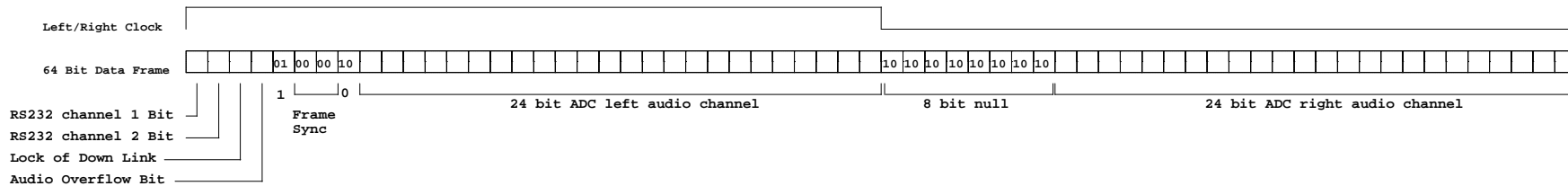
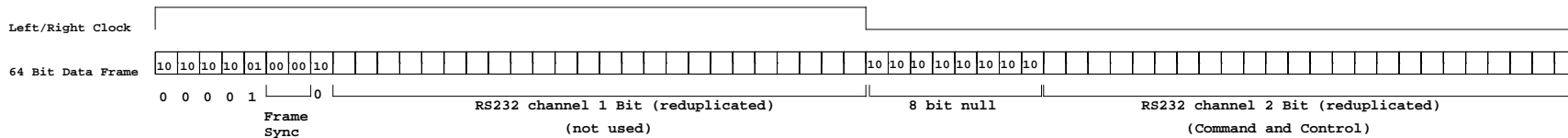


**UpLink Data format (from Proof Module to Cable Station)**



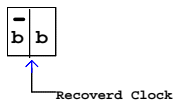
RS232 channel 1 contains the Engineering and Digiquartz data  
 RS232 channel 2 contains the echo characters of the command and the response

**DownLink Data format (from Cable Station to Proof Module)**



**Manchester Data Cell**

Each data cell is divided into two halves.  
 Each bit of the data is sent in the second half of the cell and the inversion is sent in the first half.  
 The data clock is embedded in the data stream and is recovered in the middle of each manchester data cell.  
 The Frame Sync is a manchester violation because the middle of the cell does not clock and the synchronization is on the first "1" immediately following the violation.



DATE	COMMENT
11/3/06	PDF FILE

**UNIVERSITY OF HAWAII**  
**Aloha Observatory**  
 Engineering Support Facility  
 2525 Correa Road  
 Honolulu, HI 96822

Title	<b>Manchester 64 Bit Data Frame</b>		
Size	File Name:	Engineer: J Jolly	Rev
B	Serial Stream.dsn		A
Date:	Friday, November 03, 2006	Sheet	1 of 1

Description: Manchester 64 Bit data frame with embedded RS232 and audio ADC overflow