

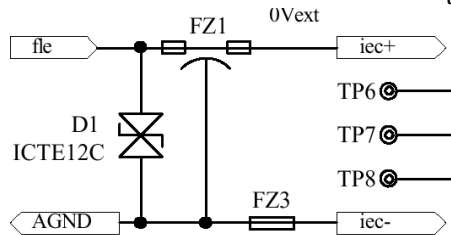
First of all the analog signal IEC+/IEC- controls the CONTINUOUS FLUOROSCOPY DOSE  
 The Signals IEP+/IEP- controls the PULSED FLUOROSCOPY DOSE.

In Hiris system the two signals are put in parallel according to its output.

Title <b>Hiris - Generator Interface</b>	
Number: <b>PCB 560196.5876</b>	Revision: <b>V1 R3</b>
Date: 10-Dec-2002	Sheet: 2 of 2
File: C:\DATA\560196\560196.5876.dwg	

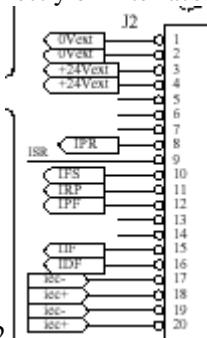
In Hiris Interface Board

the analog signals are simply carried to



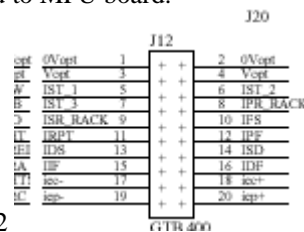
MPU Analog Input, according to the input directly on Interface board across D1. This is the Generator Analog Dose Reference Input.

on this schematic. I.E. you can measure



Thorough J2

the signals are carried to MPU board.



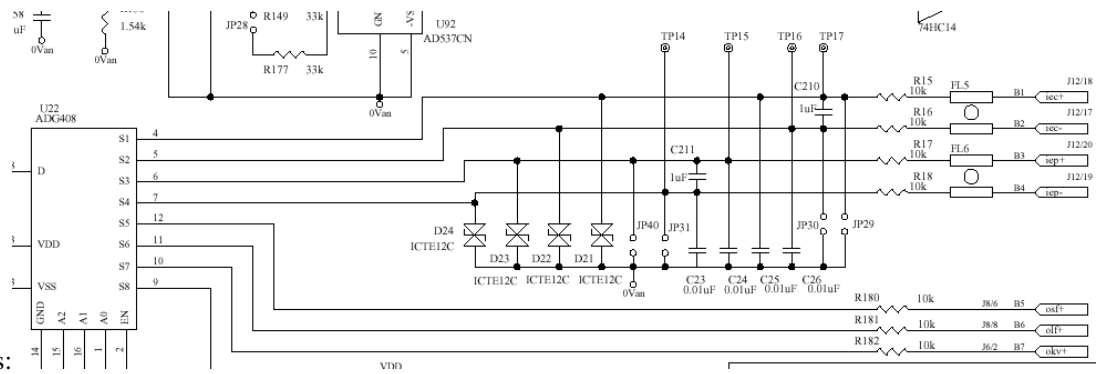
connector (refer to

Using a flat ribbon cable the signal enters in MPU in J12

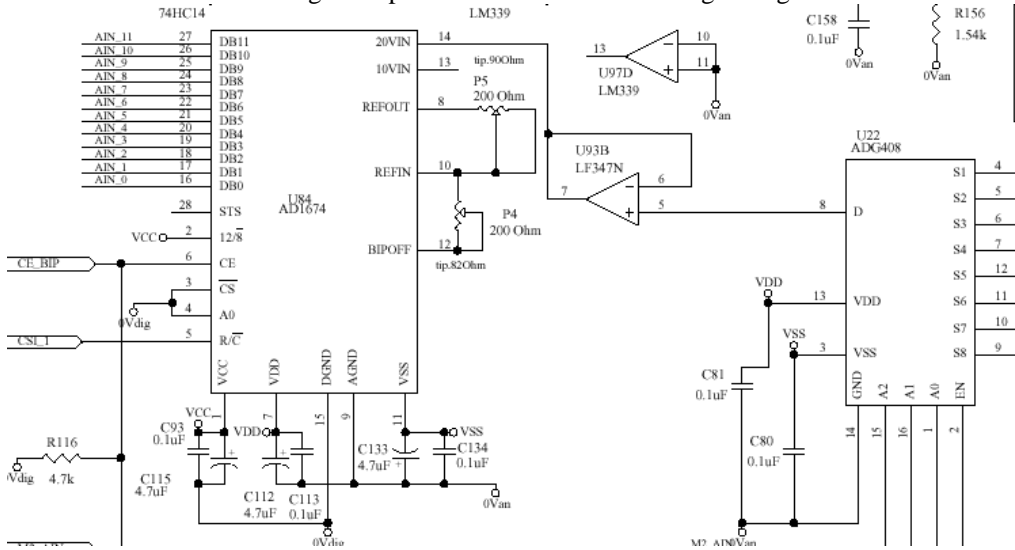
ODEL - X - RAY MONZA ITALY		
Title MASTER PROCESSING UNIT MPU		
Size	Document Number	Rev
A4	560205.5806.03 V4	6
Date:	03/03/2003	Sheet 1 of 8

ODEL - X - RAY MONZA ITALY		
Title MASTER PROCESSING UNIT MPU		
Size	Document Number	Rev
A4	560205.5806.03 V4	6
Date:	03/03/2003	Sheet 5 of 8

Here the signal pass through a simply signal conditioning according to schematics



It looks like this:  
 where ADG408 is an Analog Multiplexed which feeds an Analog to Digital Converter:

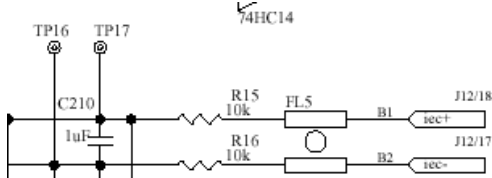


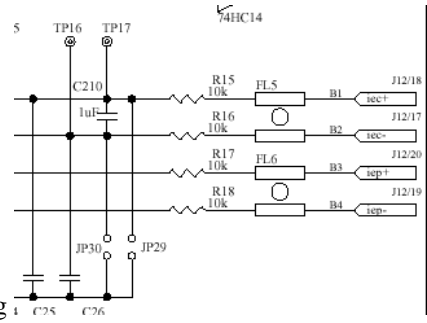
ODEL - X - RAY MONZA ITALY		
Title MASTER PROCESSING UNIT MPU		
Size A4	Document Number 560205.5806.03 V4	Rev 6
Date: 03/03/2003	Sheet 5	of 8

For the further descriptions please refer to schematic

Referig back to Hiris Interface board, the voltage value measured on D1 must be the same value measured between TP16 TP17.

If this is not, there can be loaded resistance: measure across R15 or R16 if there is a voltage drop.

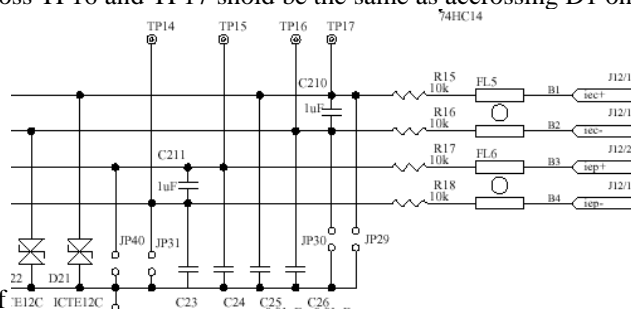




In a standard configuration, B2 signal is grounded locally by inserting JP30 to avoid possible noise captured on analog ground connection between the Hiris system and the generator. If the analog signal is inverted (IEC+ grounded on Hiris and IEC- the real signal) resistor R16 is locally loaded with the whole voltage signal coming out from hiris and the result is a flat signal read by the computer.

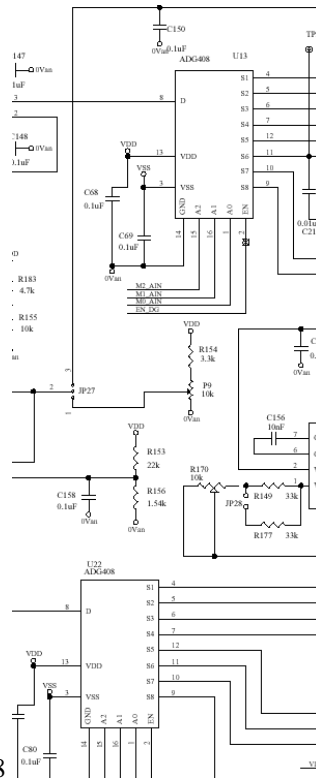
To avoid every possible load simply take out JP30 and, if inserted, JP29 to leave the signal free.

In this case the voltage across TP16 and TP17 should be the same as acrossing D1 on Hiris interface.



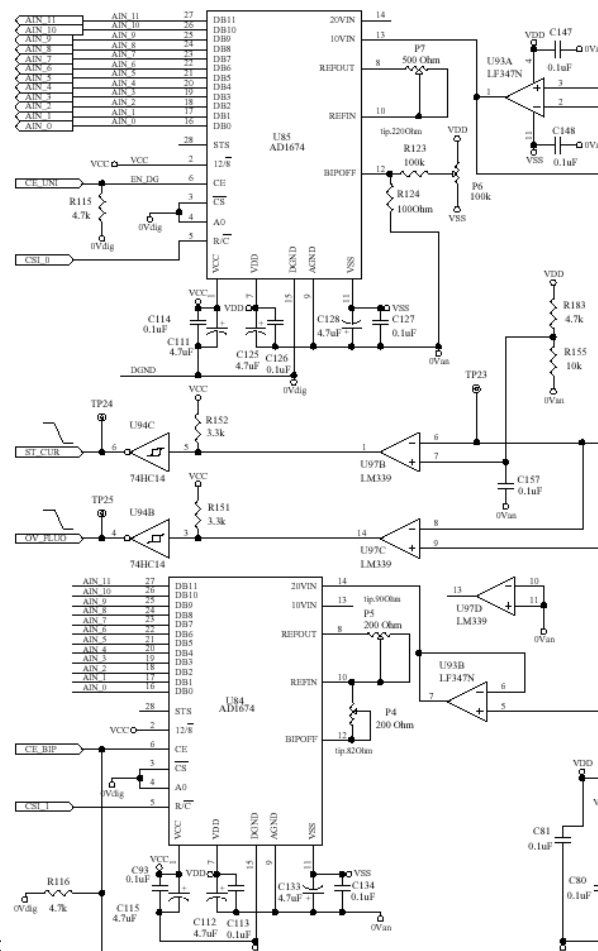
Notice that also a failure of D22 or D21 (Voltage Discharger) can ground the signal. It is simple to remove them going on with the tests. C210 the same: simply remove it to test.

Next possible failure can be in Analog Multiplexed ADG408.



In MPU board there are TWO ADG408. You can swap them to check if the problem on this analog input remains the same or changes to other analog signal, in this case the ADG408 is in failure.

After that there is the Analog to Digital converter. Also in this case are two the device on the board and swappable to



make the same test:

The analog voltage is readable on MPU LCD as the difference of B1-B2 or using Navigator software in I/O signal as "IEC" signal.

To Make a summary:

Having a Positive signal on D1 (through Hiris or disconnecting Hiris and injecting a 1,5V or 9V battery over it) you should read on Navigator the same value in "I/O section"."iec".

If not, check the Test point TP16 and TP17 on MPU board.

If not Take out both JP29 and JP30.

If not, Swap U22 and U13,

If not, Swap U85 U84

Keep me informed

Best Regards

Stefano GANZETTI