

18 Bit ADC progress

Brian Hahn

The College of William and Mary

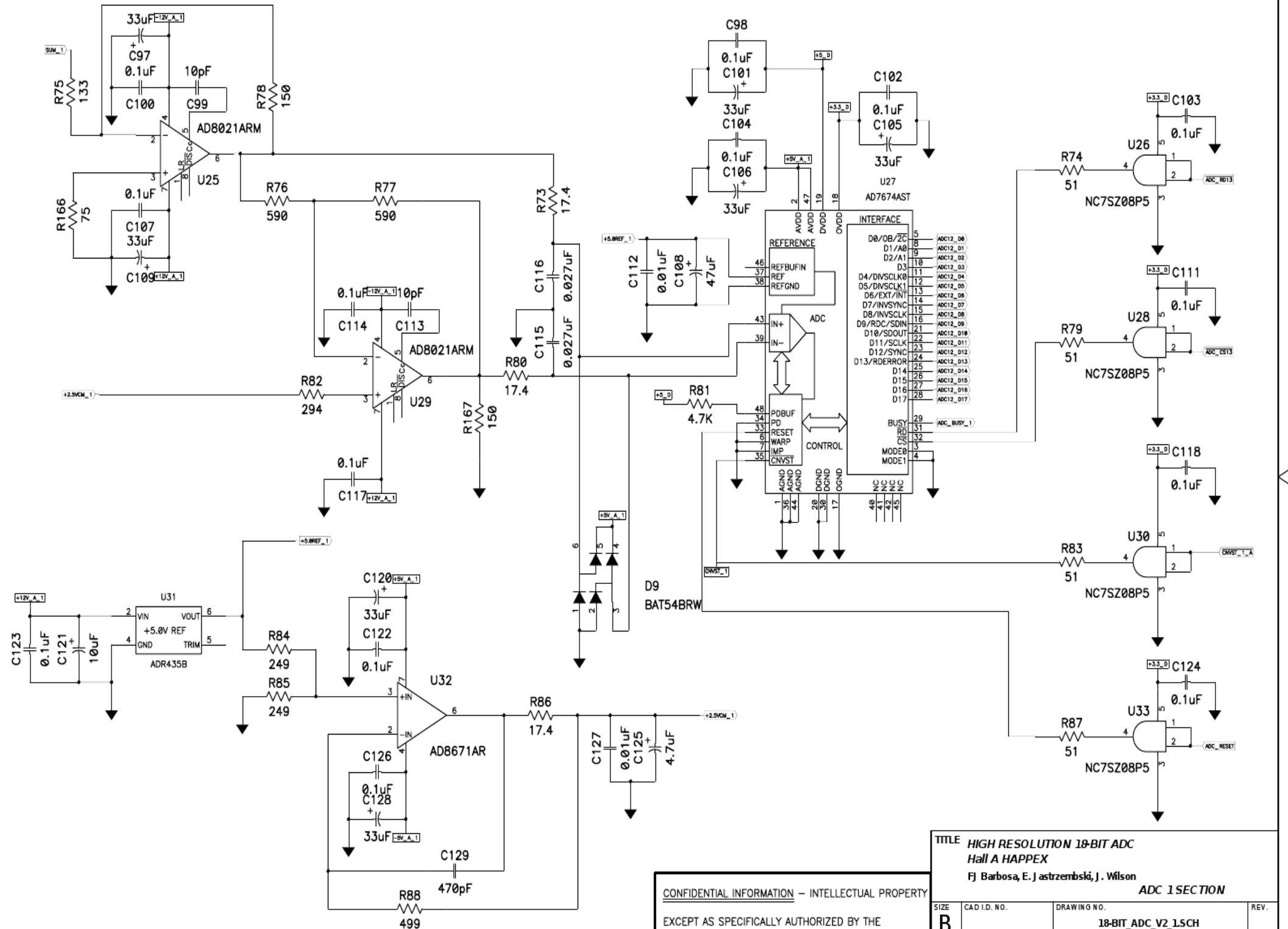
December 8th 2007

18 bit ADC progress

- Should be getting 4 more boards by Jan 15.
Just before the test run
 - Presently being produced by the manufacturer
- Still don't have ADC #2 problems have delayed it and getting the four new boards was deemed more important

Changes in the new board

- Each channel has completely separate power supplies through low dropout linear and low noise regulators
- Selection of polarity and mode (current or voltage) is using on board miniature switches
- Current mode is implemented by insertion of a resistor as parallel terminator at the input
- A quad 12-bit DAC and high precision reference have been added to adjust the pedestals
 - Claim is insignificant noise contribution

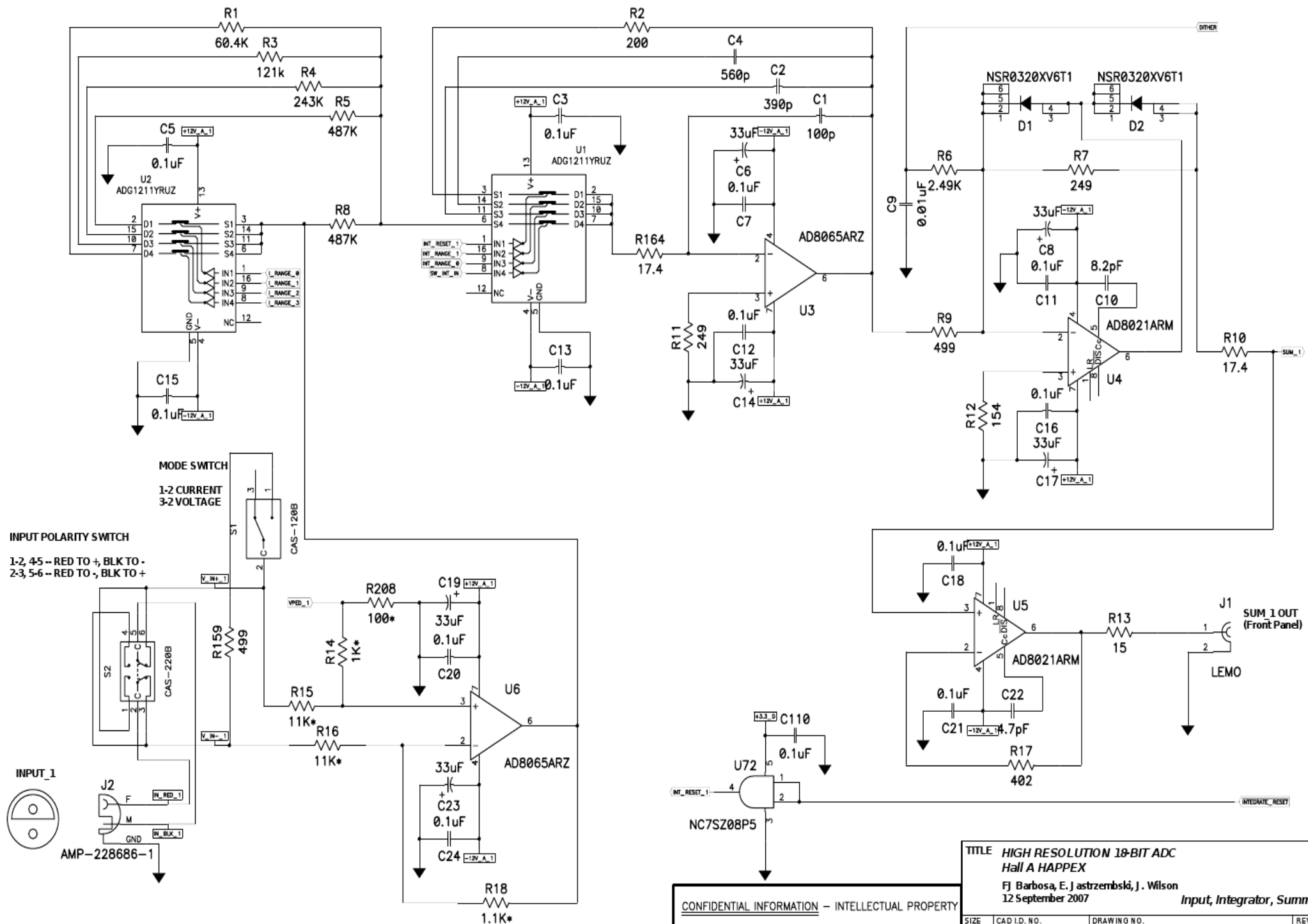


TITLE HIGH RESOLUTION 18-BIT ADC
Hall A HAPPEX
FJ Barbosa, E. J astrzembśki, J. Wilson
ADC 1 SECTION

SIZE B	CAD I.D. NO.	DRAWING NO. 18-BIT_ADC_V2_1.SCH	REV.
SCALE	SHOWN ON	SHEET OF 5 16	

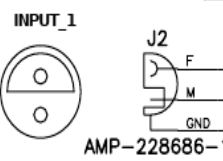
CONFIDENTIAL INFORMATION – INTELLECTUAL PROPERTY

EXCEPT AS SPECIFICALLY AUTHORIZED BY THE AUTHORS, THE INFORMATION IN THIS DOCUMENT SHALL NOT BE DISCLOSED, DISSEMINATED NOR COPIED.



MODE SWITCH
 1-2 CURRENT
 3-2 VOLTAGE

INPUT POLARITY SWITCH
 1-2, 45 -- RED TO +, BLK TO -
 2-3, 5-6 -- RED TO -, BLK TO +



*NOTES: 1. THESE RESISTORS ARE THIN FILM 0.05%, 5 PPM/C.
 2. ALL POLARIZED CAPS ARE TANTALUM, LOW ESR, VENKEL TCR SERIES.

CONFIDENTIAL INFORMATION – INTELLECTUAL PROPERTY
 EXCEPT AS SPECIFICALLY AUTHORIZED BY THE
 AUTHORS, THE INFORMATION IN THIS DOCUMENT
 SHALL NOT BE DISCLOSED, DISSEMINATED NOR COPIED.

TITLE HIGH RESOLUTION 18-BIT ADC Hall A HAPPEX			
FJ Barbosa, E. J astrzemski, J. Wilson 12 September 2007			
<i>Input, Integrator, Summer</i>			
SIZE B	CAD I.D. NO.	DRAWING NO. 18-BIT_ADC_V2_1.SCH	REV.
SCALE	SHOWN ON	SHEET OF 1	16