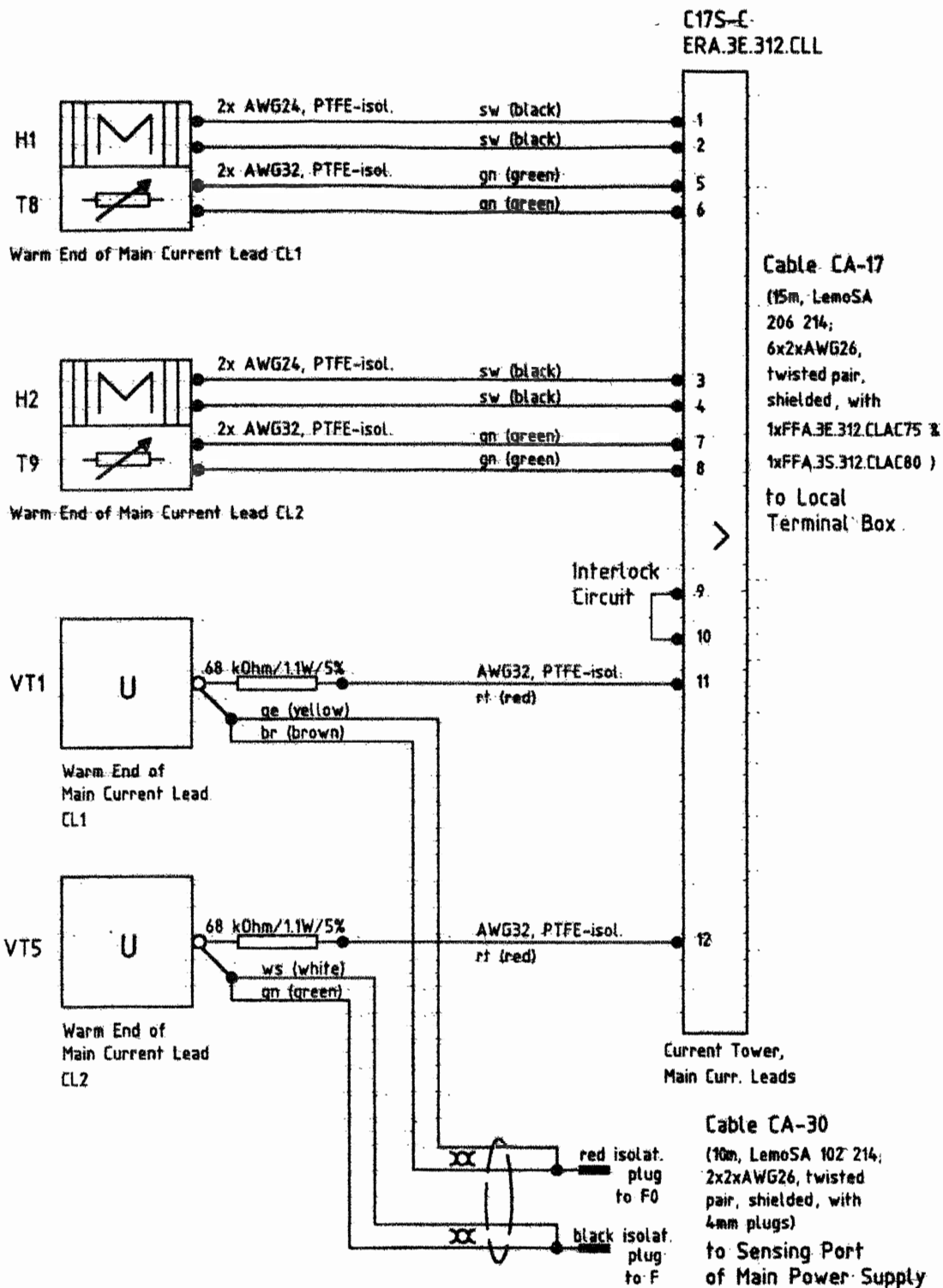
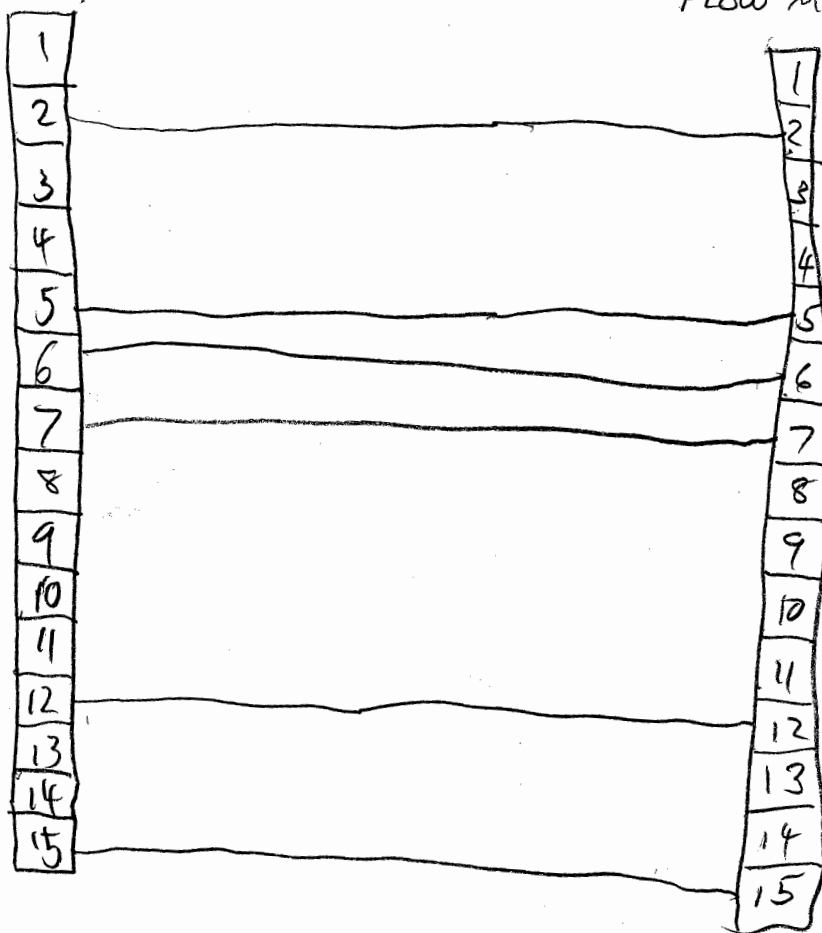




FLOW METER CABLES

247C
CONTROLLER

1500
FLOW METER

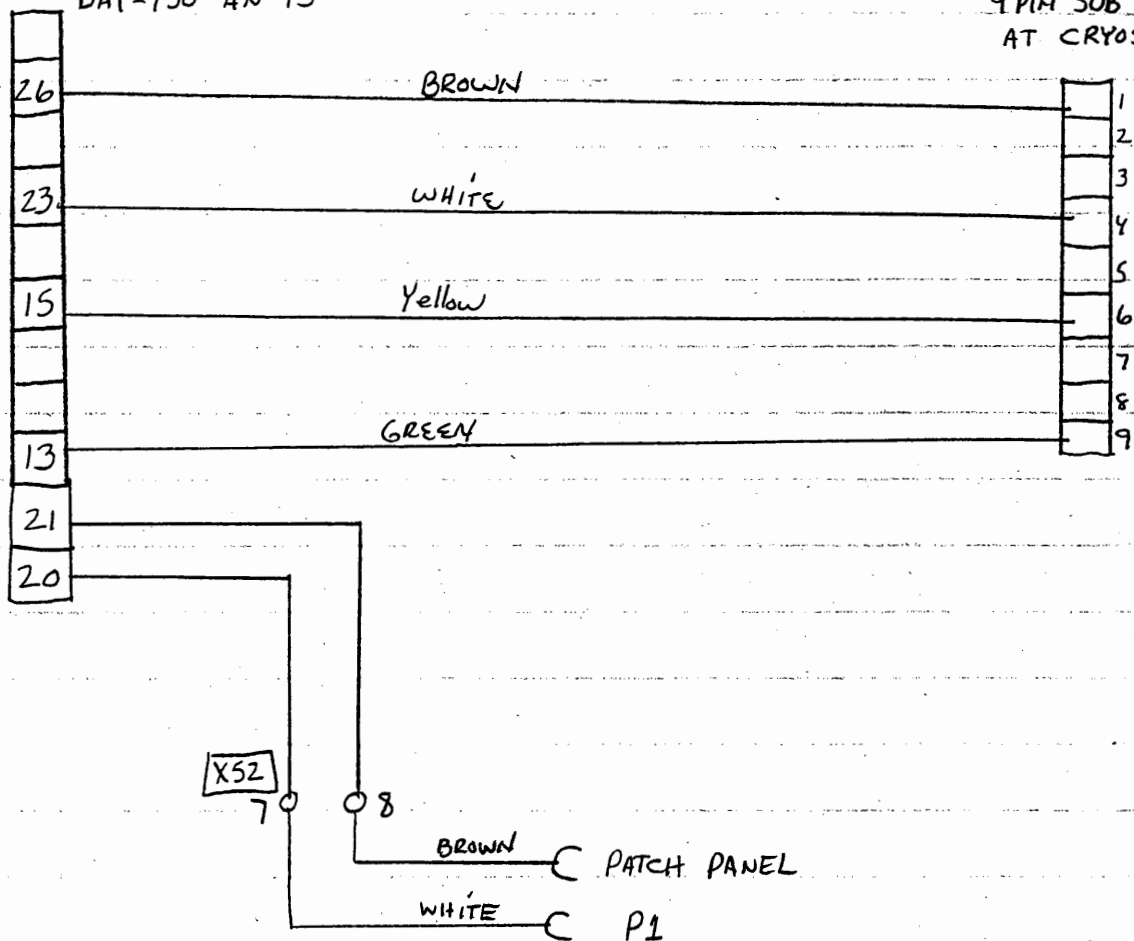


P1 He Pressure Gauge

PRESSURE TRANSDUCER

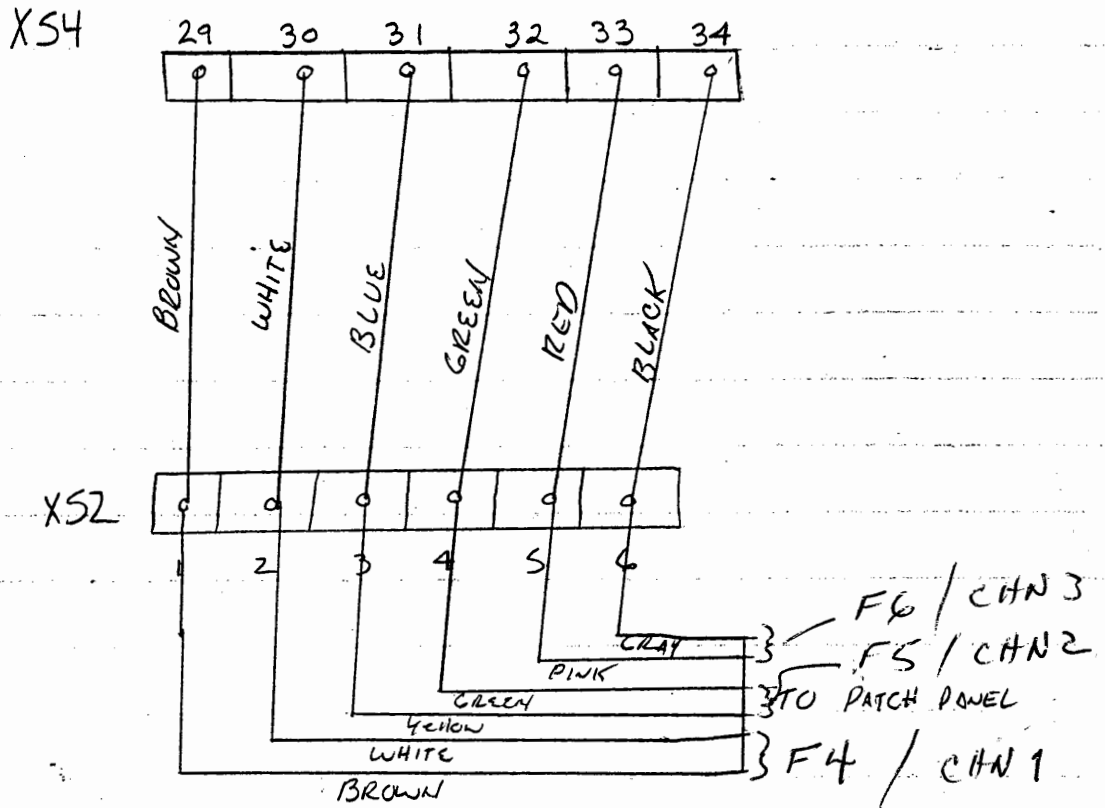
DAT-130-AN-TS

9 PIN SUB D
AT CRYOSTAT



10-4-95 J. LAMBERT

MASS FLOW MONITOR CONNECTIONS F4, F5, F6
TO NEW TERMINAL BLOCK XS4 FOR CRYO



MEMO

To: Mark Stevens

From: DeLander Holder

Subj.: Addition of transition connectors

Date: October 4, 1995

Please add transition connections in Q2 and Q3 Local Terminal Boxes to enable connections to cryogenics more directly. The following is the pin assignments;

X54

1	T1	V+
2		V-
3		I+
4		I-
5	T2	V+
6		V
7		I+
8		I-
9	T3	V+
10		V-
11		I+
12		I-
13	T4	V+
14		V-
15		I+
16		I-
17	T5	V+
18		V-
19		I+
20		I-

247C/CH1 { 29
247C/CH2 { 30
247C/CH3 { 31
 32
 33
 34

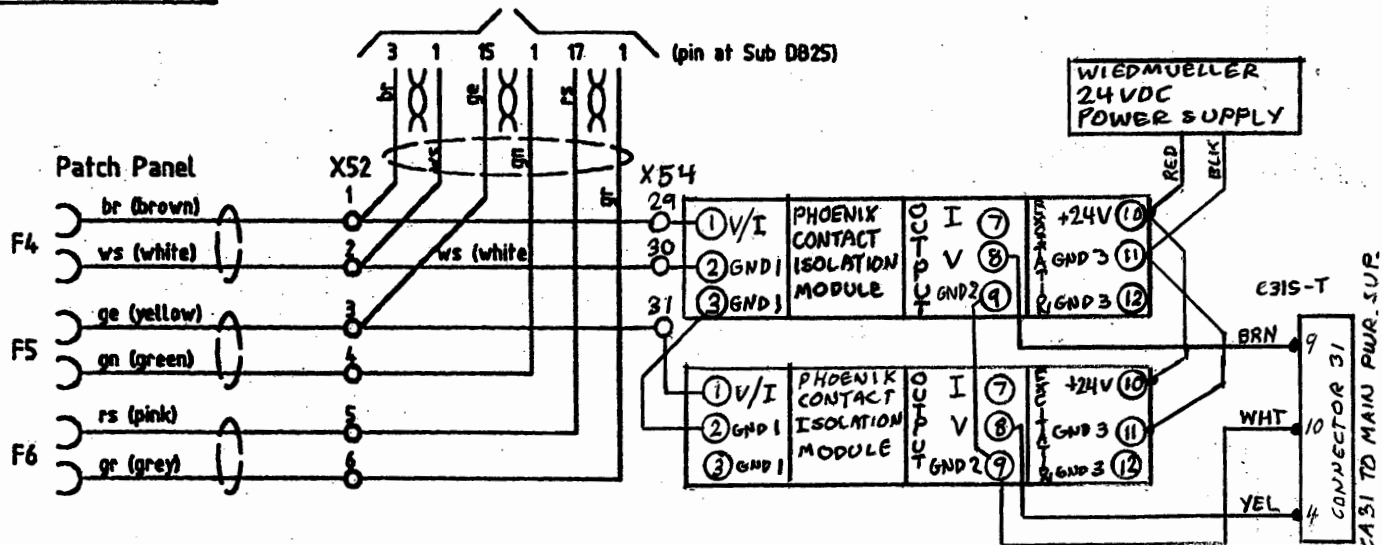
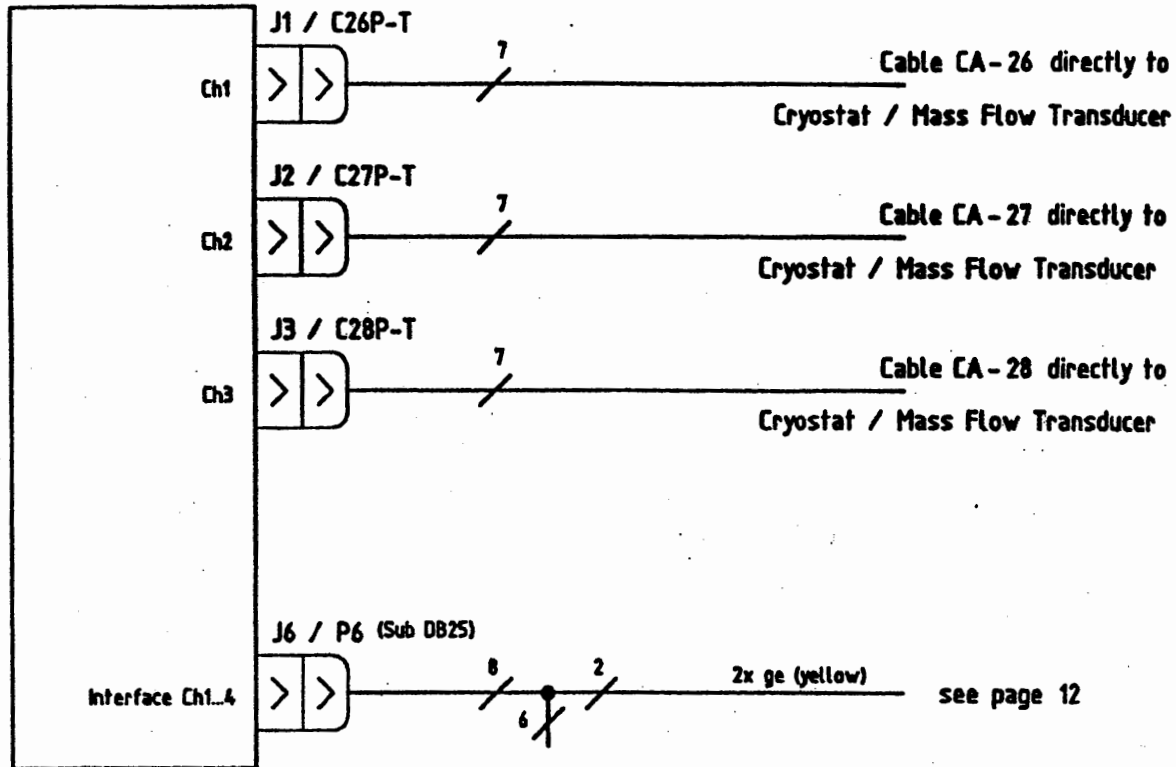
21	T6	V+
22		V-
23		I+
24		I-
25	T7	V+
26		V-
27		I+
28		I-
29	F4	Flow Signal Out
30		Signal Ground
31	F5	Flow Signal Out
32		Signal Ground
33	F6	Flow Signal Out
34		Signal Ground
35		
36		
37		
38		
39		
40		

MKS
Flow meter P1
MKS
Flow meter P2
MKS
Flow meter P3

NO LOCAL READOUT -
(SCANNING INSTRUMENT)

- 4 Mails

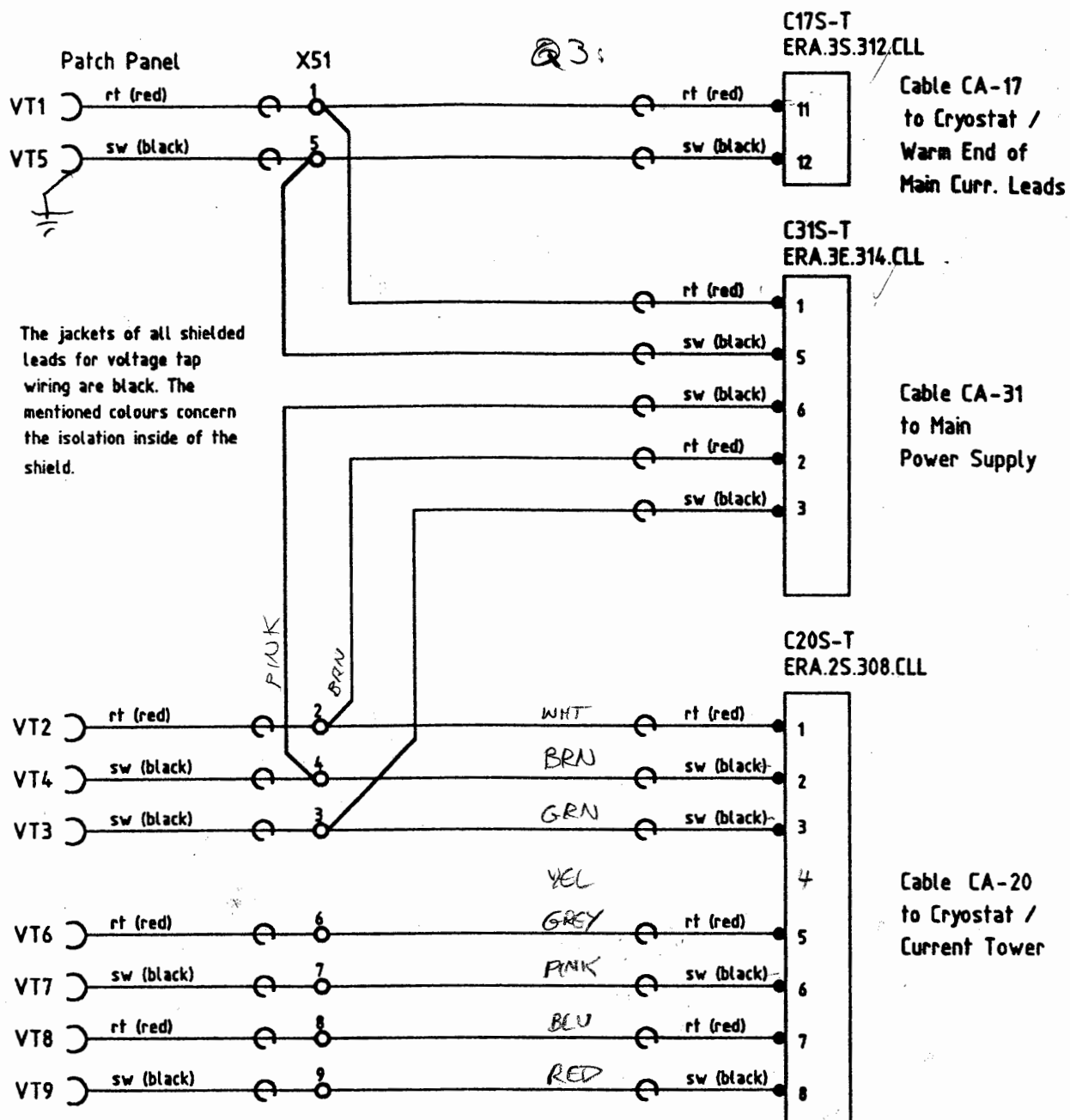
F4, F5, F6
MKS 247C



0,14 sqmm, each

All shieldings connected to Ground point G1

		Project:	SURA / CEBAF Quadrupoles Q2/Q3, Hall A		
A	Emil Brüttsch / Januar 11, 1995	Subject:	Local Terminal Box		
Index	Changed by —	Scheme of Connecting	- Mass Flow Indicators -		
Made by:	Emil Brüttsch / June 27, 1994	File:	LTB-3A/MPG	Ident-No.:	50 794 744
Checked by:	Dr. R. Kreutz / June 29, 1994				Page: 7 of 11



0,14 sqmm, each, 900 V

All shieldings connected to Ground point G1

		Project:	SURA / CEBAF Quadrupoles Q2/Q3, Hall A		
A	Emil Brüttsch / Januar 11, 1995	Subject:	Local Terminal Box		
Index	Changed by —	Scheme of Connecting - Wiring of Voltage Taps -			
Made by:	Emil Brüttsch / June 27, 1994	File:	LTB_WA.MPG	Ident-No.:	50 794 744
Checked by:	Dr. R. Kreutz / June 29, 1994	Page: 10 of 13			

LEPTOS Q2 CA-18 PIN DESIGNATION

		HADROS
1	WHITE	Black / White
2	BROWN	Red / Black
3	GREEN	Blue / Black
4	Yellow	Red / White
5	GRAY	Orange / Black
6	PINK	Green / White
7	BLUE	White
8	RED	Orange
9	BLACK	Blue
10	PURPLE	Green / Black
11	GRAY / PINK	Blue / White
12	RED / BLUE	White / Green
13	WHITE / GREEN	Red
14	BROWN / GREEN	Black
15	WHITE / Yellow	White / Black
16	BROWN / Yellow	Black / Red
17	GRAY / BROWN WHITE / GRAY	Blue / Red
18	WHITE / PINK GRAY / BROWN	White / Red
19	WHITE / PINK	Orange / Red
20	PINK / BROWN	Red / Green

LEPTOS Q2 CA-19 PIN DESIGNATION

1	WHITE	Red / White Green / Black
2	BROWN	Black / White
3	GREEN	Blue / Black
4	YELLOW	Orange / Black
5	GRAY	GREEN
6	PINK	Red
7	BLUE	White
8	RED	Red / Black
9	BLACK	Orange
10	PURPLE	Blue
11	GRAY / PINK	Black
12	BLUE / RED	White / Black
13	WHITE / GREEN	Orange / Red
14	BROWN / GREEN	Red / Green
15	WHITE / Yellow	Blue / Red
16	Yellow / BROWN	Green / Black

LEPTOS Q2 CA-20 CRYO

LEPTOS

- 1 WHITE
- 2 BROWN
- 3 GREEN
- 4 YELLOW
- 5 ~~GRAY~~ BLACK
- 6 ~~PINK~~ Orange
- 7 BLUE
- 8 RED

INTERV. HADROS CABINET

- BLACK
- BROWN
- RED
- ORANGE
- YELLOW
- GREEN
- BLUE
- WHITE

99999

45

8

4.2

53

~~#~~ Q3 AMI 136 J1 TO C 18

•

I+	1	Black	green/white
V-	6	Red	brown/yellow
I-	7	ORG	brown/green
V+	8	GRN	yellow/white

LEPTOS Q2 CA-24 PIN DESIGNATION

1	WHITE	White Green / Black
2	BROWN	Green / Black / Blue
3	GREEN	Green / White
4	Yellow	White / Black / Green
5	GRAY	Red / White
6	PINK	Blue / White
7	LIGHT BLUE	White / Red
8	RED	Red / Black / White
9	BLACK	Black / Red
10	VIOLET	Black / Orange
11	GRAY / PINK	White
12	BLUE / RED	Green
13	WHITE / GREEN	Red / White / Black
14	BROWN / GREEN	WHITE / BLACK
15	WHITE / Yellow	BLUE
16	BROWN / Yellow	BLACK
17	WHITE / GRAY	Blue Orange / Red
18	GRAY / BROWN	White / Black Red
19	WHITE / PINK	White / Red / Black / Brown
20	BROWN / PINK	RED
21	WHITE / BLUE	Orange
22	BROWN / BLUE	Orange / Green
23	WHITE / RED	Red / Green
24	BROWN / RED	Blue / Brown

24 Conductor

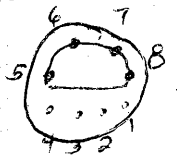
- 1 Black
- 2 Bl/red
- 3 Bl/whit
- 4 red
- 5 r/bl
- 6 r/bl/whit
- 7 r/grn
- 8 r/whit
- 9 Orange
- 10 or/bl
- 11 or/r
- 12 or/gr
- 13 blue
- 14 blu/black
- 15 blu/red
- 16 blu/whit
- 17 grn
- 18 grn/blk
- 19 grn/blk/whit
- 20 grn/whit
- 21 white
- 22 wht/blk
- 23 wht/blk/brn
- 24 wht/blk/red
- 25 Spare wht/red

20 conductor, 16, 12

- 1 black
- 2 blk/red
- 3 blk/whit
- 4 red
- 5 rd/blk
- 6 rd/grn
- 7 rd/whit
- 8 orange
- 9 o/blk
- 10 o/red
- 11 green
- 12 grn/blk
- 13 grn/whit
- 14 blue/
- 15 blu/blk
- 16 blu/red
- 17 blu
- 18 white
- 19 white/blk
- 20 white/red

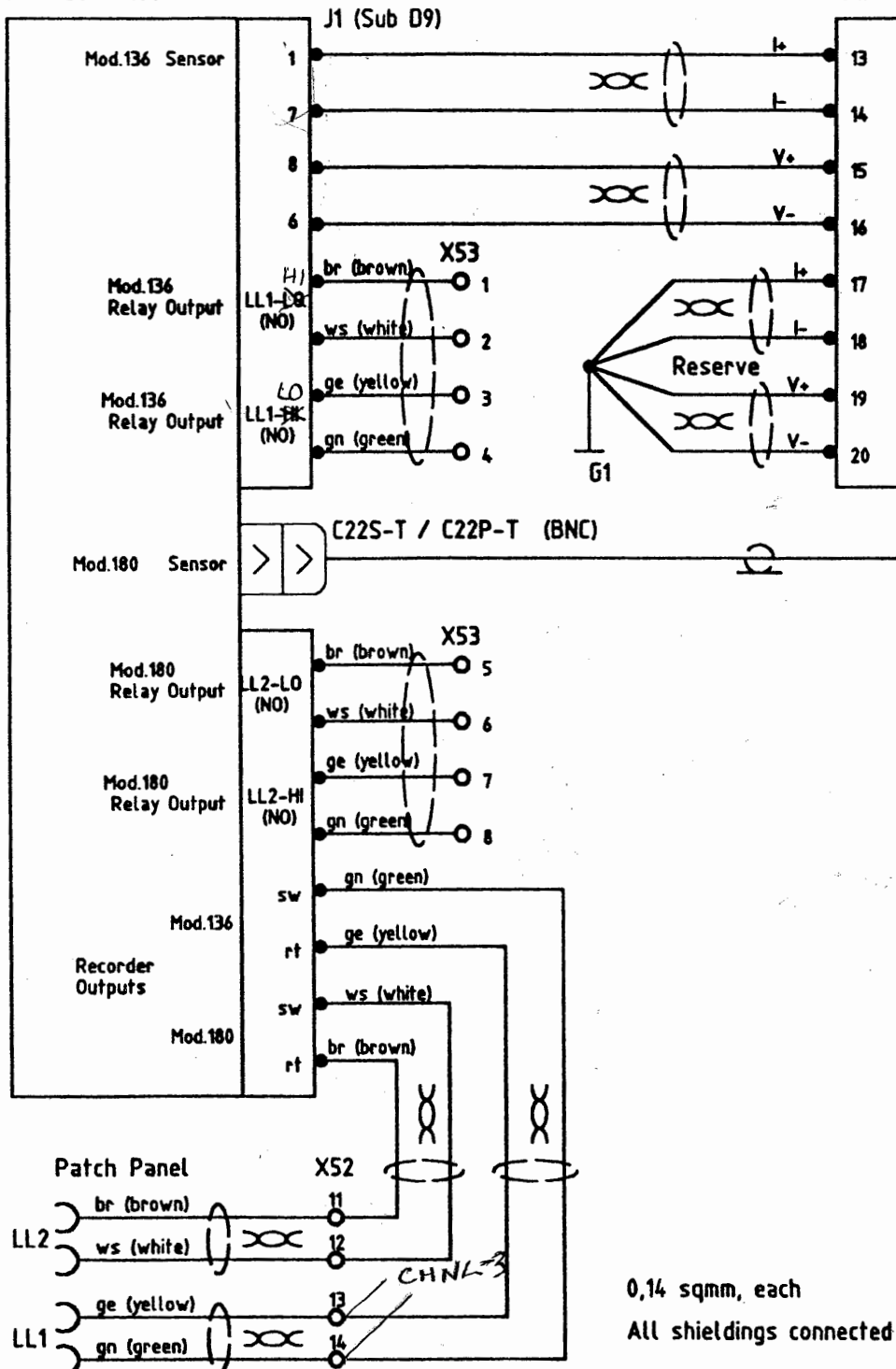
8 conductor

- 1 black
- 2 brown
- 3 red
- 4 orange
- 5 yellow
- 6 green
- 7 blue
- 8 white



LL1, LL2
AMI 136 / 180

C18S-T
ERA.4S.320.CLL



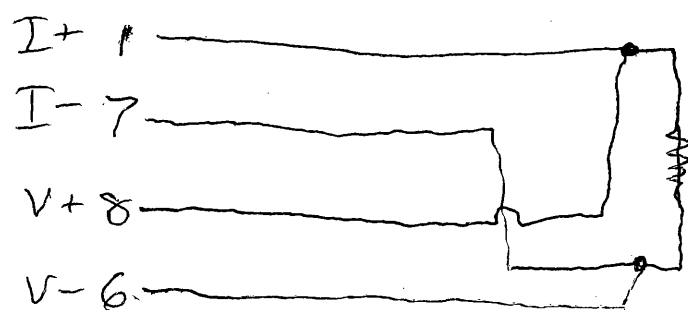
Cable CA-18
to Cryostat /
Current Tower

directly to
Cryostat /
Valve Section

0,14 sqmm, each

All shieldings connected to Ground point G1

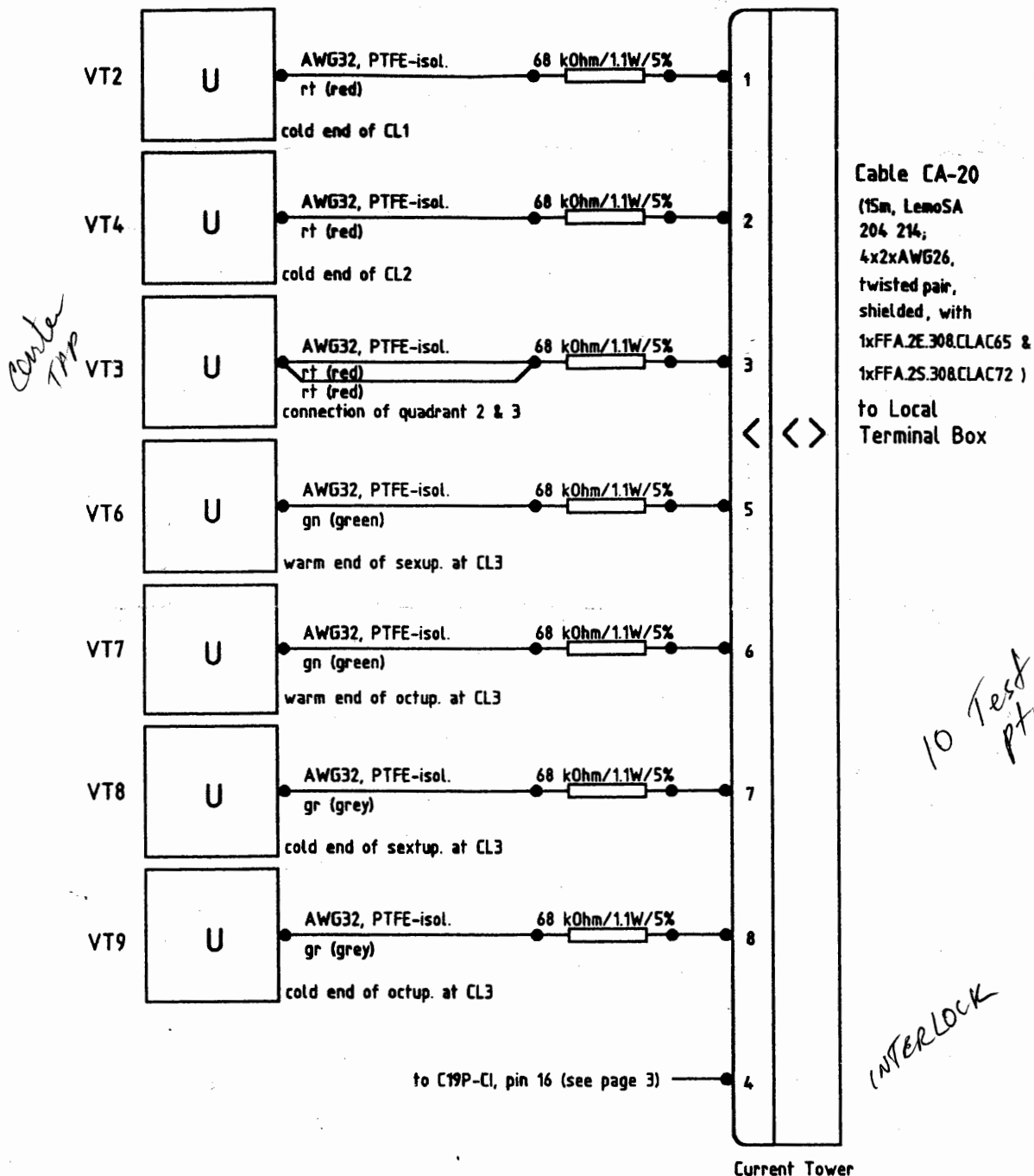
		Project:	
		SURA / CEBAF Quadrupoles Q2/Q3, Hall A	
A		Subject:	
Emil Brüttsch / Januar 11, 1995		Local Terminal Box	
Index		Scheme of Connecting	
Made by:		- Liquid Level Controller -	
Emil Brüttsch / June 27, 1994		File:	
Checked by:		Ident-No.:	
Dr. R. Kreutz / June 29, 1994		Page: 8 of 13	



SIEMENS

*Warm Lead #1
#2 Alligator clips*

C20P-CI FFA.2E.308.CLIC60
C20C-C SWH.2E.308.CLLSV



Project:		SURA / CEBAF Quadrupoles Q2/Q3, Hall A		
Subject:		Instrumentation at Cryostat		
Scheme of Connecting		- Connector C20C_C -		
File:	CRY_AA.MPG	Ident-No.:	50 794 775	Page: 4 of 7
Made by:	Emil Brütisch / Januar 3, 1995			
Checked by:	Dr. R. Kreutz / August 15, 1994			
Index	Changed by			

LEFT ARM

Q1 He	4-20ma
Q1 N2	4-20ma

Q2 He	0-10V
Q2 N2	0-10V

Q3 He	0-10V
Q3 N2	0-10V

D1 He	4-20ma
D1 N2	0-10V

RIGHT ARM

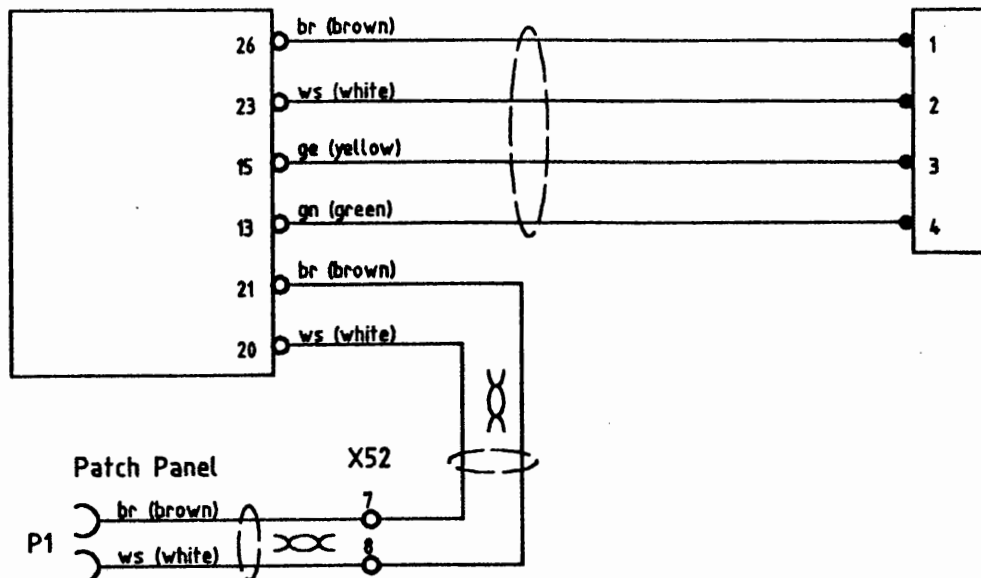
Q1 He	4-20ma
Q1 N2	4-20ma

Q2 He	0-10V
Q2 N2	0-10V

Q3 He	0-10V
Q3 N2	0-10V

D1 He	4-20ma
D1 N2	0-10V

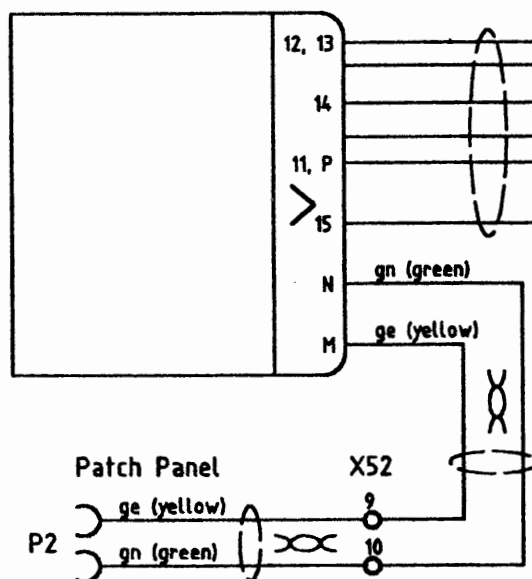
P1
DAT-130-AN-TS



C23S-T
ERA.1S.304.CLL

Cable CA-23
to Cryostat /
Current Tower

P2
Convectron 275



C34S-T

directly to
Cryostat / Vac. Vessel

C24S-C
Convectron

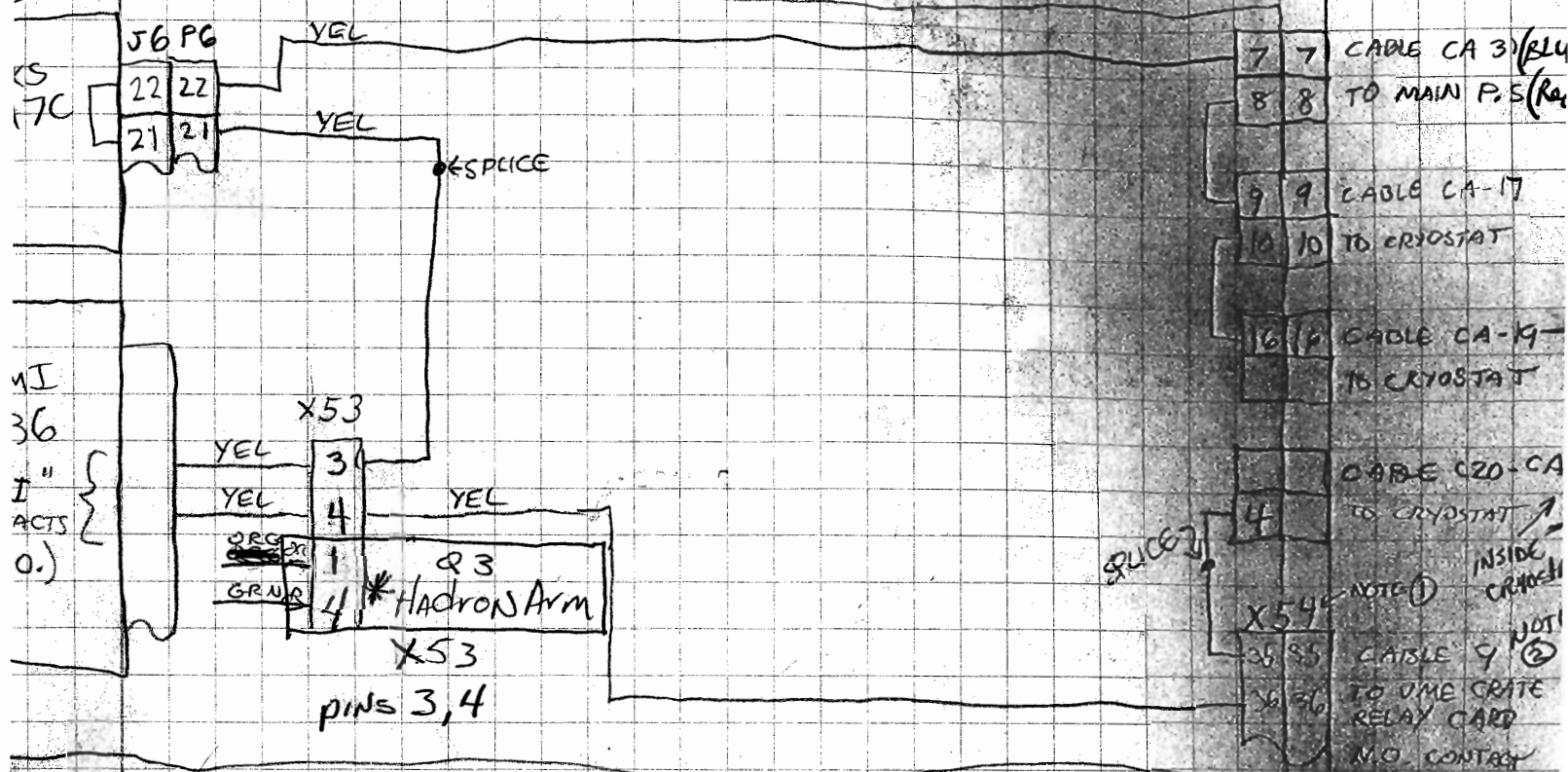
at Cryostat

0,14 sqmm, each

All shieldings connected to Ground point G1

B	Emil Brüttsch / May 05, 1995	Project: SURA / CEBAF Quadrupoles Q2/Q3, Hall A	
A	Emil Brüttsch / Januar 11, 1995	Subject: Local Terminal Box	
Index	Changed by —	Scheme of Connecting	
Made by:	Emil Brüttsch / June 27, 1994	- Pressure Indicators -	
Checked by:	Dr. R. Kreutz / June 29, 1994	File: LTB_30.MPG	Ident-No.: 50 794 744 Page: 9 of 13

WIRING MODIFICATION - SIEMENS Q2/Q3 ELECTRON
INSTRUMENT RACK MODIFICATION INCORPORATING
LHe LEVEL RELAY CONTACTS FROM THE INSTALLED AMI 136
AND A SET OF RELAY CONTACTS IN THE SLOW CONTROLS CRATE
RELAY CARD (TO ALLOW SOFTWARE SHUTDOWN/ENABLE).



- NOTES: ① X54 WAS ADDED IN AN EARLIER MODIFICATION AND DOES NOT APPEAR IN THE SIEMENS DOCUMENTATION.
② THE RELAY CARD CABLES WERE JUMPED OUT.

THIS SINGLE CIRCUIT PROVIDES CABLE INTERLOCK FOR LEAD DROP AND QUENCH INTERCABLELING; FLOW CONTROLLER OUTPUT CABLE; AND (NOW) HELIUM LEVEL INTERLOCK FROM THE AMI-136 "HI" RELAY CONTACT. REFER TO SIEMENS DRAWINGS NO. 50 794 744 PAGES 12 AND 8.