doors open 90 degrees front and back, window on front door; 170 pounds, including rack-mounted components.
- Steel construction with black textured powder-coat finish, NEMA1 style.
- Rack mounts, shelves, wiring harness and fixtures.
- AC terminal block, high capacity AC surge arrestor, GFCI outlet.
- High capacity telephone line surge arrestor.

### Test Equipment

- Wattmeter and dummy load for antenna tuning and system diagnosis.

### All Necessary Wiring, Cabling, Connectors, Mounts and Hardware

### System Options include . . .

#### Outdoor Security Cabinet (for isolated antennas away from buildings)

- NEMA3R rack-mount, aluminum cabinet for outdoor and industrial applications.
- 332/334 signal cabinet style.
- Door-activated lights.
- Fan, vent, filter.
- High security, 3-point locking doors.
- 33" deep, 24.125" wide, 66.5" high footprint.
- AC power service panel and ground bus.

#### 4-Day Battery Backup

- 22A/24V DC regulated power supply/battery charger.
- LED charge indicators.
- Digital voltmeter/ammeter.
- Operational status indicators.

- Breakers for AC input, battery output.
- Automatic low-voltage battery and load disconnect, thermal shutdown and recover, current-limiting and over-voltage protection. 110 or 220 volts AC.
- Chassis size: rack mount, 2 rack units height.
- 4-day battery backup, sealed AGM batteries, 158AH at 24 volts DC; fully rechargeable in 7 hours.

### AC Uninterruptible Power Supply

- 1,000VA.
- 640W battery backup.
- 6 outlets.
- Interactive UPS offers voltage regulation and battery support plus complete AC surge suppression.
- 1U rack mount.
- Max load of 1,000VA for 10 minutes and a half-load of 500VA for 24 minutes.
- Full-time sine wave output.
- Maintains regulated 120V nominal output during brownouts and overvoltages from 83 to 147V.
- Includes 6 UPS supported outlets. Multi-function audible alarms and set of 5 front panel LEDs.

### Power Loss Notification Module

- 5 programmable notification delay periods, instantaneous to 24 hours.
- Internal battery backup.
- Automatically dials up to 4 telephone numbers, including cellphones/pagers.

### GPS Frequency Stabilization

- Minimizes interference among satellite stations by stabilizing the frequency for each transmitter internally with GPS satellite reference.
- 8-channel GPS receiver.
- 1 PPS output: DB-9 connector, TTL outputs, positive edge true: #1 has 20-percent duty output with <500µS accuracy, directly from receiver; #2 has 50-percent duty output <1mS accuracy, regenerated.
- Accuracy: 10 MHz @ 10 nS.
- Power: 117 V AC, 50/60 Hz or 24 VDC.
- Mechanical: 19" rack mount, 1.6" high x 16.8" wide x 9.4" deep.

### Wireless Audio Link System

- Specs change based on frequency and configuration. Inquire for your application. ISS will send you the specific cutsheet.

### VP9000 Vertical Profile Antenna System

- Space requirement: less than 1 square foot.
- RF grounding element: 4-foot length; integral to support pole.
- Lightning ground: 8-foot groundrod, copper clad.
- Support pole composition: aluminum, 6" OD, .3125" wall thickness.
- Support pole length: 24'.
- Support pole finish: powder coat, silver/gray.
- Support standing height: 18' above grade; 6' below grade.
- Wind: hurricane rated. 1400-1700 kHz, support pole exceeds Florida Dade/Broward County windload requirements with attached antenna, greater than 146 mph/3-second gusts. 530-1390 kHz, support pole meets and exceeds Florida windload requirements with attached antenna, 130 mph/3-second gusts. (Florida Building Code – 2001).
- Internal components: RF lightning arrestor, grounding bus, coaxial feedline.

- External components: threaded attachment for antenna mount, weatherproof service hatch with tamperproof hardware. Crane hook.
- Frequencies: 530-1700 kHz.
- Compliant with ANSI/TIA-222-G-2005 standard (Class III, Category 4, Exposure D) 130 mph/3-second gust for frequencies 1400-1700 kHz when installed in soil types per Annex F of the standard.

### Workstation Audio Control

- Allows convenient screen-based drag-and-drop control of broadcast messages. Create, edit, store and manage up to 300 hours of natural voice and text-to-speech recordings. No limits on number of broadcast messages that may be stored. Message groupings may be created for anticipated emergency scenarios and immediately placed on the air. Automatic audio processing within the system ensures high quality audio for transmission. If power is lost, the workstation's uninterruptible power supply allows critical messages to keep flowing while your generator begins operation. Where no generator is present, ALERT AM may continue to be operated via telephone, if battery backup has been optioned or if the AM station location has generator backup. Physical setup includes a configurable, stand-alone, PC workstation, preprogrammed software with user-interface tools, cables, power supply backup and an illustrated instruction manual. High quality audio output can be sent to a wireless audio link, leased line, distribution amp or direct feed to transmitter systems.
- Program Management Software allows drag-and-drop control of up to 300 hours of broadcast .wav messages from an active PC control screen; unlimited number of broadcast messages in library; 2-10 broadcast messages in rotation on screen.
- Optional Studio Software Packages with audio management software for recording, graphic editing and storage of natural voice .wav messages; automatic audio processing and optimization for highest AM broadcast quality, intelligibility and signal distance; text-to-speech module for creation of broadcast messages directly from imported or typed-in text.
- Hardware that includes uninterruptible power supply; cables and software interface tools; complete, configured PC with . . .
  - Flat panel monitor.
  - 74GB operating System hard drive.
  - 230GB hard drive for recording.
  - 1GB RAM.
  - Core 2 duo processor.
  - Mouse.
  - Keyboard.
  - Sound card.
  - Headphone-mic set.
  - Power surge arrestor.
  - Live audio mixer (internal).
  - Complete factory setup.

### Signalcast<sup>IP</sup> Broadcast Management Software Package

- Software utilities, options and services that allow convenient radio station programming.
- May be deployed in a single workstation format or network based to afford multiple control points.
- Allows recording of CD-quality broadcast messages -- hundreds of hours, thousands of messages.
- Editing, processing & library storage of recorded messages.
- Message creation via text-to-speech with male and female voices.
- Message importation in .mp3 and .wav formats.
- Drag-and-drop message playlist and flashing sign on/off control.

- Automatic message scheduling by time, day or date; internal timeclock keeps time even with total loss of power.
- Ethernet-based on (standard) modem connectivity (optional).
- 10-user license.

### Software Application Architecture

- Platform: Windows 2000, 2003, XP (server side).
- Database: SQL server for storing the current state of the system.
- Web server: Microsoft Internet Information Server for Windows NT.
- Text-to-speech generation: server side using AT&T Natural Voices Software.

### Security Features

- Access control to the application is through Windows User Groups and Users.
- Users gain access to the application through Internet Explorer.
- Application may be configured to be accessed locally (intranet) or remote (extranet).
- Multiple users may access the application at the same time.

### User Interface (UI)

Intuitive UI; uses state-of-the-art web technology (such as Ajax) minimizing refreshes that cause the webpage to go back to the server; online Help.

**The NX6000 Message Player and RAS6000 Remote Access Server (immediately below) function in concert with Signalcast<sup>IP</sup> to repeat messages for emergency and highway advisory radio stations.**

### NX6000 Digital Message Player

- TCP/IP in switched 10/100 Ethernet environments, 10baseT (IEEE 802.3).
- PPP connections for remote dial-up operations.
- FTP audio message transfers.
- Automatically logs system events and playback for manager review.
- Connectivity over a network for audio programming.
- May be locally controlled or programmed via RS-232 serial port.
- MP3 audio file format, 32 to 128 kbps audio rates supported.
- Audio storage (standard) 1,000 minutes (16bit, 44kpps, mono).
- Output level + 0dbu in 2 RCA type connectors (+6 dB/ XLR optional).
- Output level programmable from -110 to + 18dB.
- Harmonic distortion: 0.05%.
- Dynamic range: 86dB.
- Voltage: 120 VAC or 24VDC.
- 19" rack, 1U.
- Weight: 8 pounds.

### Optional RAS6000 Remote Access Server, 3-Port Modem to Ethernet

- 3 integrated V90/56K modems.
- PAP and CHAP authentication.
- 10MB Ethernet connectivity to 1/IPX LANs; local and remote management using a telnet, TFTP or bundled management software.
- RADIUS authentication and accounting support.
- Flash memory on modems and server for easy updates.
- LAN port interface: 10-base T; WAN ports interface: 3 built-in V90/56K modems.
- Data rates: 33.6K BPS upload and 33.6K BPS download speeds from dial-in clients & non-V90/56K flex servers; 56K BPS download speeds from digital V90/56K flex servers (dial-out only).
- Standards: data = V90/56K flex, enhanced V34 and below; error

correction - V42; data compression = MNP Class 5, V42 BIS.

- Operation: line type, dialup.
- Memory: 8MB RAM, 2MB flash ROM.
- Physical description: 6.2" wide by 1.4" high by 9.0" deep; 2 pounds; 15.8 CM x 3.6 CM x 22.9 CM; 0.9 KG.
- Approvals: FCC Parts 15 and 68; EN55022; EN55024; EN60950; UL 1950; CE mark.

## **Companion Product . . .**

### **Flashing ALERT Sign Option**

#### **Sign Panel Face**

- Typical size: 44" high by 24" wide, customizable (price relates to size).
- Composition: natural aluminum, standard 1/16" gauge reflective black/yellow/blue sheeting; customizable black/white, 2" and 3" high lettering.
- Mount: universal L-bracket for banding, bolting to existing poles or posts.

#### **Sign Panel Electrical**

- LED beacons: 2, amber, weatherproof LED beacons; 41 diodes each; 4.25" diameter embedded reflectors.
- Current draw: 100 milliamps.
- Flash controller: 8A, 50/60 fpm, waterproof.
- Duty cycle: 50% flash.
- Operation time: 2-4 day flash via solar power without sunlight.

#### **Remote Control & Power Unit Cabinet**

- Size: 20" high, 16" wide, 10" deep.
- Construction: NEMA4X, natural aluminum, single-hinge door, hasp-lock-in closure; weatherproof external antenna connector, wiring, ports.
- Mounts: external tabs for universal mounting to existing poles or posts.

#### **RCPU Electrical**

- Solar panel: 32-watt, 1.95-amp at 12-volt DC.
- Solar panel mount: side-of-pole, band or bolt-on.
- Solar controller: 6-amp current capacity, LED charge indications.
- Low voltage disconnect circuitry.
- Battery: 55AH, AGM, sealed type.

#### **RCPU Controller**

- Capacity: up to 4 flashing signs.
- Control wiring: #14 AWG, each a maximum of 1,000 feet from the controller.
- Receive frequencies/ranges: 33-50 MHz (VHF low), 150-170 MHz (VHF high) and 450-470 MHz (UHF).
- Control codes: up to 6 simultaneous codes.
- Code formats: DTMF (up to 12 digits); 2-tone sequential, single-tone 0.3-3.0 kHz.
- Programming output: SPDT relay with programmable timer; laptop programming via RS232 port and Windows-based software.
- Indicators: "ALERT Received" LED indicator.
- Speaker: 4" integral.
- Test diagnostics: built in with LED indicators.
- External antenna: 50-ohm BNC connector.
- Alternate control method: commercial paging, POCSAG/flex formats.

# Exclusive Features

ISS is the only company in the United States to offer the below exclusive features, which makes ALERT AM a particularly useful emergency management communication tool.

1. Only ALERT AM features a NOAA All-Hazards receiver that is field programmable and upgradeable to remain current with changes in NOAA EAS/weather hazards. It captures the most recent warning activation for replay by system operators and can change to new message patterns, when NOAA sends all-hazards warnings (weather and EAS). Only ALERT AM allows special broadcast messages to be aired automatically in conjunction with NOAA All-Hazards Specific-Area Message Encoding notifications, outdoor warning system activations or Emergency Operations Center control panel switches.
2. Only ALERT AM allows an operator to run the station by computer (Workstation Audio Control or SignalcastIP) while also retaining the ability to record messages and control station operations via telephone if AC power goes out.
3. Only ALERT AM has optional full control of the digital message player via push-to-talk style transceivers (not included) parallel to and with priority over telephone control, using the same commands, protocols and voice prompts.
4. Only ALERT AM distributes audio to satellite stations (optional) without relying on vulnerable dialed-up telephone links. Optional ALERT AM wireless audio links make audio connections for high reliability with no monthly operating charges; i.e., do not rely on tele/cell phone lines during emergencies, preventing satellite AM stations from becoming disconnected, broadcasting the wrong messages. Additionally, ISS wireless audio links operate on the same battery backup system as ALERT AM, so when power goes down, they stay up.
5. ALERT AM's antenna is black to discourage ice build-up and is finished with a special UV-resistant architectural-anodization process to prevent color fading. If installed in yards adjacent to buildings, ALERT AM requires only that a support pole be set. Not required are large, buried, copper-wire groundplane installation or chemical-emitting ground-pipe (hollow rods) burial. Only ALERT AM can include a Vertical Profile Antenna System that does not require a groundplane. Major site disturbances such as surface trenching or drilling for the installation of deep ground rods is not required. This also means: the antenna's cables and arrestors are inside the pole for safety and security; theft of copper ground wire is impossible; it is possible to move the system if required; and the aluminum pole is attractive in conjunction with public buildings and may be painted.
6. Only ALERT AM works in conjunction with solar-powered flashing advisory signs via communities' UHF/VHF Radio Systems to turn on/off beacons remotely. These signs are the key to notification of the community that an emergency message is being broadcast.
7. Only ALERT AM offers a battery backup system capable of keeping the station on the air for a full 4 days. The pack fully recharges in just 7 hours.
8. Only ISS transmitter frequencies are synthesized, not crystal controlled, allowing simple frequency changes in the future, if necessary.
9. Only ISS systems employ nonproprietary designs. This means that, in the future, you may change components as needed without the requirement to return to ISS; i.e., simple wiring diagrams are provided, so you can service equipment yourself, if you choose, or have a third party assist – all with full ISS support.
10. Additionally, only Information Station Specialists offers technical assistance for the life of the (ALERT AM) product. ISS supports today radio stations that first went on the air in the 1980s. ISS' staff of engineers has more than 60 years of combined experience specifically in the kind of radio technology under which ALERT AM operates (FCC Rules, Part 90.242).
11. Only ISS provides professional broadcast message recording services at no additional charge.

*Since its founding in 1983, Information Station Specialists has been the USA's primary supplier of AM information radio systems and services, with an installed base of more than a thousand stations across the country. The ISS product array includes emergency and highway advisory radio systems as well as travelers information stations and related components. In the past decade, ISS has averaged 65 percent of all such stations sold in the United States and is the only company whose full-time business is dedicated strictly to this market. For a corporate overview, visit [www.theRADIOsource.com](http://www.theRADIOsource.com).*



## Information Station Specialists, Inc.

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PowerPlane and the stylized ISS logo are registered trademarks of ISS.

The Signalcast<sup>IP</sup> trademark is pending.

The Vertical Profile Antenna design is patented under United States Patent 7,027,008.

The PowerPlane Groundplane design is patented to ISS under United States Patent Number 5,495,261.

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