

International Loran Association

**36<sup>th</sup> Annual Convention  
and Technical Symposium of the  
International Loran Association  
2007**

October 14-17, 2007  
Orlando, Florida, USA

Volume 1 of 2

**Printed from e-media with permission by:**

Curran Associates, Inc.  
57 Morehouse Lane  
Red Hook, NY 12571  
**[www.proceedings.com](http://www.proceedings.com)**

**ISBN: 978-1-60560-339-1**

**Some format issues inherent in the e-media version may also appear in this print version.**

Copyright (2007) by the International Loran Association  
All rights reserved.

For permission requests, please contact the International Loran Association  
at the address below.

International Loran Association  
741 Cathedral Pointe Lane  
Santa Barbara CA 93111

International Loran Association

36<sup>th</sup> Annual Convention and Technical Symposium of the International Loran Association  
2007

**TABLE OF CONTENTS**

**VOLUME 1**

<b>International Loran Association 2007 Awards Presentations</b> .....	1
<i>ILA Awards Committee Report</i>	
<b>Introduction of ILA President Langhorne Bond</b> .....	15
<i>R.W. Lilley</i>	
<b>The eLoran Evaluation and Modernization Program</b> .....	17
<i>M.J. Narins</i>	
<b>European eLoran Status</b> .....	72
<i>S. Basker, N. Ward</i>	
<b>Ferns</b> .....	93
<i>T. Ikeda</i>	
<b>Status and Future of Ferns Chains</b> .....	96
<i>Seung-gi Gug</i>	
<b>Loran Modernization</b> .....	121
<i>R. Agostini</i>	
<b>Loran-C Program</b> .....	138
<i>B. Feigenblatt</i>	
<b>U.S. Coast Guard Navigation Center</b> .....	147
<i>B. Boyd</i>	
<b>Enhanced Loran (eLoran)</b> .....	174
<i>J.T. Doherty</i>	
<b>Loran U.S. Legislative History</b> .....	185
<i>E. Johannessen</i>	
<b>eLoran Definition Document</b> .....	208
<i>K. Montgomery</i>	
<b>Backup Strategy Update</b> .....	226
<i>D. Helton</i>	
<b>National Positioning Navigation and Timing Architecture Update</b> .....	238
<i>J. Doherty, K. Van Dyke, J. Vicario</i>	
<b>An Investigation into the Temporal Correlation at the ASF Monitor Sites</b> .....	262
<i>P.F. Swazsek, G.W. Johnson, R. Shalaev, M. Wiggins, S. Lo, R.J. Hartnett</i>	
<b>Using Seasonal Monitor Data to Assess Aviation Integrity</b> .....	314
<i>S. Lo, R. Wenzel, B.A. Hamilton, G. Johnson, P. Swazsek, P. Morris, P. Enge</i>	

<b>A New UK Loran Transmitter: Procurement, Installation and Service Provision.....</b>	<b>368</b>
<i>P. Williams, D. Kelleher, S. Basker, B. Messenger</i>	
<b>Geoencryption with Loran .....</b>	<b>403</b>
<i>D. Qiu, S. Lo, P. Enge</i>	

## VOLUME 2

<b>Intergrated eLoran/GPS Receiver Development Platform .....</b>	<b>447</b>
<i>D. Hummels, G. Johnson, P. Swaszek, R. Hartnett, D. Rubenstein</i>	
<b>The Business Case for eLoran .....</b>	<b>460</b>
<i>CrossRate Technology</i>	
<b>Enhanced Loran Receiver (ELR) .....</b>	<b>478</b>
<i>K. Montgomery</i>	
<b>Feasibility of Increasing Loran Data Capacity using a Modulated Tenth Pulse.....</b>	<b>488</b>
<i>B. Peterson</i>	
<b>Computer Modeling of Loran Additional Secondary Factors.....</b>	<b>533</b>
<i>J.M. Blazyk, D.W. Diggle</i>	
<b>eLoran TOA Measurement System 2.0 .....</b>	<b>590</b>
<i>W. Pelgrum, A. Helwig, D. Diggle, M. Narins</i>	
<b>Alternative Concept of Operations Realized: Rugby Relocation .....</b>	<b>619</b>
<i>E. Johannessen</i>	
<b>eLoran Maritime Service Provision: Initial Thoughts.....</b>	<b>636</b>
<i>S. Basker, D. Last, P. Williams</i>	
<b>4 Down, 50 to go- An Update on Harbor Surveys in the United States .....</b>	<b>665</b>
<i>G.W. Johnson, R. Shalaev, C. Oasts, R. Hartnett, P.F. Swaszek</i>	
<b>Saudi Positioning System Modernization and Expansion.....</b>	<b>737</b>
<i>E. Johannessen</i>	
<b>Differential eLoran Reference Station for Maritime and Precise Time Applications .....</b>	<b>760</b>
<i>G. Offermans, A. Helwig</i>	
<b>Space Weather: What is the Sun Doing?.....</b>	<b>775</b>
<i>J. Kunches</i>	
<b>Multiplexing GPS &amp; eLoran on Single RF Cable for Retrofit Installations .....</b>	<b>807</b>
<i>B. Peterson</i>	
<b>Author Index</b>	