Standards for Gyros and Accelerometers; the work of the IEEE/AESS Gyro and Accelerometer Panel

Circuits and Devices

Communications Technology

Computer

Electromagnetics and Radiation

Energy and Power

Industrial Applications

IEEE Aerospace and Electronic Systems Society

Sponsored by the Gyro and Accelerometer Panel

Standards Coordinating Committees

Published by the Institute of Electrical and Electronics Engineers, Inc., 345 East 47th Street, New York, NY 10017, USA.
Where do we fit in the Standards Process?

ISO
ANSI
IEEE
IEEE SA
IEEE/AESS
GAP

We write them...

| Circuits and Devices |
| Communications Technology |
| Computer |
| Electromagnetics and Radiation |
| Energy and Power |
| Industrial Applications |

IEEE Aerospace and Electronic Systems Society

Sponsored by the Gyro and Accelerometer Panel

Standards Coordinating Committees
Exactly what do we do, and who are we?

- “The purpose of the Panel is to create standard terminology, specification formats, test procedures, and to promulgate understanding of components, for detection or measurement of linear or angular motion.”

- “The Panel is composed of representatives of industry, government laboratories, educational institutions and professional societies who are knowledgeable of the characteristics, operating principles, sources of error, and areas of application of these components.”
Why do we want to write standards?

• Reduced confusion as to best way to describe the technology and products
• Improved efficiency in development, production, test and sales
• Personal development
  – increased knowledge
  – currency
Who does our membership represent?

• Ourselves as individuals
• But, most are sponsored by their companies or organizations:
  – industry WORLDWIDE (users and producers)
  – government, universities and not-for-profits
  – consultants
  – retired
Standards represent consensus

- If they didn’t, they would not be accepted
- Consensus requires openness, compromise and collegiality
- All decisions documented and published
- Balance between users, producers and other interested parties
- Taking the time to get it right
How do we work?

• Meet 6 times a year for 2 days at a time
• Venue moves around the US (and now the world); hosted by companies and sometimes individuals
• Panel has two standing Committees (Gyros and Accelerometers)
• Work objectives determined once a year
1999 Work Objectives

<table>
<thead>
<tr>
<th>Accelerometers</th>
<th>Gyros</th>
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<td>2) Continue revising P836, “IEEE Recommended Practice for Precision Centrifuge Testing of Linear Accelerometers”</td>
<td>2) Continue to compile new and revised sensor terminology to be incorporated in the revision of Std. 528, “IEEE Standard for Inertial Sensor Terminology.”</td>
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In addition the full Panel adopted an objective of continuing the revision of IEEE Std. 528, “Inertial Sensor Terminology.” A number of existing standards are due for reconsideration during the course of the year and both the panel and the committees will address these as necessary.
Communications

• Regular meetings and information mailing list

• Web site with both public and private areas
  – http://ieee.grouper.org/groups/gap
  – minutes, unapproved drafts, position papers, and other working documents posted in private area

• emailing list
Steps to prepare a typical standard

- Identify the need, and obtain approval from IEEE SA Standards Board (“Project Authorization Request”, PAR)
- Develop draft document in a committee
- Panel votes to send document out for industry review; comments documented and formally considered.
- Formal vote by mail ballot
- Submission to IEEE Standards Board
Standards Maintained by the GAP

528-1994 IEEE Standard for Inertial Sensor Terminology
836-1991 IEEE Recommended Practice for Precision Centrifuge Testing of Linear Accelerometers

These standards may be ordered from the IEEE. See http://standards.ieee.org/catalog/aero.html
Standards Maintenance

- We are required to review existing standards every 5 years for accuracy and relevance.
- Sunset provision: if no action is taken by the GAP the IEEE SA will withdraw the standard.
- We can decide to revise the standard (new PAR) or, by mail ballot, to reaffirm or withdraw.
# Current Officers

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<thead>
<tr>
<th>Role</th>
<th>Name</th>
<th>Contact</th>
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<tbody>
<tr>
<td><strong>Panel Chair</strong></td>
<td>Sid Bennett</td>
<td><a href="mailto:s.bennett@ieee.org">s.bennett@ieee.org</a></td>
</tr>
<tr>
<td><strong>Panel Vice Chair</strong></td>
<td>Rex Peters</td>
<td><a href="mailto:Rex.Peters@AlliedSignal.com">Rex.Peters@AlliedSignal.com</a></td>
</tr>
<tr>
<td><strong>Accelerometer Committee</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chair</td>
<td>Dr. Michael Ash</td>
<td><a href="mailto:mash@draper.com">mash@draper.com</a></td>
</tr>
<tr>
<td><strong>Gyro Committee</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chair</td>
<td>Lee Thielman</td>
<td><a href="mailto:LThielma@sgp.honeywell.com">LThielma@sgp.honeywell.com</a></td>
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<tr>
<td><strong>IEEE Liaison</strong></td>
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</tr>
<tr>
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<td>Dr. Michael Ash</td>
<td><a href="mailto:mash@draper.com">mash@draper.com</a></td>
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Thanks for listening...