

Guidance for Handling Air Traffic Tone Incidents

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Federal Aviation
Administration

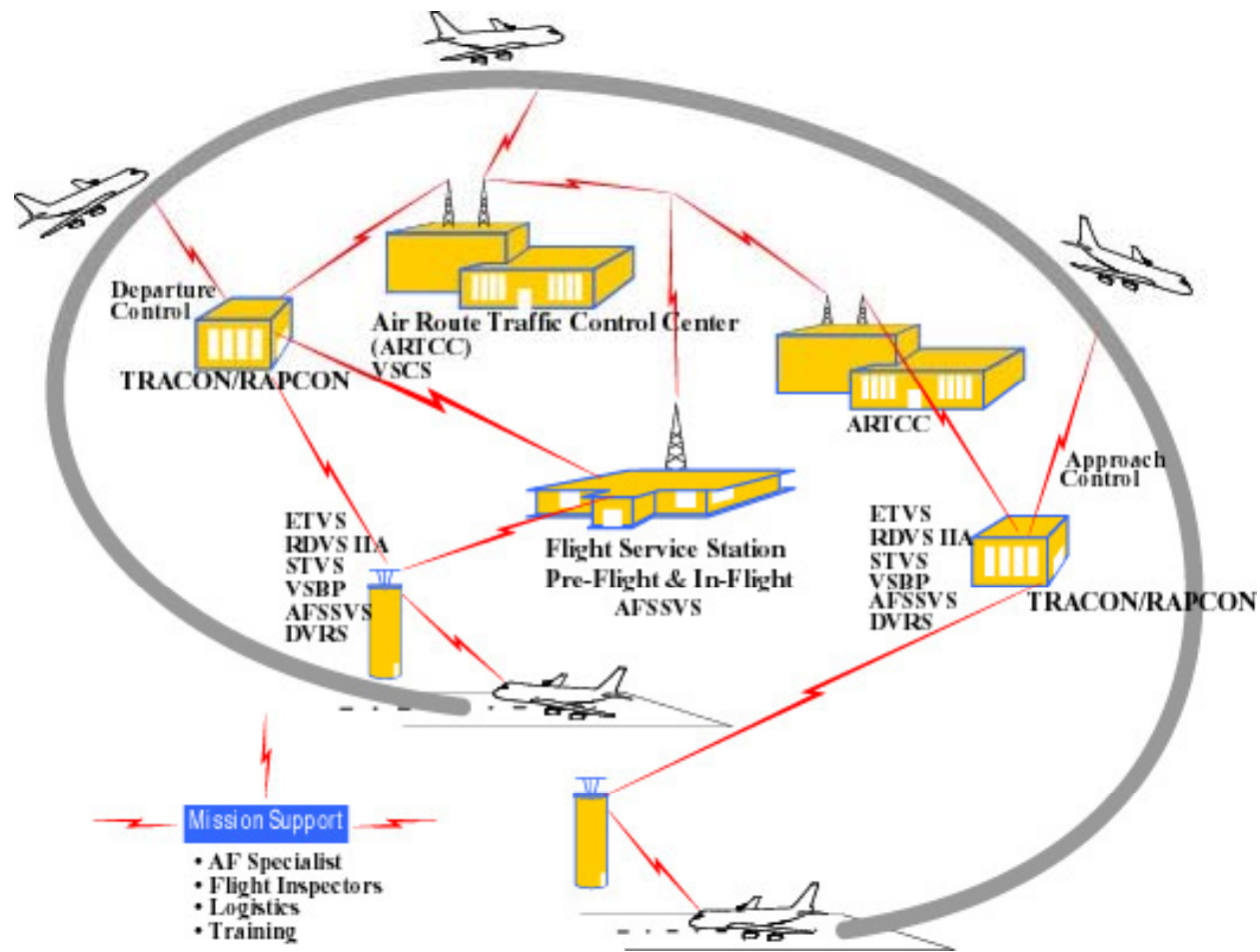


Tone Definition:

Any loud, brief (seconds), unexpected noise encountered during air traffic control duties. Can be heard over headsets, handsets or speaker systems, and can come from radios or land lines.

Can result from a test signal sent by maintenance (FAA or Contractor), from heterodyne radio interference, or from comm line feedback.

Tone Sources:



FAA Tone Experience:

- **Encountered since the dawn of air traffic control**
- **Hundreds of tone incidents per year**
- **Operationally disruptive**
- **Potential occupational noise hazard**



FAA Tone Experience:

Calendar Year	Reported Tone Incidents
2000	408
2001	391
2002	328
2003	262
2004	392
2005	235
2006	354



OSHA Standard:

29 CFR 1910.95 sets the standards for permissible occupational noise exposure.

- **115 dBA for up to 15 minutes (rock concert)**
- **140 dBA for impulse noise (shotgun)**



OSHA Standard:

To ensure occupational noise exposure levels are not exceeded, employer must implement

- **Engineering controls**
- **Administrative controls**



FAA Engineering Controls:

Air Traffic Voice Switch Systems

- **Digital tone suppression (“tone protection”) for all future DVS systems**
- **Analog amplitude limiting (“tone notching”) since 2001**
- **Some retrofit tone notching but mostly no protection in pre-2001 systems**



FAA Engineering Controls:

Controller Headsets

- **All Plantronics “H” model headsets equipped with tone notching**
- **Varistor circuits in headset**
- **Final line of defense for controller**

FAA Engineering Controls:

Plantronics “H” Model Headsets



H31



H61



H91



H51



H81



H101

FAA Engineering Controls:

Tone notching peak output varies with individual Plantronics headset model

108 - 111 dBA range for all models

Well under the 140 dBA impulse & 115 dBA quarter-hour exposure standards

FAA Administrative Controls:

ATO Guidance for Handling Tone Incidents

**Administrative method for identifying,
tracking and processing tone incidents**

**Testing to confirm engineering controls are in
place and functional**

Data collection to assist with tone elimination

Tone Guidance Implementation:

Guidance signed June 14, 2007

**Administrative tracking & data collection
begins immediately**

Provide testers to field Air Traffic facilities

**Provide training on Guidance and headset
testing**

Tone Guidance Process:

Employee reports tone incident to supervisor

Supervisor isolates position equipment & headset (if operationally feasible)

Supervisor notifies Tech Ops and ATM

Supervisor documents incident

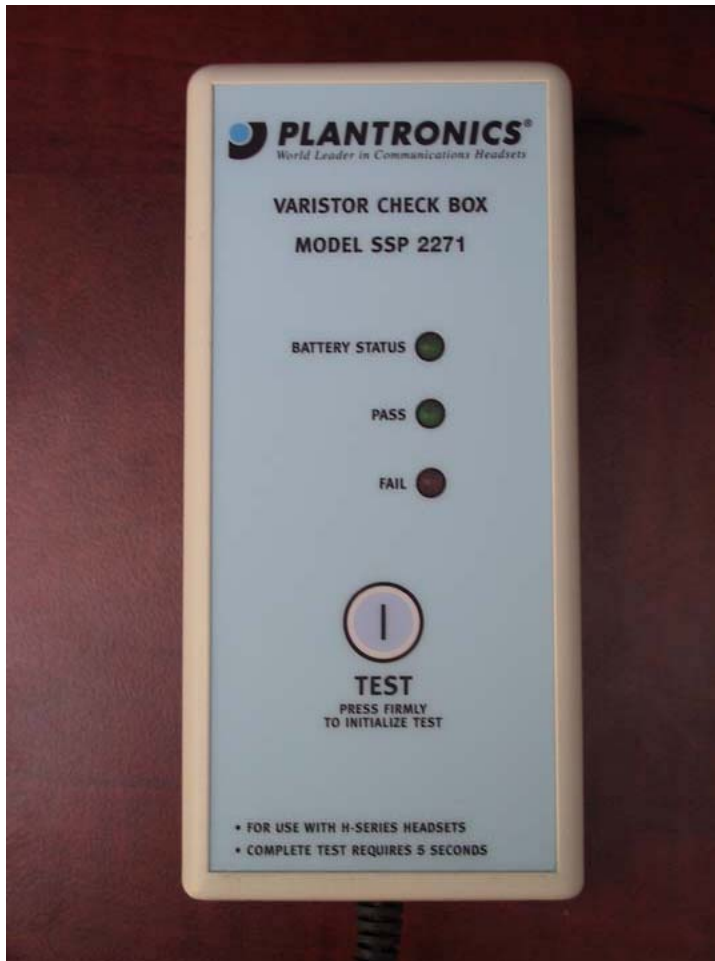
Tone Guidance Process:

Manager ensures headset testing

- **Use Plantronics Varistor Check Box**
- **Follow instructions from *Varistor Check Box User Guide* included with check box**



Plantronics Varistor Check Box



One button

Three lights

- Battery status
- Pass (Green)
- Fail (Red)

Value of Headset Test:

Proves headset protected employee to OSHA standards

Timely feedback to employee

Reduces CA-1 filing



Questions?

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