

## **Lessons Learned in the Specification, Purchase, Validation and Final Installation Process of a Replacement PCM Bit Synchronizer**

### **Abstract**

This paper intends to describe the lessons learned while specifying validating and installing a bit sync to replace the 30 year old Aydin Model 335a PCM bit sync used in the Space Shuttle Launch Control Center. The engineer had to analyze the original requirements and specifications and then create new requirements documentation that more correctly described our needs. One issue to consider was the removal of unnecessary requirements such as various data formats when only one format is used. The conversion to a system that no longer has an assortment of analog rotary switches required retraining of the operators. Finally, post-procurement corrections for undisclosed user requirements and missed design requirements required close contact with a manufacturer who was willing to accommodate the changes.

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For the DOD Electromagnetic Environmental Effects Program Review April 7, 2008

**REPORT DOCUMENTATION PAGE**

Form Approved  
OMB No. 0704-0188

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1. REPORT DATE (DD-MM-YYYY) 12-11-2007		2. REPORT TYPE Abstract		3. DATES COVERED (From - To) 12-11-2007 04-11-2008	
4. TITLE AND SUBTITLE  Lessons Learned in the Specification, Purchase, Validation and Final Installation Process of a Replacement PCM Bit Synchronizer				5a. CONTRACT NUMBER NNJ06VA01C	
				5b. GRANT NUMBER N/A	
				5c. PROGRAM ELEMENT NUMBER N/A	
6. AUTHOR(S)  Richard N Price				5d. PROJECT NUMBER N/A	
				5e. TASK NUMBER N/A	
				5f. WORK UNIT NUMBER N/A	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) LPS System Engineering and Integration USK-489				8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES) N/A				10. SPONSORING/MONITOR'S ACRONYM(S)	
				11. SPONSORING/MONITORING REPORT NUMBER	
12. DISTRIBUTION/AVAILABILITY STATEMENT  Public					
13. SUPPLEMENTARY NOTES					
14. ABSTRACT  This paper intends to describe the lessons learned while specifying validating and installing a bit sync to replace the 30 year old Aydin Model 335a PCM bit sync used in the Space Shuttle Launch Control Center. The engineer had to analyze the original requirements and specifications and then create new requirements documentation that more correctly described our needs. One issue to consider was the removal of unnecessary requirements such as various data formats when only one format is used. The conversion to a system that no longer has an assortment of analog rotary switches required retraining of the operators. Finally, post-procurement corrections for undisclosed user requirements and missed design requirements required close contact with a manufacturer who was willing to accommodate the changes.					
15. SUBJECT TERMS  Specifications, Procurement					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES	19a. NAME OF RESPONSIBLE PERSON
a. REPORT	b. ABSTRACT	c. THIS PAGE			Richard Price
u	u	u	uu	1	19b. TELEPHONE NUMBER (Include area code) 321/861-7891