

RoadRunnR[®]

Portable Advisory Radio System



Wiley, Wireless and One Step Ahead

When speed and smarts are required in a portable advisory radio station, RoadRunnR readily responds. Powered by a robust array of 6 unbreakable solar panels and a 10-day operational battery backup, RoadRunnR can go anywhere, anytime.

An exclusive tiltable, solar array allows multi-season operation; and amorphous solar panels tolerate partial shading, which makes finding a suitable broadcast location quick and easy. The solar array can be rotated to allow positioning for any roadway orientation.

Via landline or digital cellphone, where cellphone service is available, RoadRunnR receives programming instructions remotely. (Check with ISS for your area.) NOAA weather and EAS alerts are broadcast automatically.

Even better, RoadRunnR's patented groundplane offers a signal range to match that of fixed advisory radio stations. RoadRunnR provides the option for 2 transmitters of the same or different frequencies in the same cabinet, with 1-switch changeover between transmitters. This allows the operator to change frequencies or change to a backup transmitter quickly in the field. As many as 2 antennas may be stowed in weatherproof compartments on the same trailer.

If AC power is available, RoadRunnR can operate on 120 volts, while it charges its high durability, glass-mat battery pack – in just over 8 hours.

Setup takes only 5 minutes. Self-contained, speedy and smart, RoadRunnR is the "most wanted" Portable Advisory Radio Station on the market today.

Equipment Array

RoadRunnR comes with 1 or 2 transmitters, antenna/groundplane system, digital message player, cellphone, NOAA all-hazard receiver, wireless power, batteries, AC power and charging system, test equipment, mounts, hardware, cables, wiring, lightning arrestors, connectors and illustrated instructions. The RoadRunnR trailer includes a 5-jack leveling system, lockable equipment, battery and electronics cabinets and dual weatherproof antenna storage tubes. The trailer is high durability construction with options for paint color, hitch and light connector type. Both horizontal and vertical solar-array adjustments are standard. Solar panels are unbreakable and incorporate tamper-resistant hardware. Their 388-watt output is capable of powering RoadRunnR with as little as 3 daily sun-hours in all seasons. No-maintenance, absorbed-glass-mat (AGM) batteries ride in easy access cabinets and fully recharge in only 8.5 hours on the system's AC charger. AGM batteries provide superior performance in a hot environment and are uniquely tolerant of high charging and short circuit conditions.

Who Runs RoadRunnR?

- **Transportation Agencies:** departments of transportation, turnpikes and thruways, bridge authorities.
- **Local Governments:** states, municipalities and their emergency management and law enforcement departments.
- **Military and Industry** whose operations can have an impact on nearby residents.
- **Events:** conventions, air shows, fairs, parades, golf tournaments and other sports events.

Service Options

- FCC licensing.
- Frequency monitoring and preinstallation testing.
- Onsite training.
- Professional recording for event-oriented broadcasts.
- Portable advisory signs.
- Additional frequency.

Frequencies and Licensing

RoadRunnR is a portable highway advisory radio station, licensed by the FCC to governmental entities. Frequencies are 530-1700 kHz in the AM band. Range is 3-5 miles across average terrain (28-78 square miles). The FCC's special "broad area" license affords the operator a territory in which RoadRunnR may roam and has a 10-year renewable term. The RoadRunnR license may also allocate a fixed operation point if desired.

Broadcast Content

Advisory radio stations may broadcast content relating to travel, such as, road conditions, weather, directions, emergency and other general-interest topics for motorists. Broadcasts must be voice-only with no commercial content.

Message Transfer and Protection

Digital cell phone* and landline telephone operation are standard with 3 hours of recording time, 1,000 dynamic messages, 50 playlists – operable remotely through an easy-to-learn, voice-prompt style interface. National Weather Service all-hazard (EAS/weather) notifications are broadcast live automatically for the area served. *Note: an appropriate cell phone service format must be available; check with ISS.

Budget

A complete RoadRunnR System, licensed, with engineering and delivery typically will range in cost from \$33,000 to \$36,000, depending upon selected options. The average price may be lower if multiple stations are purchased.



Plan a RoadRunnR Radio Station

Step 1: Order a frequency search.

Contact ISS to order a frequency search. Just provide the geographic area where the system might be operated. This no-charge service includes the license-application work, as well, once you decide to move forward. ISS will develop a list of available AM frequencies and send it to you with our suggestions and instructions on how to monitor them.



Step 2: Survey onsite listening.

Survey the highways where listening is required with an automobile digital AM radio tuned to your candidate frequencies. Monitor all of the candidate frequencies throughout the listening areas at least once during daylight hours and at least once after dark. Report your results to ISS, using the short form provided.

Step 3: Choose an operating location for coverage.

Use a map to select a general operating location for RoadRunnR such that a 3-mile-radius circle fully encompasses the highways requiring coverage. The signal will usually carry 3-5 miles and be heard much farther away on some radios, but the strongest part of the signal will always be in this radius. If a specific highway or intersection is critically important to cover, consider locations immediately adjacent to the roadway. Mark the map to show the area within which the antenna should be located to meet your coverage goals. Consider where signs will be placed to announce to motorists entering the area that the signal is available.

Step 4: Choose a specific location for your RoadRunnR station.

For best coverage, the immediate location should be free of objects that exceed 25 feet (about 2 stories.) This includes tall buildings, trees, terrain features, lighting, power and communication poles and towers, overpasses and highway signs. Make certain that there is a 20'-by-20' area of open ground to park the trailer and deploy the portable groundplane.

Step 5: Fill out the FCC License Application Questionnaire.

Request from ISS the RoadRunnR Questionnaire, which gives ISS the information needed to prepare and submit the 10-year FCC license application on your behalf. On the questionnaire, you are asked to provide information on your antenna operating territory and any locations, your frequency choice and required names and addresses. The FCC typically takes 3 to 6 months to process it and grant the authorization. While waiting for the 10-year license to be granted, you may procure the equipment and set up the station, if you wish.

IMPORTANT: You must have a FCC license in hand to operate; the station must be on the air within 12 months of the license grant date, or the authorization will expire. Special Temporary Licenses (STA) might also be available from the FCC, if immediate operation is required. ISS will assist you in requesting it. The FCC grants these licenses as secondary to standard AM broadcast stations.

Step 6: Consider equipment, options and services.

Contact Bill Baker (bill@theRADIOsource.com), if you need Pricing Sheets or to submit the following information to obtain a quotation.

Checklist for Receiving a Quotation

Provide to ISS the following details, so a precise quotation can be provided:

- * Your name, agency, phone and fax numbers; email address, if desired.
- * Select Product Name: RoadRunnR Portable Advisory Radio Station.
- * Review options on the pricing sheets and include them, as desired.

Desired frequencies and trailer configuration options, such as paint color, light connector and hitch style. Note: Standard units are Omaha Orange; custom paint colors add to cost and might increase delivery time.

Step 7: Cellular telephone service.

At the time of your equipment order, ISS will ask for a contact name at your cellular telephone provider. The appropriate cellular service format must be available from your provider. Information from the provider will allow your RoadRunnR's cellular telephone service to be set up and fully operational upon delivery.

Contact Bill Baker (bill@theRADIOsource.com), if you would like an advance copy of your RoadRunnR's instruction manual, which details setup, operating and maintenance procedures.

Step 8: Professional recording services.

Purchase of RoadRunnR includes preparation of professional audio recordings for general broadcasts, so your station is ready to put on the air immediately. (See <http://www.theradiosource.com/services-recording.htm> for details about the requirements for free service as well as a contracting option.)

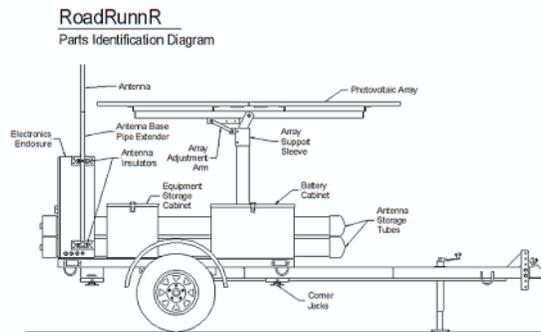




Why RoadRunnR Is “Most Wanted”

- 1** Durable trailer construction with customizable paint-color, hitch-height-and-type and light-connector-type options. RoadRunnR’s trailer and cabinets are painted with the highly durable and waterproof powder-coat paint finish.
- 2** Five-jack trailer-leveling system, lockable equipment, battery and electronics cabinets.
- 3** Only RoadRunnR’s antenna is black in color to discourage ice build-up and is finished with an special UV-resistant, architectural-anodization process to prevent color fading.
- 4** Portable, patented groundplane mats for full FCC maximum range, the same as fixed stations. No ground stakes required.
- 5** RoadRunnR’s transmitter provides synthesized frequencies for in-shop frequency changing. May have several frequencies on board.
- 6** Only RoadRunnR provides high quality message recording (16-bit sampling rate), 3 hours of recording time, 1,000 broadcast messages, 50 playlists and automatic station identification.
- 7** Operates on solar power with solar/AC rechargeable battery packs. Battery packs alone will power RoadRunnR broadcasts for 10 days and will fully recharge from a discharged state in only 8.5 hours when plugged into AC power.
- 8** Unique amorphous solar panel design that allows operation in partial shade conditions. High-output, 388-watt, tamper-resistant solar array capable of powering RoadRunnR with as little as three daily sun hours in all four seasons; unbreakable solar panels with tamper-resistant hardware.
- 9** Horizontal array adjustment to position trailer and vertical array for four-season operation.
- 10** Automatically broadcasts, targeted NOAA weather/EAS programming. Exclusive NOAA/EAS receiver is field-upgradeable to allow it to stay current with new NOAA/EAS protocols.
- 11** Only ISS offers complimentary professional recording services for general messages.

Technical Specifications



Components

Transmitters

- 0-10-watt operation, Class D, high efficiency output; internal components rated to 3 times operating wattage, utilizing 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.
- 24V 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" height, 17" width, 1.5" depth) and 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.
- 1000 independent broadcast messages that may be of any length. Each message may be independently monitored and later erased, as desired.
- Automatic message scheduling by time, day, date. Internal time clock never requires setting, keeping time even with total loss of power.
- 50-message playlists that may contain hundreds of broadcast messages, up to three live sources (each with independent timing control), command for up to four 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.

(Specs Continued on Next Page)

Digital Message Player (continued)

- 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-to-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).
- 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.
- Pre-recorded messages by professional announcer for emergency advisory radio application -- ready for broadcast immediately.
- Station identification message broadcast automatically every half-hour.

National Weather Service All-Hazard Radio Receiver

- Specific Area Message Encoding (SAME) decoder for your selected counties.
- Receives all 7-channel, VHF, National Oceanic and Atmospheric Association (NOAA) weather frequencies and Emergency Alert System (EAS) codes.
- Field programmable and upgradeable with front-panel diagnostics and audio test port (.wav files).
- Detects up to 16 programmed SAME county codes; user-adjustable, timed relay triggers automatic program change.
- Stores most recent alert for local speaker replay.
- 600-ohm continuous output, manual and autotune tuning; integral speaker/volume control.
- Steel chassis.
- External antenna, cut for the EAS/weather radio frequencies and mount with threaded UHF connector, balun and weatherproof gasket.

Antenna

- Whip-style antenna, between 15 and 25 feet in length.
- 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.
- Maximum 2.0" OD, tapering to 0.5".
- Aluminum construction, black finish color to discourage ice buildup; UV resistant finish; architectural anodization process #801.
- Stainless-steel tuning tip.
- Includes all hardware, mounts, lightning arrestor and ground terminals in enclosure.
- Includes PowerPlane® factory-assembled antenna groundplane mat.
- 2 weatherproof storage tubes for antennas.
- Swivel-type antenna erection with assembly support.

Electronics Enclosure

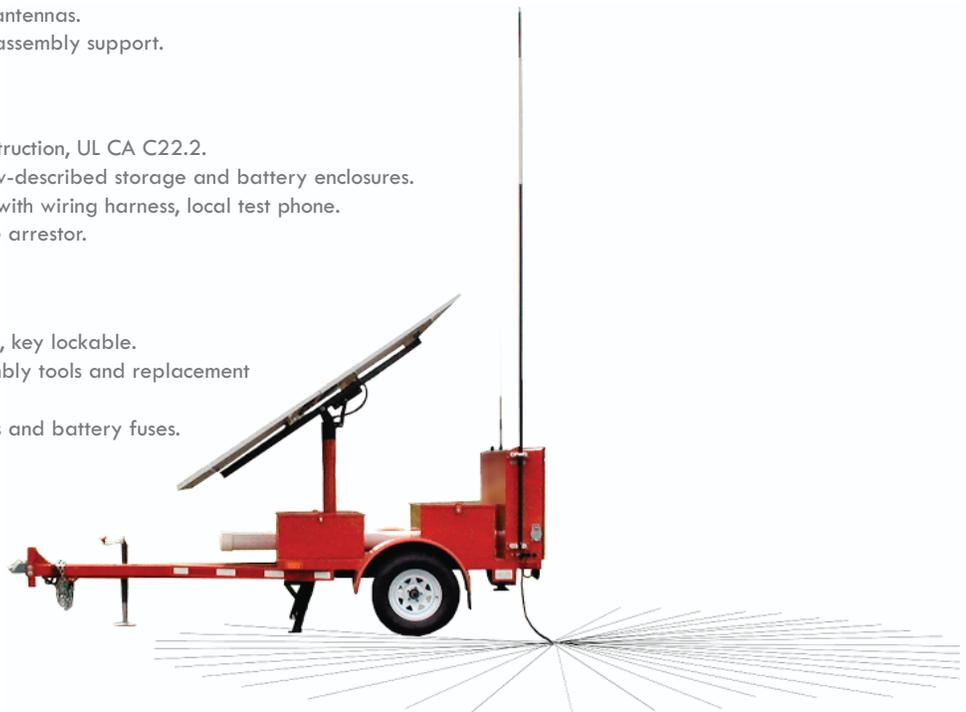
- Weatherproof, gasketed steel construction, UL CA C22.2.
- Key-lockable, keyed same as below-described storage and battery enclosures.
- Dual-door design with back panel with wiring harness, local test phone.
- AC terminal block and power surge arrester.

Storage & Battery Enclosures

- Weather-resistant steel construction, key lockable.
- 1 enclosure for groundplane, assembly tools and replacement parts and fuses.
- 2 enclosures for housing 4 batteries and battery fuses.

Power

- DC by solar/battery and DC by 10-day battery pack; AC by 120-volt AC drop with auto-battery charge.
- Eight absorbed glass mat batteries



(Specs Continued on Next Page)

Power (continued)

in 388 AH pack at 24-volt DC, micro-porous glass separators; sealed, valve regulated construction with immobilized electrolyte, nonspillable; maintenance-free design, *i.e.*, never requires watering; low self-discharge rate approximately 1% per month at 25C (77F); operation between -40C (-40F) and +72C (+160F).

- 45-amp, 24-volt DC battery charger with low-voltage load disconnect. Battery pack recharge time (using integral battery charger) from fully discharged condition: 8.5 hours.
- 30-amp solar controller with low voltage load disconnect and solar-array voltmeter and ammeter.
- Solar array: six 64-watt unbreakable photovoltaic solar panels (UL 3R66 listed), amorphous laminate design on tiltable, rotatable, 2' x 3' array rack; require 3 daily sun hours on average for independent, long-term operation.

Test Equipment

- Includes wattmeter and dummy load for antenna tuning and system diagnosis.

Trailer

- Overall size stowed: 14.7' L x 7.3' W x 6.7' H.
- Bed size: 7' x 5'.
- Frame: 3", 5-pound channel, all welded, ASTM-A36.
- Tongue: 2" x 4" tubing, reinforced, ASTM-A36.
- Fenders: two 16-gauge steel with rear mud flaps.
- All structural welding ungrounded.
- Lights: two tail/turn signal/brake and flasher lights on rear (red); two clearance lights on sides, reflectorized (amber).
- Light wiring: in conduit and protective loom, extending 3' beyond hitch coupler.
- Tires: 14", 4-ply, load range B, 1300-pound.
- Wheels: two 5-lug style.
- Axle: single, 3600 pound.
- Suspension: double spring eye.
- Hitch: vertically adjustable coupler, safety chains.
- Tongue weight: minimum of 10% of vehicle weight.
- Jacks: four corner jacks crank up and lock; handle provided; one tongue jack cranks up, swivels and locks.
- Trailer paint: powder-coat finish, Omaha orange standard color.

Trailer Options

- Paint color, hitch and light connector types.

Associated Materials

- With all wiring, connectors, mounts and hardware.

Services

Free Assistance

- Technical assistance provided by telephone or email at no charge for the life of the product.
- Complimentary professional recordings of general messages.

Optional Assistance

- Site choice, frequency search, preinstallation testing, FCC licensing (federal entities must process internally), onsite training, additional recording services and a FCC-signal study.

General

FASTrack Portable Sign, Stand & Carrying Case

- NCHRP-350 approved for use on rights-of-way and FHWA/NFPA approved for use at emergency scenes.
- Flexible vinyl, ultra-reflective (fluorescent pink, orange, yellow or green) sign panels.
- Custom lettering with changeable text overlays.
- Light-weight aircraft aluminum and coated steel stand, rated to withstand 60 MPH wind gusts.
- Carrying bag that holds assembled sign.
- Setup time: 20 seconds, no tools required.



General

Power

- DC by solar/battery; DC by battery pack (10 days); AC by 120 volts AC drop (with auto-battery charge).

Solar Operation Range

- Requires an average of 3 daily sun hours for independent, long-term operation.

Weight

- 2,200 pounds.

Instructions

- Instruction manual with setup, operation and maintenance sections as well as diagrams and drawings.



RoadRunnR Budget

Includes delivery; single or dual transmitter capability; digital cellular telephone/landline and solar-AC operation; NOAA/SAME activation on weather and EAS alerts; 10-year FCC license; recording services for general messages. \$32,995*

Second Transmitter

Alternate Frequency \$ 2,745
Same Frequency \$ 2,295

Optional Advisory Signs

FASTrack Portable Signs

Deploy FASTrack Signs to manage incidents and for short-term construction use. Vinyl, ultra-reflective signs (black on orange) roll out for quick deployment on portable stands. FHWA approved for highway rights-of-way. Custom lettering, changeable frequency overlays. \$ 495

Custom overlay for changing sign message. For example, the phrase "EMERGENCY INFO" could be quickly changed to display as the phrase "EVENT INFO." \$ 45

Paint Color

Highway (Omaha) Orange is standard.
Add custom paint color (might increase delivery time; inquire) \$ 600

Service Assistance Options

Site Choice and Frequency-Monitoring Assistance

ISS technicians will visit, assist in selection of transmitter location(s) and monitor candidate operating frequencies. Ask ISS if this service is recommended for your project. Ask for Quote

FCC 10-Year License Application

Package price includes AM frequency search, engineering study, FCC filing and FCC-required construction notification. (Federal entities obtain licensing through frequency coordinators in their agencies.) \$ 790

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

Service Assistance Options *(continued)*

Onsite Training

Optional.

Inquire for Quote

Recording Services

General messages.

N/C

Event-oriented 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. Product availability is typically 30 days after receipt of order.

Terms: Net 30 days to governmental entities and their agents; check-with-order or COD for initial orders from private sector entities. Mastercard/VISA accepted for contracts under \$3,500. Prices are valid for 180 days from the quotation date.

One-year parts and service warranty. ISS offers technical support via phone and email at no extra charge for the life of the product. Note: the warranty is void if the customer modifies the product. Purchases from ISS, Inc., are subject to the ISS Standard Terms and Conditions Agreement, signed by the purchaser, becoming part of the contract.

About ISS



More than Products . . .

- Project planning assistance.
- Searches for available frequencies.
- FCC field studies and licensing.
- System integration/customization.
- Installation.
- Training and operation instructions.
- 24-hour technical support.

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 systems as well as travelers information stations, advisory signs and control software. In the past decade, ISS has averaged 65 percent of all such stations installed in the US and is the only company whose full-time business is dedicated strictly to this endeavor.

For a full corporate overview, please visit www.theRADIOsource.com.

Information Station Specialists

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Phone 616.772.2300 • Fax 616.772.2966 • Email iss@theradiosource.com
PO Box 51, 3368 88th Avenue, Zeeland, MI 49464-0051
Web www.theRADIOsource.com

US Patents: PowerPlane Groundplane System, #5,495,261; Vertical Profile Antenna System, #7,027,008.

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