**D0-EC RTD WIRING LAYOUT
(SOUTH CALORIMETER)**

D-Zero Engineering Note #3740.220-EN-324

Jerry R. Leibfritz

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Approved by Keith Primdahl

Gerald C. Blozy 8/24/91

D0-EC RTD WIRING LAYOUT (SOUTH CALORIMETER)

The temperature of the South End-Calorimeter of the D-Zero detector is to be monitored by several RTD temperature sensors. The location and other important information pertaining to each individual RTD is included in the following tables, which are grouped by bundle number.

There are nine 60 pin port connectors. Each connector corresponds to a bundle of twisted pairs. Twisted pairs, of one of eight colors along with either a black or white wire, run to 10-pin connectors which have a mate on the module or cryostat wall. In general, all 60 pins, or all 10 pins are not used. The color scheme of the wires was designed so that all the twisted pairs with white run West from the instrumentation port, and twisted pairs with black run East. This scheme proved to be very successful and efficient during the installation process.

After being installed, every RTD connection was checked and their corresponding resistances were recorded by Jerry Blazey. All the RTD's tested successfully, except for 4. The 4 dead RTD's were: Channel #12 on bundle #1, which is located on the back of OH module #7R; Channel #19 on bundle #4, which is located on the back of MH module #5L; Channel 9 on bundle #5, which is located on the IH fine 2" strap; and Channel #25 on bundle #7, which is located on the east strongback.

D0-Wiring (South Calorimeter)

D0-EC Wiring Layout (South Calorimeter)

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12/14/89
revised: 6/4/90
revised: 10/18/90

- 1 Quadrant 1 of hadronic face, top
- 2 Quadrant 2 of hadronic face, right side (east) as viewed from back
- 3 Quadrant 3 of hadronic face, bottom
- 4 Quadrant 4 of hadronic face, left side (west) as viewed from back
- 5 Inner hadronic face
- 6 Upper cryostat, ports, manifolds, etc.
- 7 Lower cryostat, VPT, shell, supports, OH strongback & sling, etc.
- 8 EM, bottom and right side (west) as viewed from front
- 9 EM, top and left side (east) as viewed from front

Bundles (1,2,3,4,5) - See drawings of module locations for assistance

Bundles (5,6,7,8) - See drawings of sensor/connector locations for assistance

Bundle (6) - runs along perimeter of the calorimeter shell aligned with the centerline of the South signal ports

RTD location is abbreviated as follows:

(OH) - Outer Hadronic Module

(MH) - Middle Hadronic Module

(IH) - Inner Hadronic Module

(#) - Location Number of Module

(R,L) - Right or Left side of verticle axis

(F,I,B) -Front,Intermediate, or Back RTD sensor on Module

(N,S,E,W) - North, South, East, West

D0-Wiring (South Calorimeter)

Port Connector-#1

Quadrant (1) of Hadronic Face, top

Right side=East side (as viewed from the back)

Left side=West side (as viewed from the back)

RTD Location	Channel #	Port Connector #/ 10-Pin Connector #	Port Connector Pin Assignment	10-Pin Connector Pin # (1-10)	Twisted Pair Colors	Cut Length (in)
OH 7L-F	1	(1/1)	(A-B)	(9-10)	B/RED	115
OH 7L-I	2	(1/1)	(C-D)	(5-6)	B/GREEN	115
OH 7L-B	3	(1/1)	(E-F)	(1-2)	B/YELLOW	115
OH 8L-F	4	(1/2)	(G-H)	(9-10)	B/BLUE	150
OH 8L-I	5	(1/2)	(J-K)	(5-6)	B/BROWN	150
OH 8L-B	6	(1/2)	(L-M)	(1-2)	B/ORANGE	150
OH 8R-F	7	(1/3)	(N-P)	(9-10)	B/GRAY	185
OH 8R-I	8	(1/3)	(R-S)	(5-6)	B/RED	185
OH 8R-B	9	(1/3)	(T-U)	(1-2)	B/GREEN	185
OH 7R-F	10	(1/4)	(V-W)	(9-10)	B/YELLOW	220
OH 7R-I	11	(1/4)	(X-Y)	(5-6)	B/BLUE	220
OH 7R-B	12	(1/4)	(a-b)	(1-2)	B/BROWN	220
MH 8L-F	13	(1/5)	(c-d)	(9-10)	B/RED	145
MH 8L-I	14	(1/5)	(e-f)	(5-6)	B/GREEN	145
MH 8L-B	16	(1/5)	(g-h)	(1-2)	B/YELLOW	145
MH 9-F	17	(1/6)	(i-j)	(9-10)	B/BLUE	180
MH 9-I	18	(1/6)	(k-m)	(5-6)	B/BROWN	180
MH 9-B	19	(1/6)	(n-p)	(1-2)	B/ORANGE	180
MH 8R-F	20	(1/7)	(q-r)	(9-10)	B/GRAY	215
MH 8R-I	21	(1/7)	(s-t)	(5-6)	B/RED	215
MH 8R-B	22	(1/7)	(u-v)	(1-2)	B/GREEN	215
MH 7R-F	23	(1/8)	(w-x)	(9-10)	B/YELLOW	250
MH 7R-I	24	(1/8)	(y-z)	(5-6)	B/BLUE	250
MH 7R-B	25	(1/8)	(AA-BB)	(1-2)	B/BROWN	250
Main Beam(back)	26	(1/9)	(CC-DD)	(1-2)	B/YELLOW	145
Main Beam(front)	27	(1/9)	(EE-FF)	(5-6)	B/BLUE	145

D0-Wiring (South Calorimeter)

Port Connector-#2

Quadrant (2) of Hadronic Face, right
side (East) as viewed from back

Right side=East side (as viewed from the back)
Left side=West side (as viewed from the back)

RTD Location	Channel #	Port Connector #/ 10-Pin Connector #	Port Connector Pin Assignment	10-Pin Connector Pin # (1-10)	Twisted Pair Colors	Cut Length (in)
OH 6R-F	1	(2/1)	(A-B)	(9-10)	B/RED	255
OH 6R-I	2	(2/1)	(C-D)	(5-6)	B/GREEN	255
OH 6R-B	3	(2/1)	(E-F)	(1-2)	B/YELLOW	255
OH 5R-F	4	(2/2)	(G-H)	(9-10)	B/BLUE	290
OH 5R-I	5	(2/2)	(J-K)	(5-6)	B/BROWN	290
OH 5R-B	6	(2/2)	(L-M)	(1-2)	B/ORANGE	290
OH 4R-F	7	(2/3)	(N-P)	(9-10)	B/GRAY	320
OH 4R-I	8	(2/3)	(R-S)	(5-6)	B/RED	320
OH 4R-B	9	(2/3)	(T-U)	(1-2)	B/GREEN	320
OH 3R-F	10	(2/4)	(V-W)	(9-10)	B/YELLOW	355
OH 3R-I	11	(2/4)	(X-Y)	(5-6)	B/BLUE	355
OH 3R-B	12	(2/4)	(a-b)	(1-2)	B/BROWN	355
MH 6R-F	13	(2/5)	(c-d)	(9-10)	B/RED	285
MH 6R-I	14	(2/5)	(e-f)	(5-6)	B/GREEN	285
MH 6R-B	16	(2/5)	(g-h)	(1-2)	B/YELLOW	285
MH 5R-F	17	(2/6)	(i-j)	(9-10)	B/BLUE	320
MH 5R-I	18	(2/6)	(k-m)	(5-6)	B/BROWN	320
MH 5R-B	19	(2/6)	(n-p)	(1-2)	B/ORANGE	320
MH 4R-F	20	(2/7)	(q-r)	(9-10)	B/GRAY	350
MH 4R-I	21	(2/7)	(s-t)	(5-6)	B/RED	350
MH 4R-B	22	(2/7)	(u-v)	(1-2)	B/GREEN	350
MH 3R-F	23	(2/8)	(w-x)	(9-10)	B/YELLOW	385
MH 3R-I	24	(2/8)	(y-z)	(5-6)	B/BLUE	385
MH 3R-B	25	(2/8)	(AA-BB)	(1-2)	B/BROWN	385
TEV Beam (back)	26	(2/9)	(CC-DD)	(1-2)	B/RED	350

TEV Beam(back) 10-pin connector, connects to IH
connector plate in quadrant (2)

D0-Wiring (South Calorimeter)

Port Connector-#3

Quadrant (3) of Hadronic Face, bottom

Right side=East side (as viewed from the back)

Left side=West side (as viewed from the back)

RTD Location	Channel #	Port Connector #/ 10-Pin Connector #	Port Connector Pin Assignment	10-Pin Connector Pin # (1-10)	Twisted Pair Colors	Cut Length (in)
OH 2R-F	1	(3/1)	(A-B)	(9-10)	W/RED	365
OH 2R-I	2	(3/1)	(C-D)	(5-6)	W/GREEN	365
OH 2R-B	3	(3/1)	(E-F)	(1-2)	W/YELLOW	365
OH 1R-F	4	(3/2)	(G-H)	(9-10)	W/BBLUE	335
OH 1R-I	5	(3/2)	(J-K)	(5-6)	W/BROWN	335
OH 1R-B	6	(3/2)	(L-M)	(1-2)	W/ORANGE	335
OH 1L-F	7	(3/3)	(N-P)	(9-10)	W/GRAY	300
OH 1L-I	8	(3/3)	(R-S)	(5-6)	W/VIOLET	300
OH 1L-B	9	(3/3)	(T-U)	(1-2)	W/RED	300
OH 2L-F	10	(3/4)	(V-W)	(9-10)	W/GREEN	265
OH 2L-I	11	(3/4)	(X-Y)	(5-6)	W/YELLOW	265
OH 2L-B	12	(3/4)	(a-b)	(1-2)	W/BBLUE	265
MH 2R-F	13	(3/5)	(c-d)	(9-10)	W/RED	395
MH 2R-I	14	(3/5)	(e-f)	(5-6)	W/GREEN	395
MH 2R-B	16	(3/5)	(g-h)	(1-2)	W/YELLOW	395
MH 1-F	17	(3/6)	(i-j)	(9-10)	W/BBLUE	365
MH 1-I	18	(3/6)	(k-m)	(5-6)	W/BROWN	365
MH 1-B	19	(3/6)	(n-p)	(1-2)	W/ORANGE	365
MH 2L-F	20	(3/7)	(q-r)	(9-10)	W/GRAY	330
MH 2L-I	21	(3/7)	(s-t)	(5-6)	W/VIOLET	330
MH 2L-B	22	(3/7)	(u-v)	(1-2)	W/RED	330
MH 3L-F	23	(3/8)	(w-x)	(9-10)	W/GREEN	295
MH 3L-I	24	(3/8)	(y-z)	(5-6)	W/YELLOW	295
MH 3L-B	25	(3/8)	(AA-BB)	(1-2)	W/BBLUE	295

D0-Wiring (South Calorimeter)

Port Connector-#4

Quadrant (4) of Hadronic Face, left
side (West) as viewed from back

Right side=East side (as viewed from the back)

Left side=West side (as viewed from the back)

RTD Location	Channel #	Port Connector #/ 10-Pin Connector #	Port Connector Pin Assignment	10-Pin Connector Pin # (1-10)	Twisted Pair Colors	Cut Length (in)
OH 3L-F	1	(4/1)	(A-B)	(9-10)	W/RED	230
OH 3L-I	2	(4/1)	(C-D)	(5-6)	W/GREEN	230
OH 3L-B	3	(4/1)	(E-F)	(1-2)	W/YELLOW	230
OH 4L-F	4	(4/2)	(G-H)	(9-10)	W/BBLUE	195
OH 4L-I	5	(4/2)	(J-K)	(5-6)	W/BROWN	195
OH 4L-B	6	(4/2)	(L-M)	(1-2)	W/ORANGE	195
OH 5L-F	7	(4/3)	(N-P)	(9-10)	W/GRAY	165
OH 5L-I	8	(4/3)	(R-S)	(5-6)	W/VIOLET	165
OH 5L-B	9	(4/3)	(T-U)	(1-2)	W/RED	165
OH 6L-F	10	(4/4)	(V-W)	(9-10)	W/GREEN	130
OH 6L-I	11	(4/4)	(X-Y)	(5-6)	W/YELLOW	130
OH 6L-B	12	(4/4)	(a-b)	(1-2)	W/BBLUE	130
MH 4L-F	13	(4/5)	(c-d)	(9-10)	W/RED	260
MH 4L-I	14	(4/5)	(e-f)	(5-6)	W/GREEN	260
MH 4L-B	16	(4/5)	(g-h)	(1-2)	W/YELLOW	260
MH 5L-F	17	(4/6)	(i-j)	(9-10)	W/BBLUE	225
MH 5L-I	18	(4/6)	(k-m)	(5-6)	W/BROWN	225
MH 5L-B	19	(4/6)	(n-p)	(1-2)	W/ORANGE	225
MH 6L-F	20	(4/7)	(q-r)	(9-10)	W/GRAY	195
MH 6L-I	21	(4/7)	(s-t)	(5-6)	W/VIOLET	195
MH 6L-B	22	(4/7)	(u-v)	(1-2)	W/RED	195
MH 7L-F	23	(4/8)	(w-x)	(9-10)	W/GREEN	160
MH 7L-I	24	(4/8)	(y-z)	(5-6)	W/YELLOW	160
MH 7L-B	25	(4/8)	(AA-BB)	(1-2)	W/BBLUE	160

WEST
(white)

EAST.
(Black)

There is one
19 pin connector
on each module

REV.	DESCRIPTION	DATE	BY

ITEM	PART NO.	DESCRIPTION OR SIZE	QTY
2		BAR TUBE ALUMINUM T-6061	2
1		50.00 X .015 WALL TUBE	2
1		ALUMINUM T-6061 STOCK	2
PARTS LIST			
NO.	REV.	DATE	BY
1	02	018	1
APPROVED			
USED ON			
MATERIAL			
FERNI NATIONAL ACCELERATOR LABORATORY			
UNITED STATES DEPARTMENT OF ENERGY			
DO DETECTOR END CALORIMETER			
OUTER HADRONIC MODULE			
CABLE GUIDE BAR ASSY			
1:2		3740.222-MD-278960	
CREATED WITH I-DEAS 4.1 USER NAME: SHAW/LEE

D0-Wiring (South Calorimeter)

Port Connector-#5

Inner Hadronic Face, as viewed from back

Right side=East side (as viewed from the back)

Left side=West side (as viewed from the back)

RTD Location	Channel #	Port Connector #/ 10-Pin Connector #	Port Connector Pin Assignment	10-Pin Connector Pin # (1-10)	Twisted Pair Colors	Cut Length (in)
East Branch						
IH Right(1)-FP	1	(5/1)	(A-B)	(1-2)	B/RED	350
IH Right(1)-2*strap	2	(5/1)	(C-D)	(3-4)	B/GREEN	350
IH Right(1)-FH	3	(5/1)	(E-F)	(5-6)	B/YELLOW	350
IH Right(1)-8*beam	4	(5/1)	(G-H)	(7-8)	B/BLUE	350
IH Right(2)-BP	5	(5/2)	(J-K)	(1-2)	B/BROWN	350
IH Right(2)-MC	6	(5/2)	(L-M)	(3-4)	B/ORANGE	350
IH Right(2)-FC	7	(5/2)	(N-P)	(5-6)	B/GRAY	350
IH Top(1)-FP	8	(5/3)	(R-S)	(1-2)	B/YELLOW	215
IH Top(1)-2*strap	9	(5/3)	(T-U)	(3-4)	B/BLUE	215
IH Top(1)-FH	10	(5/3)	(V-W)	(5-6)	B/BROWN	215
IH Top(1)-8*beam	11	(5/3)	(X-Y)	(7-8)	B/ORANGE	215
IH Top(2)-BP	12	(5/4)	(a-b)	(1-2)	B/GRAY	215
IH Top(2)-MC	13	(5/4)	(c-d)	(3-4)	B/RED	215
IH Top(2)-FC	14	(5/4)	(e-f)	(5-6)	B/GREEN	215
West Branch						
IH Bot.(1)-FP	16	(5/5)	(g-h)	(1-2)	W/RED	395
IH Bot.(1)-2*strap	17	(5/5)	(i-j)	(3-4)	W/GREEN	395
IH Bot.(1)-FH	18	(5/5)	(k-m)	(5-6)	W/YELLOW	395
IH Bot.(1)-8*beam	19	(5/5)	(n-p)	(7-8)	W/BLUE	395
IH Bot.(2)-BP	20	(5/6)	(q-r)	(1-2)	W/BROWN	395
IH Bot.(2)-MC	21	(5/6)	(s-t)	(3-4)	W/ORANGE	395
IH Bot.(2)-FC	22	(5/6)	(u-v)	(5-6)	W/GRAY	395
IH Bot.(2)-Core	23	(5/6)	(w-x)	(7-8)	W/VIOLET	395
IH Bot.(2)-Core	24	(5/6)	(y-z)	(9-10)	W/RED	395
IH Left(1)-FP	25	(5/7)	(AA-BB)	(1-2)	W/VIOLET	260
IH Left(1)-2*strap	26	(5/7)	(CC-DD)	(3-4)	W/RED	260
IH Left(1)-FH	27	(5/7)	(EE-FF)	(5-6)	W/GREEN	260
IH Left(1)-8*beam	28	(5/7)	(GG-HH)	(7-8)	W/YELLOW	260
IH Left(2)-BP	29	(5/8)	(JJ-KK)	(1-2)	W/BLUE	260
IH Left(2)-MC	30	(5/8)	(LL-MM)	(3-4)	W/BROWN	260
IH Left(2)-FC	31	(5/8)	(NN-PP)	(5-6)	W/ORANGE	260

IH - Modules notation description

(Top, Bot., Right, Left) - Location of Connector Plate(see IH Sensor/Conn. Location drawings)

(1,2) - Connector Plate designation(see IH Sensor/Conn. Location drawings)

FP - Front Plate perimeter

FH - Fine Hadronic perimeter(2nd 3/4" plate)

BP - Back Plate perimeter

MC - Middle Coarse plate

FC - Front Coarse plate

D0-IH Sensor/Conn. Location

(North and South Calorimeter)

IH - RTD Sensor/Connector Locations

JRL 12/14/89

There are 2, 10-pin connectors at each location (top, bottom, right, left)
 attached to the connector plates on the back of the IH module
 Locations(times) are designated as viewed from back(see attached drawing)

10-Pin Connector Location	Connector Pin Number	RTD Sensor Location
Top(1)	(1-2)	Front plate perimeter-12:00
	(3-4)	On 2" Strap(middle of fine section)-10:30
	(5-6)	Fine hadronic perim.(2nd 3/4" plate)-12:00
	(7-8)	On 8" Beam-12:00
	(9-10)	open
Top(2)	(1-2)	Back plate perimeter-12:00
	(3-4)	Middle coarse plate-10:30
	(5-6)	Front coarse plate-12:00
	(7-8)	open
	(9-10)	open
Right(1)	(1-2)	Front plate perimeter-3:00
	(3-4)	On 2" Strap(middle of fine section)-1:30
	(5-6)	Fine hadronic perim.(2nd 3/4" plate)-3:00
	(7-8)	On 8" beam-3:00
	(9-10)	open
Right(2)	(1-2)	Back plate perimeter-3:00
	(3-4)	Middle coarse plate-1:30
	(5-6)	Front coarse plate-3:00
	(7-8)	open
	(9-10)	open
Bottom(1)	(1-2)	Front plate perimeter-6:00
	(3-4)	On 2" Strap(middle of fine section)-4:30
	(5-6)	Fine hadronic perim.(2nd 3/4" plate)-6:00
	(7-8)	On 8" beam-6:00
	(9-10)	open
Bottom(2)	(1-2)	Back plate perimeter-6:00
	(3-4)	Middle coarse plate-4:30
	(5-6)	Front coarse plate-6:00
	(7-8)	At Core of front coarse plate(near beam li
	(9-10)	At Core of front coarse plate(near beam li
Left(1)	(1-2)	Front plate perimeter-9:00
	(3-4)	On 2" Strap(middle of fine section)-7:30
	(5-6)	Fine hadronic perim.(2nd 3/4" plate)-9:00
	(7-8)	On 8" beam-9:00
	(9-10)	open
Left(2)	(1-2)	Back plate perimeter-9:00
	(3-4)	Middle coarse plate-7:30
	(5-6)	Front coarse plate-9:00
	(7-8)	open
	(9-10)	open

As Viewed from back

Top

VIEW B-B

SCALE 1/4"
SHEET 1

Bottom

As Viewed from back

SECTION D-D

SCALE 1/4"
SHEET 1

ITEM	PART NO.	DESCRIPTION OF ITEM
PARTS LIST		
1	1	LOAD MEASURING INSTRUMENT
2	2	LOAD MEASURING INSTRUMENT
3	3	LOAD MEASURING INSTRUMENT
4	4	LOAD MEASURING INSTRUMENT
5	5	LOAD MEASURING INSTRUMENT
6	6	LOAD MEASURING INSTRUMENT
7	7	LOAD MEASURING INSTRUMENT
8	8	LOAD MEASURING INSTRUMENT
9	9	LOAD MEASURING INSTRUMENT
10	10	LOAD MEASURING INSTRUMENT
11	11	LOAD MEASURING INSTRUMENT
12	12	LOAD MEASURING INSTRUMENT
13	13	LOAD MEASURING INSTRUMENT
14	14	LOAD MEASURING INSTRUMENT
15	15	LOAD MEASURING INSTRUMENT
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98	98	LOAD MEASURING INSTRUMENT
99	99	LOAD MEASURING INSTRUMENT
100	100	LOAD MEASURING INSTRUMENT

7 per Quadrant
+ 1 Core RTD

F-4	SHEET 5
E-4	SHEET 4
D-4	SHEET 3
C-4	SHEET 2
B-4	SHEET 2
A-4	SHEET 2
INDEX	SHEET NO.

SECTION, VIEW, AND
DETAIL INDEX

29	MC-200264	750 TH. AL. (OFFSIDE)
28	MC-200264	CHAMFER DETAIL
27	MC-200264	CHAMFER DETAIL
26	MC-200264	CHAMFER DETAIL
25	MC-200264	CHAMFER DETAIL
24	MC-200264	5/8-10X 3/16 LB. 18 PT.
23	MC-200264	5/8 IN. DIA. X 5/16X 18 PT.
22	MC-200264	5/16X 18 PT. LB. 18 PT.
21	MC-200264	5/16 IN. DIA. X 5/16X 18 PT.
20	MC-200264	5/16 IN. DIA. X 5/16X 18 PT.
19	MC-200264	5/16 IN. DIA. X 5/16X 18 PT.
18	MC-200264	5/16 IN. DIA. X 5/16X 18 PT.
17	MC-200264	5/16 IN. DIA. X 5/16X 18 PT.
16	MC-200264	5/16 IN. DIA. X 5/16X 18 PT.
15	MC-200264	5/16 IN. DIA. X 5/16X 18 PT.
14	MC-200264	5/16 IN. DIA. X 5/16X 18 PT.
13	MC-200264	5/16 IN. DIA. X 5/16X 18 PT.
12	MC-200264	5/16 IN. DIA. X 5/16X 18 PT.
11	MC-200264	5/16 IN. DIA. X 5/16X 18 PT.
10	MC-200264	5/16 IN. DIA. X 5/16X 18 PT.
9	MC-200264	5/16 IN. DIA. X 5/16X 18 PT.
8	MC-200264	5/16 IN. DIA. X 5/16X 18 PT.
7	MC-200264	5/16 IN. DIA. X 5/16X 18 PT.
6	MC-200264	5/16 IN. DIA. X 5/16X 18 PT.
5	MC-200264	5/16 IN. DIA. X 5/16X 18 PT.
4	MC-200264	5/16 IN. DIA. X 5/16X 18 PT.
3	MC-200264	5/16 IN. DIA. X 5/16X 18 PT.
2	MC-200264	5/16 IN. DIA. X 5/16X 18 PT.
1	MC-200264	5/16 IN. DIA. X 5/16X 18 PT.

PARTY LIST	
NAME (Last, First, Middle Initial)	1. J. J. J. J.
Home address (Street, City, State, Zip)	2. J. J. J. J.
Occupation	
Age	
Sex	
Religion	
Education	
Marital Status	
Other	
SEE ABOVE	
FERN: NATIONAL ACCELERATOR LABORATORY UNIVERSITY OF CALIFORNIA, RIVERSIDE	
DETECTION OF CALORIMETER UNDER MAGNETIC FIELDS IN ASSEMBLY MODULE IN	
DATE	3-27-78
TIME	10:00 AM
BY	J. J. J. J.

D0-Wiring (South Calorimeter)

Port Connector-#6

Upper Cryostat, Ports, Manifolds, etc.

Right side=East side (as viewed from the back)

Left side=West side (as viewed from the back)

RTD Location	Channel #	Port Connector #/ 10-Pin Connector #	Port Connector Pin Assignment	10-Pin Connector Pin # (1-10)	Twisted Pair Colors	Cut Length (in)
East Branch						
C/D Inlet Manifold(W)	1	(6/1)	(A-B)	(1-2)	B/RED	115
S.S. Inlet Manifold	2	(6/2)	(C-D)	(1-2)	B/GREEN	160
Outlet Manifold	3	(6/2)	(E-F)	(5-6)	B/YELLOW	160
Spare	4	(6/3)	(G-H)	(1-2)	B/BLUE	160
Spare	5	(6/3)	(J-K)	(5-6)	B/BROWN	160
C/D Inlet Manifold(E)	6	(6/4)	(L-M)	(1-2)	B/ORANGE	165
Signal Port (SE-bot)	7	(6/5)	(N-P)	(1-2)	B/GRAY	235
Signal Port (SE-top)	8	(6/5)	(R-S)	(5-6)	B/RED	235
Signal Port (NE-bot)	9	(6/6)	(T-U)	(1-2)	B/GREEN	260
Signal Port (NE-top)	10	(6/6)	(V-W)	(3-4)	B/YELLOW	260
HV Port (NE-bot)	11	(6/6)	(X-Y)	(5-6)	B/BLUE	260
HV Port (NE-top)	12	(6/6)	(a-b)	(7-8)	B/BROWN	260
West Branch						
Signal Port(SW-bot)	13	(6/7)	(c-d)	(1-2)	B/ORANGE	100
Signal Port(SW-top)	14	(6/7)	(e-f)	(3-4)	B/GRAY	100
VPT(top)	16	(6/7)	(g-h)	(5-6)	B/RED	100
VPT(top)	17	(6/7)	(i-j)	(7-8)	B/GREEN	100
Signal Port (NW-bot)	18	(6/8)	(k-m)	(1-2)	B/YELLOW	135
Signal Port (NW-top)	19	(6/8)	(n-p)	(3-4)	B/BLUE	135
HV Port (NW-bot)	20	(6/8)	(q-r)	(5-6)	B/BROWN	135
HV Port (NW-top)	21	(6/8)	(s-t)	(7-8)	B/ORANGE	135
RTD'S NEAR HEATERS						
(Placed in wiring along back sling, lined up by center of heaters.)						
Between OH4L-OH5L	22	(6/9)	(u-v)	(1-2)	W/RED	265
Between OH3L-OH4L	23	(6/9)	(w-x)	(5-6)	W/YELLOW	265
At OH2L	24	(6/10)	(y-z)	(1-2)	W/GREEN	310
At OH1L	25	(6/10)	(AA-BB)	(5-6)	W/BLUE	310
At OH1R	26	(6/11)	(CC-DD)	(1-2)	W/BROWN	400
At OH2R	27	(6/11)	(EE-FF)	(5-6)	W/GREY	400
Between OH3R-OH4R	28	(6/12)	(GG-HH)	(1-2)	W/ORANGE	470
Between OH4R-OH5R	29	(6/12)	(JJ-KK)	(5-6)	W/VIOLET	470

Note: East Branch ((6) 10-Pin Connectors) cannot be put in place until after cryo piping is installed (tied to manifold piping)

D0-Wiring (South Calorimeter)

Port Connector-#7

Lower Cryostat, VPT, shell, supports,
OH strongback & sling, etc.

Right side=East side (as viewed from the back)

Left side=West side (as viewed from the back)

RTD Location	Channel #	Port Connector #/ 10-Pin Connector #	Port Connector Pin Assignment	10-Pin Connector Pin # (1-10)	Twisted Pair Colors	Cut Length (in)
VPT-equat.(W) on bulb	1	(7/1)	(A-B)	(1-2)	W/RED	185
VPT-equator(W) 2	2	(7/1)	(C-D)	(5-6)	W/GREEN	185
SLING 2L-back	3	(7/2)	(E-F)	(1-2)	W/YELLOW	265
SLING 2L-front	4	(7/2)	(G-H)	(3-4)	W/BBLUE	265
SLING Strongback-W	5	(7/2)	(J-K)	(5-6)	W/BROWN	265
Supprt Sockt-Front (W)	6	(7/2)	(L-M)	(7-8)	W/ORANGE	265
Supprt Sockt-Back (W)	7	(7/2)	(N-P)	(9-10)	W/GRAY	265
SHELL back support	8	(7/3)	(R-S)	(1-2)	W/VIOLET	265
SHELL front support	9	(7/3)	(T-U)	(5-6)	W/RED	265
SHELL Strongback-W	10	(7/3)	(V-W)	(9-10)	W/GREEN	265
CABLE COVER-1L	11	(7/4)	(X-Y)	(1-2)	W/YELLOW	295
CABLE COVER-1R	12	(7/5)	(a-b)	(1-2)	W/BBLUE	340
VPT-bottom 1	13	(7/6)	(c-d)	(1-2)	W/BROWN	345
VPT-bottom (on bulb)	14	(7/6)	(e-f)	(5-6)	W/ORANGE	345
CABLE COVER-2L	16	(7/7)	(g-h)	(1-2)	W/GRAY	365
CABLE COVER-2R	17	(7/8)	(i-j)	(1-2)	W/VIOLET	405
SLING 2R-back	18	(7/9)	(k-m)	(1-2)	W/RED	425
SLING 2R-front	19	(7/9)	(n-p)	(3-4)	W/GREEN	425
SLING Strongback-E	20	(7/9)	(q-r)	(5-6)	W/YELLOW	425
SUPPORT-Front (E)	21	(7/9)	(s-t)	(7-8)	W/BBLUE	425
SUPPORT-Back (E)	22	(7/9)	(u-v)	(9-10)	W/BROWN	425
SHELL back support	23	(7/10)	(w-x)	(1-2)	W/ORANGE	425
SHELL front support	24	(7/10)	(y-z)	(5-6)	W/GRAY	425
SHELL Strongback-E	25	(7/10)	(AA-BB)	(9-10)	W/VIOLET	425
Shell 2L-back	26	(7/11)	(CC-DD)	(1-2)	W/RED	480
Shell 2L-front	27	(7/11)	(EE-FF)	(5-6)	W/YELLOW	480
Shell 2R-back	28	(7/12)	(GG-HH)	(1-2)	W/RED	455
Cable Cover 3R	29	(7/13)	(JJ-KK)	(1-2)	W/GREEN	455
Cable Cover 3L	30	(7/14)	(LL-MM)	(1-2)	W/BROWN	455
SL 2R Front	31	(7/15)	(NN)	(1-2)	W/ORANGE	455

FORM NO. 104-101	ISSUED BY: []	DATE: 10/1/54
PARTS LIST		
QUANTITY	DESCRIPTION	UNIT
1	1. 1000	1. 1000
1	2. 1000	2. 1000
1	3. 1000	3. 1000
1	4. 1000	4. 1000
1	5. 1000	5. 1000
1	6. 1000	6. 1000
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1	96. 1000	96. 1000
1	97. 1000	97. 1000
1	98. 1000	98. 1000
1	99. 1000	99. 1000
1	100. 1000	100. 1000

D0-(S)Shell Connector Locations

Beam Line, Shell, and Sling RTD Connector Locations

6/4/90

Port Connector #	10-Pin Connector #	10-Pin Connector Location
6	1	West cool-down inlet manifold
6	2	between steady-state inlet and outlet manifold
6	3	VPT-top
6	4	East cool-down inlet manifold
6	5	near SE signal port
6	6	near NE signal port
6	7	near SW signal port
6	8	near NW signal port
6	9	Along back sling at OH4L
6	10	Along back sling, between OH1L-OH2L
6	11	Along back sling, between OH1R-OH2R
6	12	Along back sling at OH4R
7	1	VPT-equator West side
7	2	near West/back support foot
7	3	near West/back support foot
7	4	near signal cable cover on OH2L
7	5	near signal cable cover on OH1L
7	6	VPT-bottom
7	7	near signal cable cover on OH1R
7	8	near signal cable cover on OH2R
7	9	near East/back support foot
7	10	near East/back support foot
7	11	VPT-equator East side
7	12	spare
7	13	spare
7	14	spare
7	15	spare

The connector locations are intended to provide easy access from the back of the cryostat during assembly. An effort has also been made to run 2 or more RTD's to a single 10-Pin connector.

For actual RTD locations, see (D0-Shell Sensor Locations) sheet.

D0-Shell Sensor Locations

Beam Line, Shell, and Sling Sensor Locations

6/4/90

RTD-Locations

1	On centerline of back and front slings, outboard,
centered over OH2R and OH2L	(4 required)
2	On center of east and west strongback, outboard	(2 required)
3	On cryostat wall across from (1) and (2)	(6 required)
4	On each signal cable cover, centered in Z above the heaters,
on modules OH2L, OH1L, OH1R, OH2R	(4 required)
5	On each support socket, facing front or back, just above
thermal siphons	(4 required)
6	On cryostat wall, two near each VPT (top, bottom, equat	(6 required)
7	On TEV beam pipe, just fore and aft of calorimeter	(2 required)
8	On Main Ring beam pipe, just fore and aft of calorimeter	(2 required)
9	On East and West cool-down inlet manifold	(2 required)
10	On steady-state inlet manifold	(1 required)
11	On outlet manifold	(1 required)
12	At 1/3 and 2/3 height of each	
	(2)-HV ports	(4 required)
	(4)-signal ports	(8 required)
	(1)-instrumentation port	(2 required)
13	Along back sling, stuck in wiring at
center of heaters	(8 required)

Total: 56

D0-Wiring (South Calorimeter)

Port Connector-#8

EM, bottom & right side (west)
as viewed from front

Right side=East side (as viewed from the back)

Left side=West side (as viewed from the back)

RTD Location	Channel #	Port Connector #/ 10-Pin Connector #	Port Connector Pin Assignment	10-Pin Connector Pin # (1-10)	Twisted Pair Colors	Cut Length (in)
EM1-face(G) Contact	1	(8/1)	(A-B)	(1-2)	W/RED	300
EM1-face(H)	2	(8/1)	(C-D)	(3-4)	W/GREEN	300
Strg Bk-Perim(12:00)	3	(8/1)	(E-F)	(5-6)	W/YELLOW	300
EM3-Perimeter(12:00)	4	(8/1)	(G-H)	(7-8)	W/BLUE	300
EM4-face(P)	5	(8/2)	(J-K)	(1-2)	W/BROWN	300
EM4-face(Q)	6	(8/2)	(L-M)	(3-4)	W/ORANGE	300
EM4-face(R)	7	(8/2)	(N-P)	(5-6)	W/GRAY	300
EM4-Perimeter(12:00)	8	(8/2)	(R-S)	(7-8)	W/VIOLET	300
EM1-face(A) Contact	9	(8/3)	(T-U)	(1-2)	W/YELLOW	370
EM1-face(B)	10	(8/3)	(V-W)	(3-4)	W/BLUE	370
Strg Bk-Perim(3:00)	11	(8/3)	(X-Y)	(5-6)	W/BROWN	370
EM3-Perimeter(3:00)	12	(8/3)	(a-b)	(7-8)	W/ORANGE	370
EM4-face(J)	13	(8/4)	(c-d)	(1-2)	W/GRAY	370
Cen Supt tube(back)	14	(8/4)	(e-f)	(3-4)	W/VIOLET	370
EM4-Perimeter(3:00)	16	(8/4)	(g-h)	(5-6)	W/RED	370
TEV Beam Line(front)	17	(8/5)	(i-j)	(1-2)	W/GREEN	370

Note: (Contact) refers to a contact sensor; not a temp. sensor
Locations designated by letters (see drawings)

3/91

D0-Wiring (South Calorimeter)

Port Connector-#9

EM, top & left side (east)
as viewed from front

Right side=East side (as viewed from the back)

Left side=West side (as viewed from the back)

RTD Location	Channel #	Port Connector #/ 10-Pin Connector #	Port Connector Pin Assignment	10-Pin Connector Pin # (1-10)	Twisted Pair Colors	Cut Length (in)
EM1-face(C) Contact	1	(9/1)	(A-B)	(1-2)	B/RED	370
EM1-face(D)	2	(9/1)	(C-D)	(3-4)	B/GREEN	370
Strg Bk-Perim(6:00)	3	(9/1)	(E-F)	(5-6)	B/YELLOW	370
EM3-Perimeter(6:00)	4	(9/1)	(G-H)	(7-8)	B/BLUE	370
EM4-face(K)	5	(9/2)	(J-K)	(1-2)	B/BROWN	370
EM4-face(L)	6	(9/2)	(L-M)	(3-4)	B/ORANGE	370
EM4-face(M)	7	(9/2)	(N-P)	(5-6)	B/GRAY	370
EM4-Perimeter(6:00)	8	(9/2)	(R-S)	(7-8)	B/RED	370
EM1-face(E) Contact	9	(9/3)	(T-U)	(1-2)	B/GREEN	300
EM1-face(F)	10	(9/3)	(V-W)	(3-4)	B/YELLOW	300
Cen Supt tube(front)	11	(9/3)	(X-Y)	(5-6)	B/BLUE	300
Strg Bk-Perim(9:00)	12	(9/3)	(a-b)	(7-8)	B/BROWN	300
EM3-Perimeter(9:00)	13	(9/3)	(c-d)	(9-10)	B/ORANGE	300
EM4-face(N)	14	(9/4)	(e-f)	(1-2)	B/GRAY	300
EM4-Perimeter(9:00)	16	(9/4)	(g-h)	(3-4)	B/RED	300
Spare-1	17	(9/5)	(i-j)	(1-2)	B/YELLOW	400
Spare-1	18	(9/5)	(k-m)	(5-6)	B/BLUE	400
Spare-1	19	(9/5)	(n-p)	(9-10)	B/BROWN	400
Spare-2	20	(9/6)	(q-r)	(1-2)	B/GRAY	400
Spare-2	21	(9/6)	(s-t)	(5-6)	B/GREEN	400
Spare-2	22	(9/6)	(u-v)	(9-10)	B/BLUE	400

Note: (Contact) refers to a contact sensor; not a temp. sensor
Locations designated by letters (see drawings)

D0-(S) EM Sensor/Conn. Location
(South Calorimeter)

EM - RTD Sensor/Connector Locations

JRL 12/14/89

(I,II,III,IV) - Connector locations (see drawing)
2, 10-pin connectors at each location (1Front,1Back)

(I) - 4:30
(II) - 7:30
(III) - 10:30
(IV) - 1:30

RTD locations designated by letter (see Drawing)

10-Pin Connector Location	Connector Pin Number	RTD Sensor Location
I(Front)	(1-2)	EM1 face(A) Contact sensor
	(3-4)	EM1 face(B)
	(5-6)	Strong Back Perimeter at (3:00)
	(7-8)	EM3 Perimeter at (3:00)
	(9-10)	open
I(Back)	(1-2)	EM4 face(J)
	(3-4)	Central Support Tube (back)
	(5-6)	EM4 Perimeter at (3:00)
	(7-8)	open
	(9-10)	open
II(Front)	(1-2)	EM1 face(C) Contact sensor
	(3-4)	EM1 face(D)
	(5-6)	Strong Back Perimeter at (6:00)
	(7-8)	EM3 Perimeter at (6:00)
	(9-10)	open
II(Back)	(1-2)	EM4 face(K)
	(3-4)	EM4 face(L)
	(5-6)	EM4 face(M)
	(7-8)	EM4 Perimeter at (6:00)
	(9-10)	open
III(Front)	(1-2)	EM1 face(E) Contact sensor
	(3-4)	EM1 face(F)
	(5-6)	Central Support Tube (front)
	(7-8)	Strong Back Perimeter at (9:00)
	(9-10)	EM3 Perimeter at (9:00)

D0-(S) EM Sensor/Conn. Location

10-Pin Connector Location	Connector Pin Number	RTD Sensor Location
III(Back)	(1-2)	EM4 face(N)
	(3-4)	EM4 Perimeter at (9:00)
	(5-6)	open
	(7-8)	open
	(9-10)	open
IV(Front)	(1-2)	EM1 face(G) Contact sensor
	(3-4)	EM1 face(H)
	(5-6)	Strong Back Perimeter at (12:00)
	(7-8)	EM3 Perimeter at (12:00)
	(9-10)	open
IV(Back)	(1-2)	EM4 face(P)
	(3-4)	EM4 face(Q)
	(5-6)	EM4 face(R)
	(7-8)	EM4 Perimeter at (12:00)
	(9-10)	open

(2) 10-pin Connectors at each Location (I, II, III, IV) (12:00)

- BEFORE WELDING HALVES TOGETHER.
BREAK EDGES OVER/AS ALONG ENTIRE
BUTTING EDGE.

START WELD ON 4.505 DIA.
STAGGER WELD ON OPPOSITE
SIDE 8' C-C.
FINISH WITH 4/6 WELD ON 4.514 DIA.
TOP UPPER HALF OF PLATE
(N.S. - MAR SIDE)
(P.S. - PAN SIDE)
GRIND WELDS FLUSH.
SEE NOTE 3

NOTE
1. MINIMIZE LOCAL WARPING
MAKING MINIMUM HEAT

2. CUT STUD TO LENGTH /

R ²	LOCATION	QTY
120	ON VERT. C	2 180° APART
120	ON HORIZ. C	2 180° APART
240	ON VERT. C	2 180° APART
240	ON HORIZ. C	2 180° APART
		R TOTAL

04	58.652 DIA.	8 HOLES
03	52.652 DIA.	16 HOLES
02	37.230 DIA.	8 HOLES
01	28.974 DIA.	8 HOLES

[illegible]