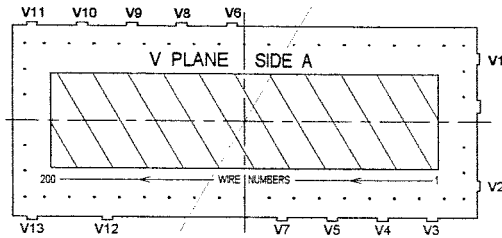
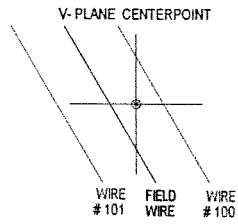
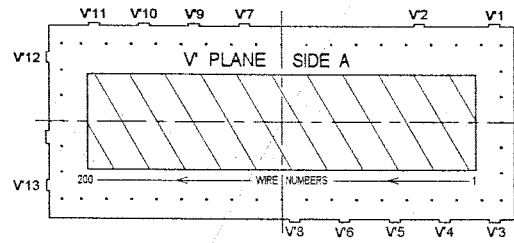
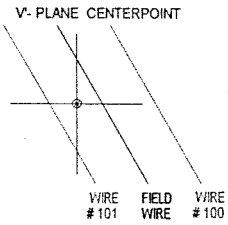


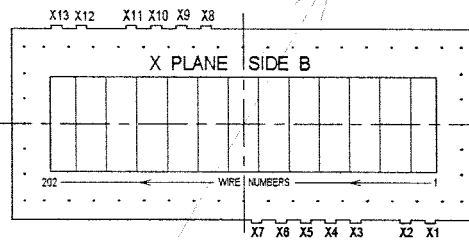
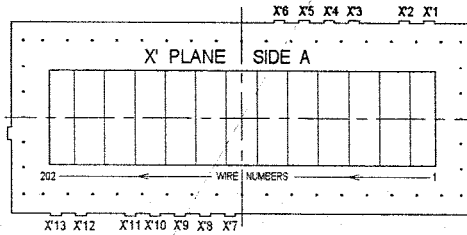
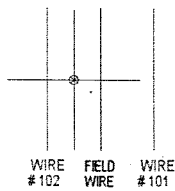
BBC 3 WIRE PLANE GEOMETRY

GREEN: A/D CHANNEL # INCREASES WITH INCREASING WIRE #

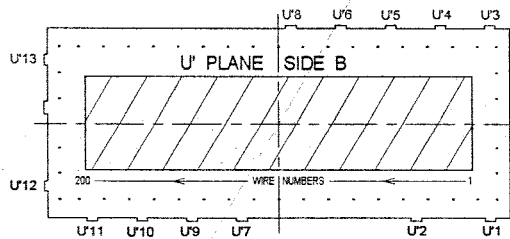
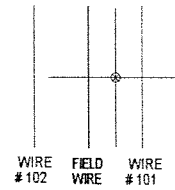
RED: A/D CHANNEL # DECREASES WITH INCREASING WIRE #



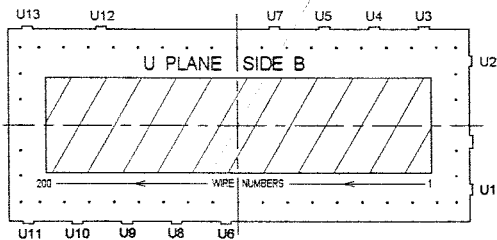
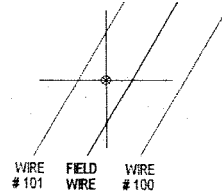
X- PLANE CENTERPOINT



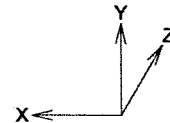
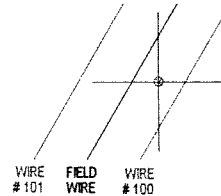
X- PLANE CENTERPOINT



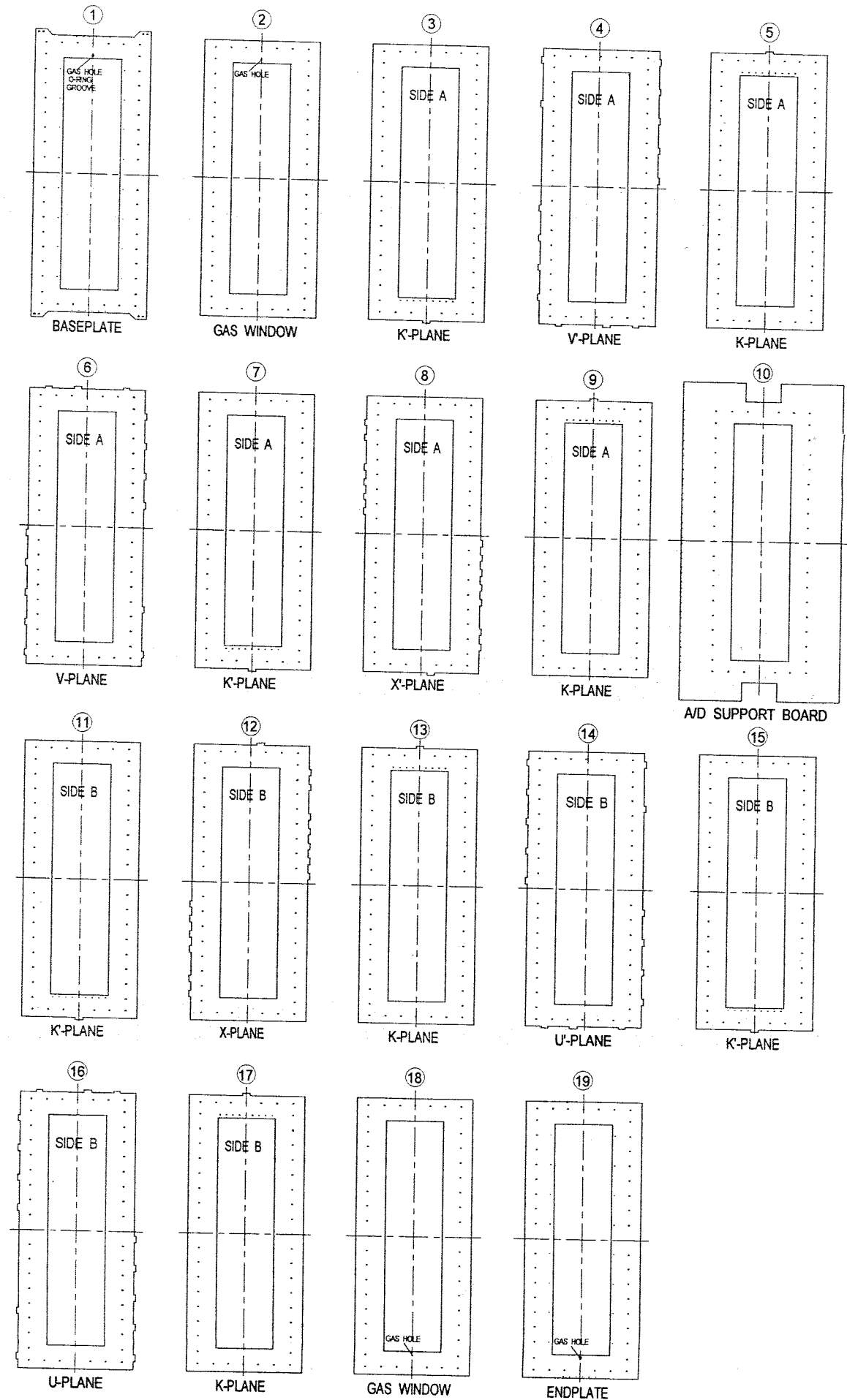
U- PLANE CENTERPOINT



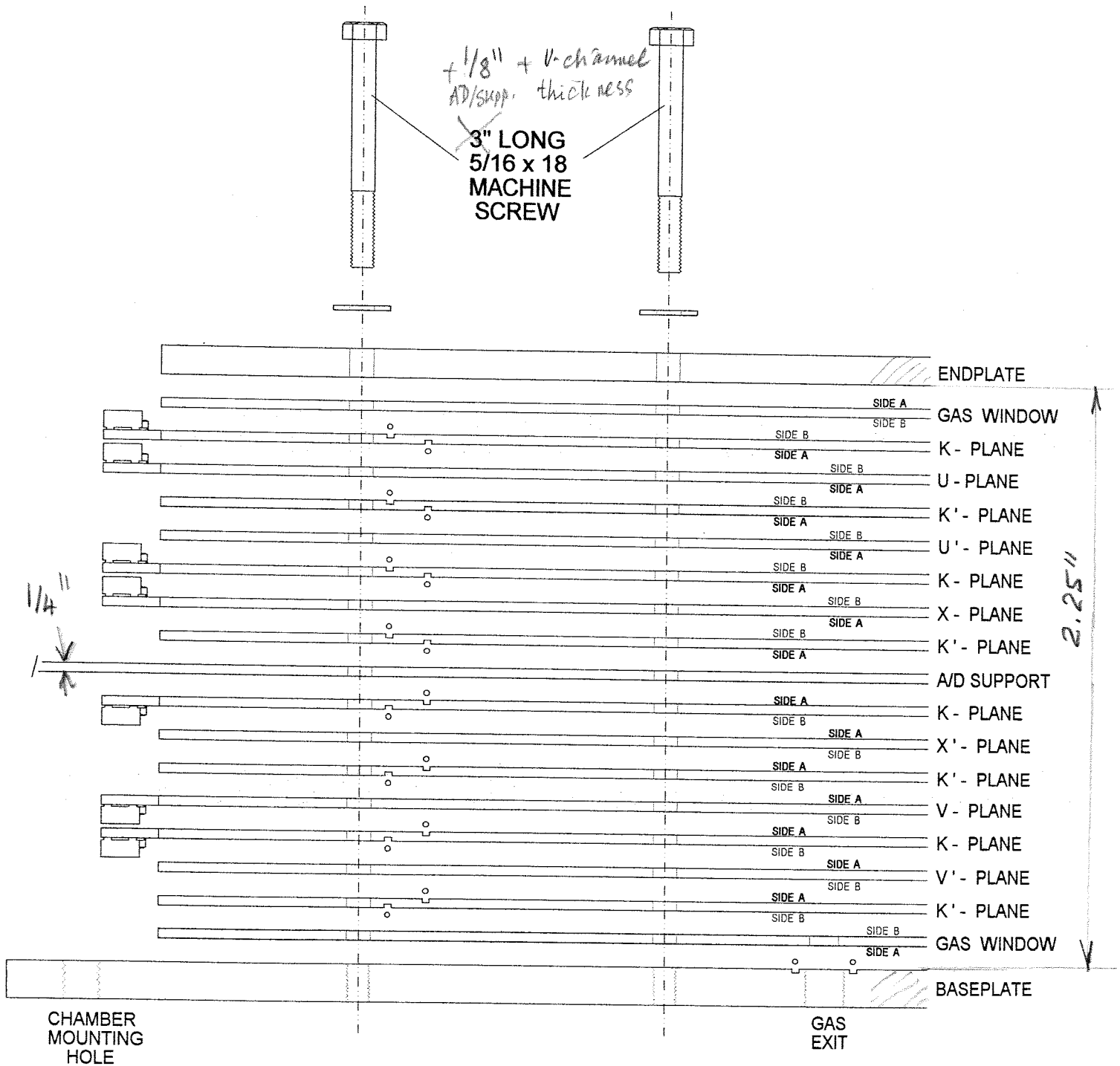
U- PLANE CENTERPOINT



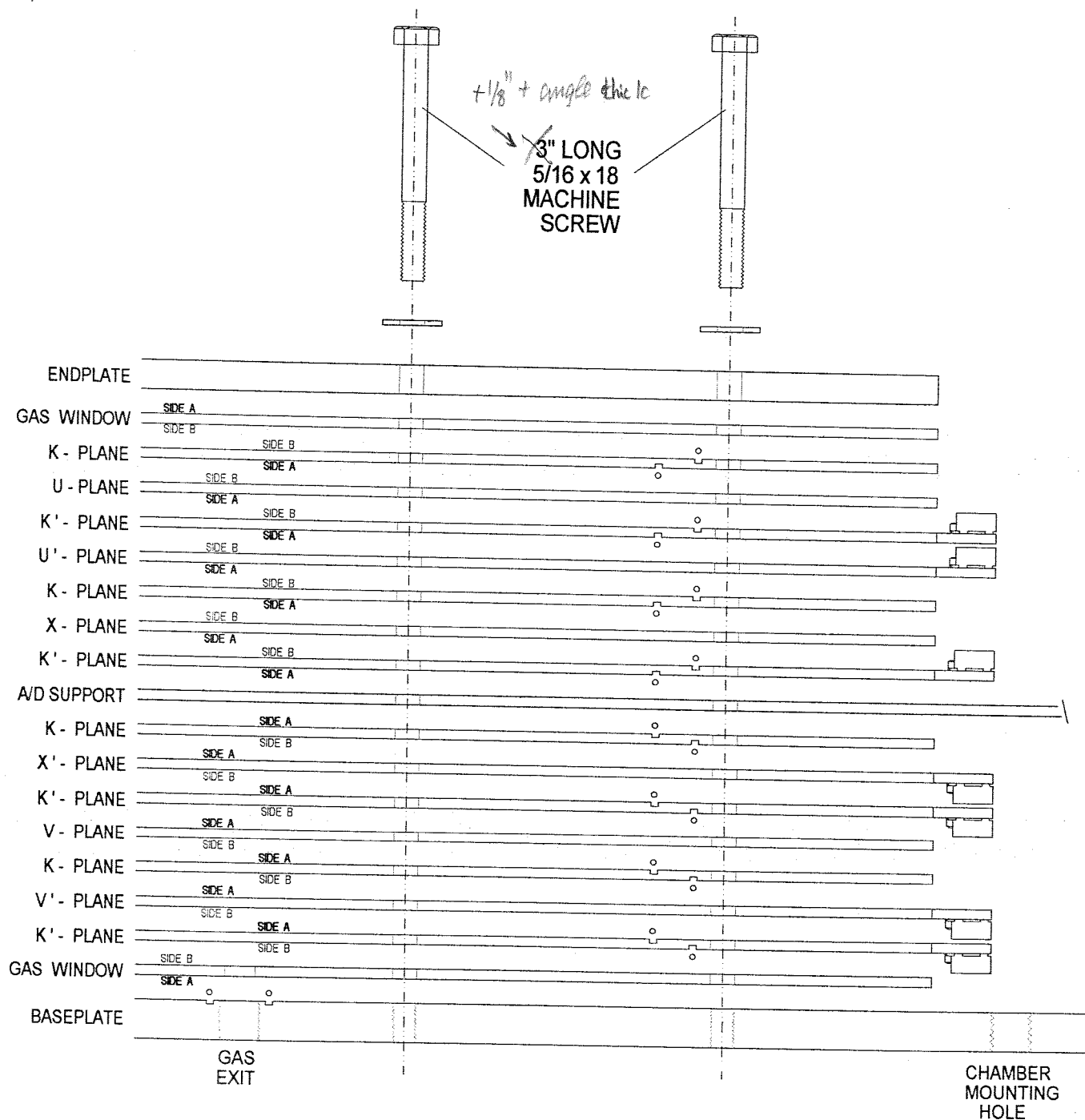
BBC3 CHAMBER ASSEMBLY SEQUENCE



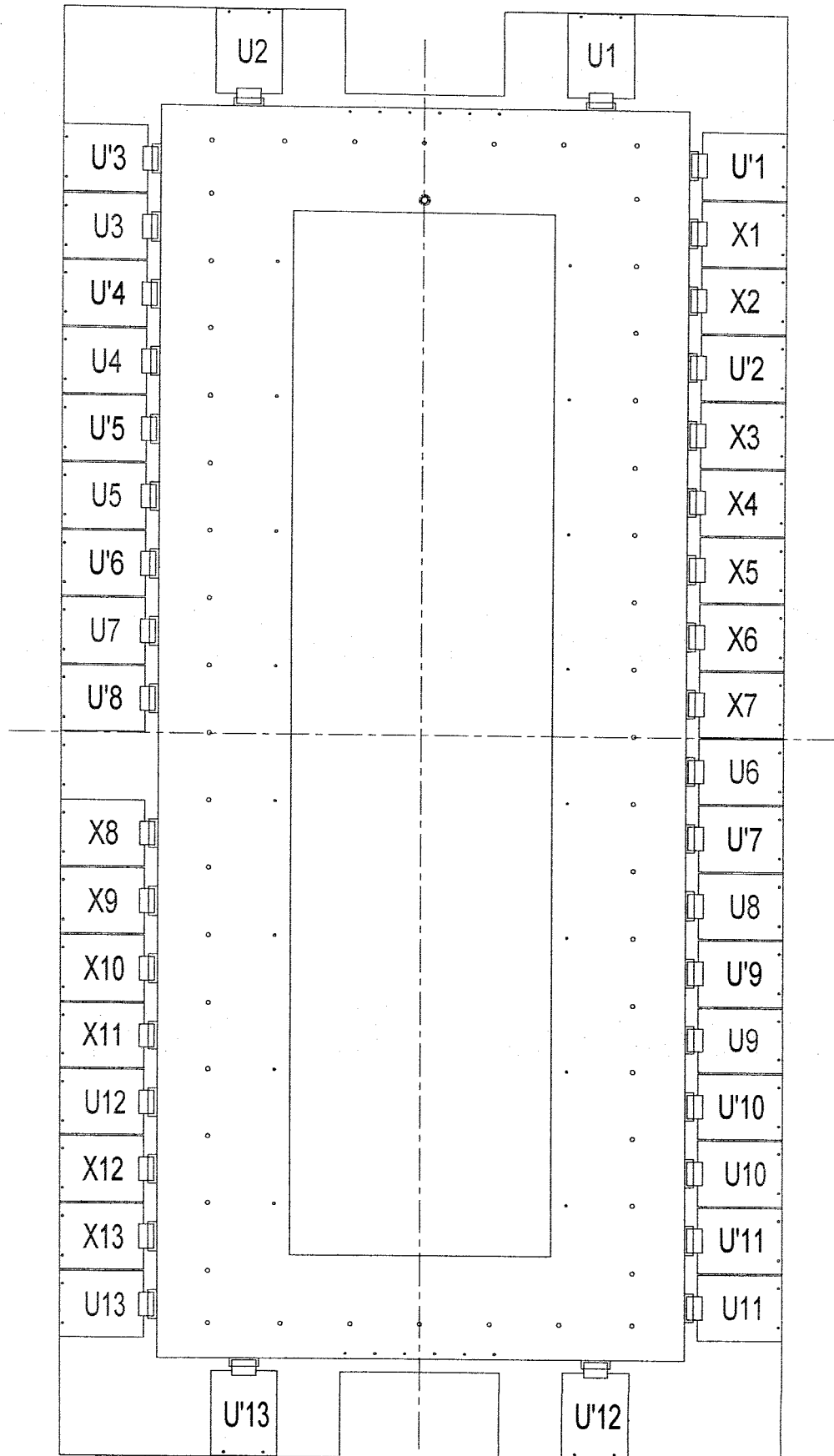
BBC3 CHAMBER ASSEMBLY DRAWING: SIDE VIEW OF END #1 (TOP)



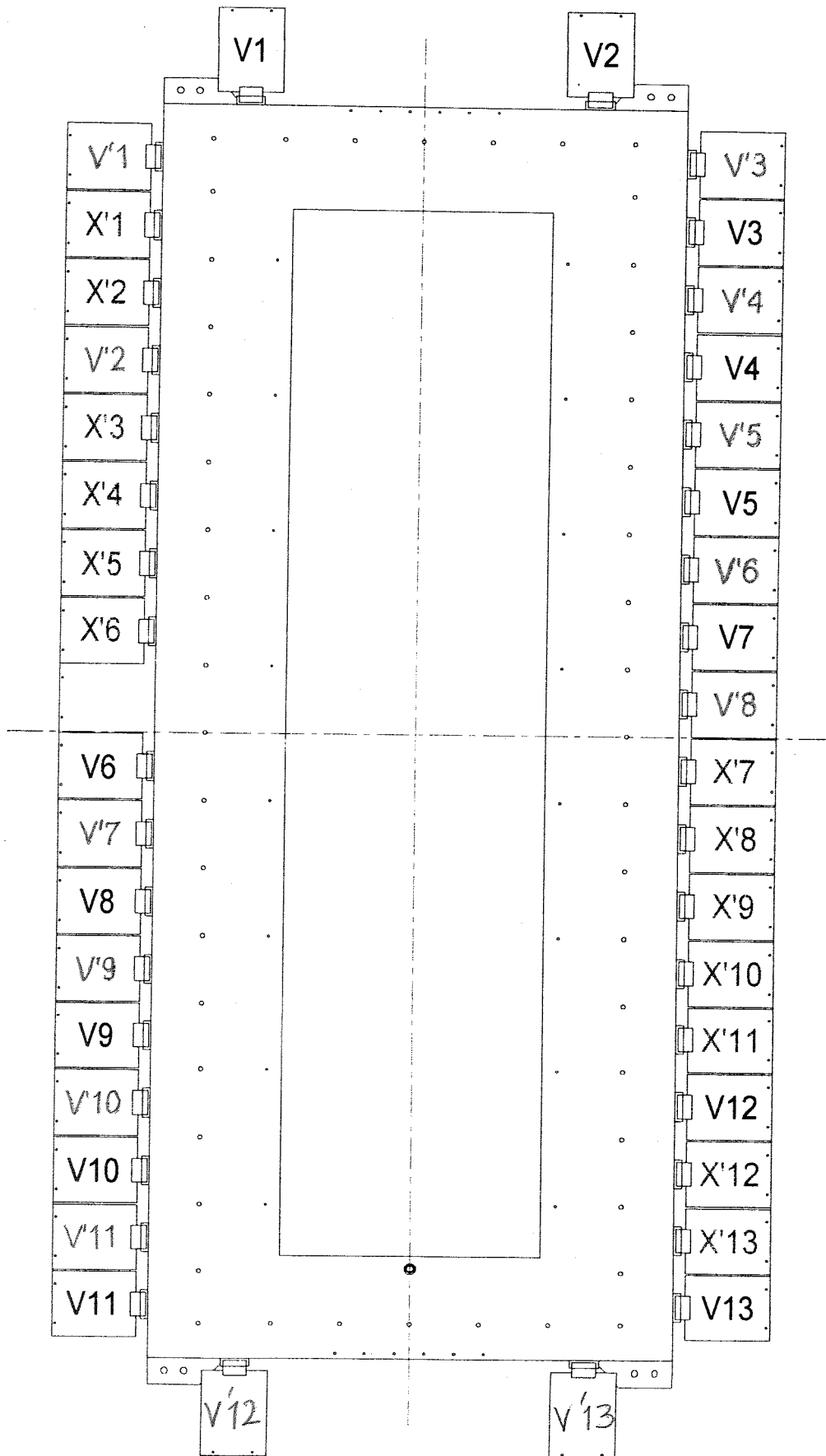
BBC3 CHAMBER ASSEMBLY DRAWING: SIDE VIEW OF END #2 (BOTTOM)



BBC3 FRONT CHAMBER ASSEMBLY
 U, U', X PLANES & A/D ADAPTER CARDS
 MOUNTED ON ADAPTER SUPPORT BOARD
 (LOOKING DOWNSTREAM WITH BEAM)

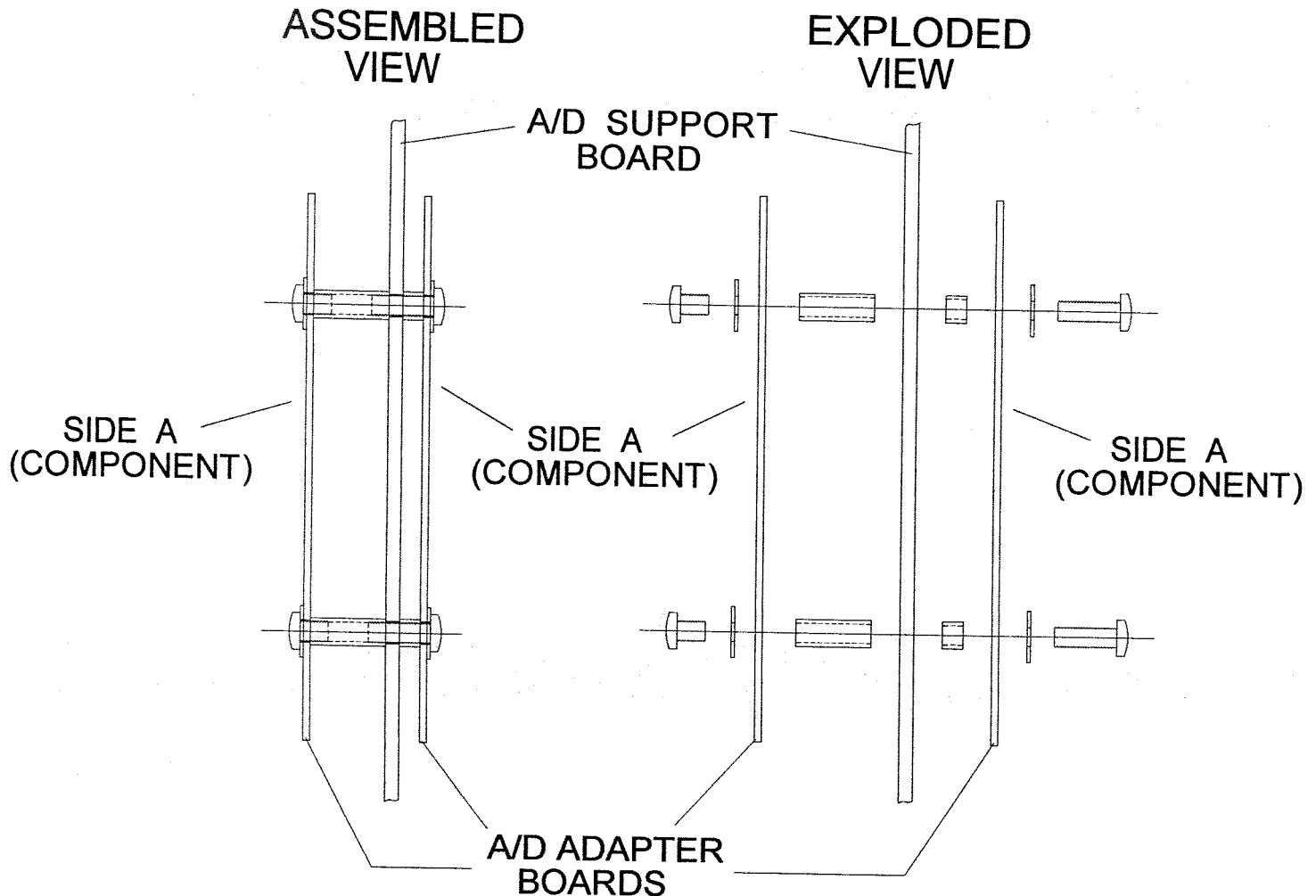


BBC3 REAR CHAMBER ASSEMBLY
X', V', V' PLANES & AD ADAPTER CARDS
MOUNTED ON ADAPTER SUPPORT BOARD
(LOOKING DOWNSTREAM WITH BEAM)



BBC3 ADAPTER BOARD MOUNTING ASSEMBLY DRAWING

VIEW TOWARD CHAMBER (TYPICAL)



REQUIRED MOUNTING HARDWARE

SPACERS (BRASS, 8-32 THREAD)

TYPE	LENGTH	QUANTITY
A	3/16"	52
B	7/16"	52
C	11/16"	52

SCREWS (8-32 BINDING HEAD)

LENGTH	QUANTITY
1/4"	16
3/8"	26
5/8"	26
7/8"	10
1 1/8"	2

BBC3 ADAPTER BOARD ASSEMBLY CHART

SLOTS L1 & R1 LOCATED AT TOP OF CHAMBER

SLOTS L2 - L19 LOCATED ON LEFT SIDE OF CHAMBER

SLOTS R2 - R19 LOCATED ON RIGHT SIDE OF CHAMBER

SLOTS L20 & R20 LOCATED AT BOTTOM OF CHAMBER

CHAMBER REAR

A/D SLOT	SCREW LENGTH	ADAPTER CARD #	SPACER TYPE
L1	7/8"	V1	B
L2	3/8"	V'1	C
L3	5/8"	X'1	A
L4	5/8"	X'2	A
L5	1 1/8"	V'2	C
L6	5/8"	X'3	A
L7	5/8"	X'4	A
L8	5/8"	X'5	A
L9	5/8"	X'6	A
L10	3/8"	UNUSED	NONE
L11	1/4"	V6	B
L12	3/8"	V'7	C
L13	1/4"	V8	B
L14	3/8"	V'9	C
L15	1/4"	V9	B
L16	1 1/8"	V'10	C
L17	1/4"	V10	B
L18	3/8"	V'11	C
L19	7/8"	V11	B
L20	3/8"	V'12	C
R1	7/8"	V2	B
R2	3/8"	V'3	C
R3	1/4"	V3	B
R4	3/8"	V'4	C
R5	7/8"	V4	B
R6	3/8"	V'5	C
R7	1/4"	V5	B
R8	3/8"	V'6	C
R9	1/4"	V7	B
R10	3/8"	V'8	C
R11	5/8"	X'7	A
R12	5/8"	X'8	A
R13	5/8"	X'9	A
R14	5/8"	X'10	A
R15	5/8"	X'11	A
R16	7/8"	V12	B
R17	5/8"	X'12	A
R18	5/8"	X'13	A
R19	7/8"	V13	B
R20	3/8"	V'13	C

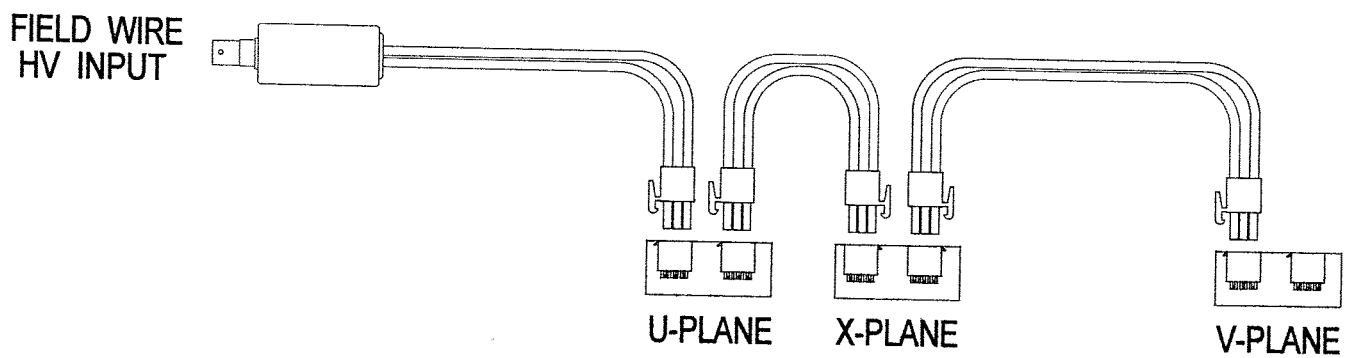
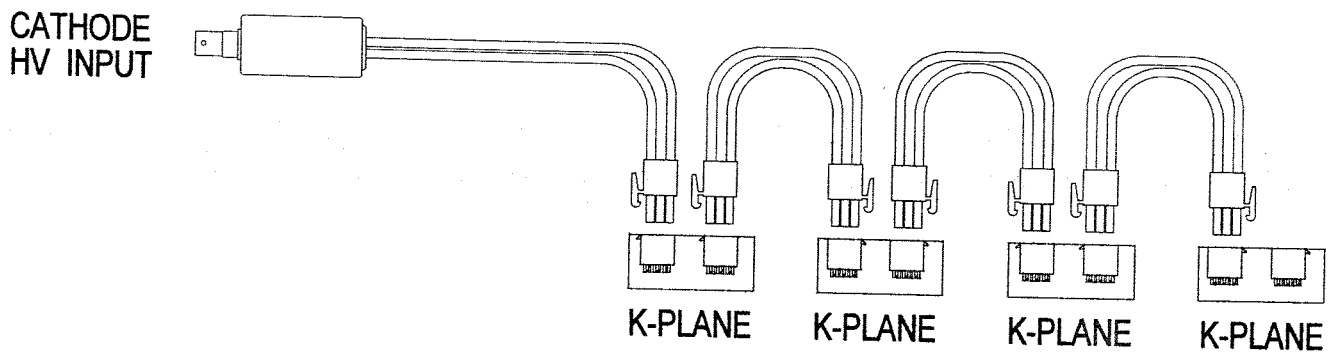
CHAMBER FRONT

SPACER TYPE	ADAPTER CARD #	SCREW LENGTH	A/D SLOT
C	U2	3/8"	L1
B	U'3	7/8"	L2
C	U3	3/8"	L3
B	U'4	1/4"	L4
C	U4	3/8"	L5
B	U'5	1/4"	L6
C	U5	3/8"	L7
B	U'6	1/4"	L8
C	U7	3/8"	L9
B	U'8	1/4"	L10
NONE	UNUSED	3/8"	L11
A	X8	5/8"	L12
A	X9	5/8"	L13
A	X10	5/8"	L14
A	X11	5/8"	L15
C	U12	3/8"	L16
A	X12	5/8"	L17
A	X13	5/8"	L18
C	U13	3/8"	L19
B	U'13	7/8"	L20
C	U1	3/8"	R1
B	U'1	7/8"	R2
A	X1	5/8"	R3
A	X2	5/8"	R4
B	U'2	1/4"	R5
A	X3	5/8"	R6
A	X4	5/8"	R7
A	X5	5/8"	R8
A	X6	5/8"	R9
A	X7	5/8"	R10
C	U6	3/8"	R11
B	U'7	1/4"	R12
C	U8	3/8"	R13
B	U'9	1/4"	R14
C	U9	3/8"	R15
B	U'10	1/4"	R16
C	U10	3/8"	R17
B	U'11	1/4"	R18
C	U11	3/8"	R19
B	U'12	7/8"	R20

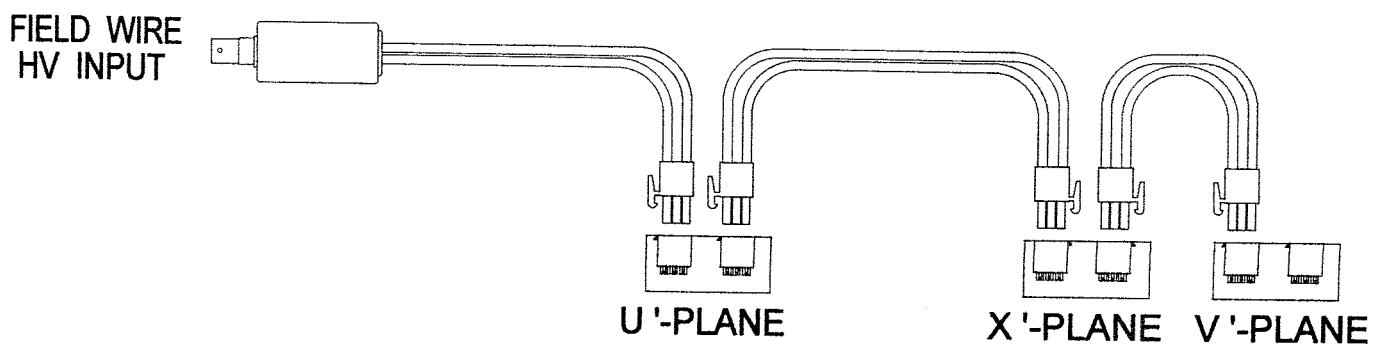
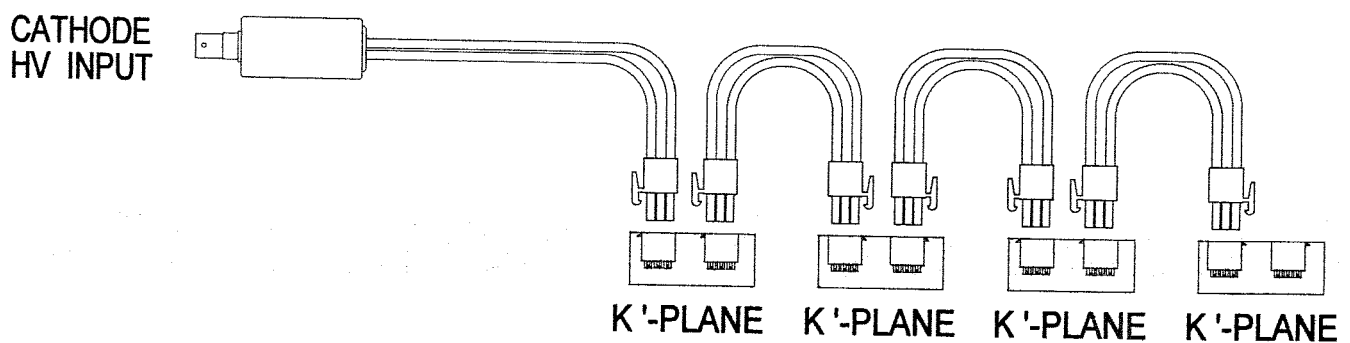
ADAPTER SUPPORT BOARD

BBC3 HV CABLING SCHEMATIC

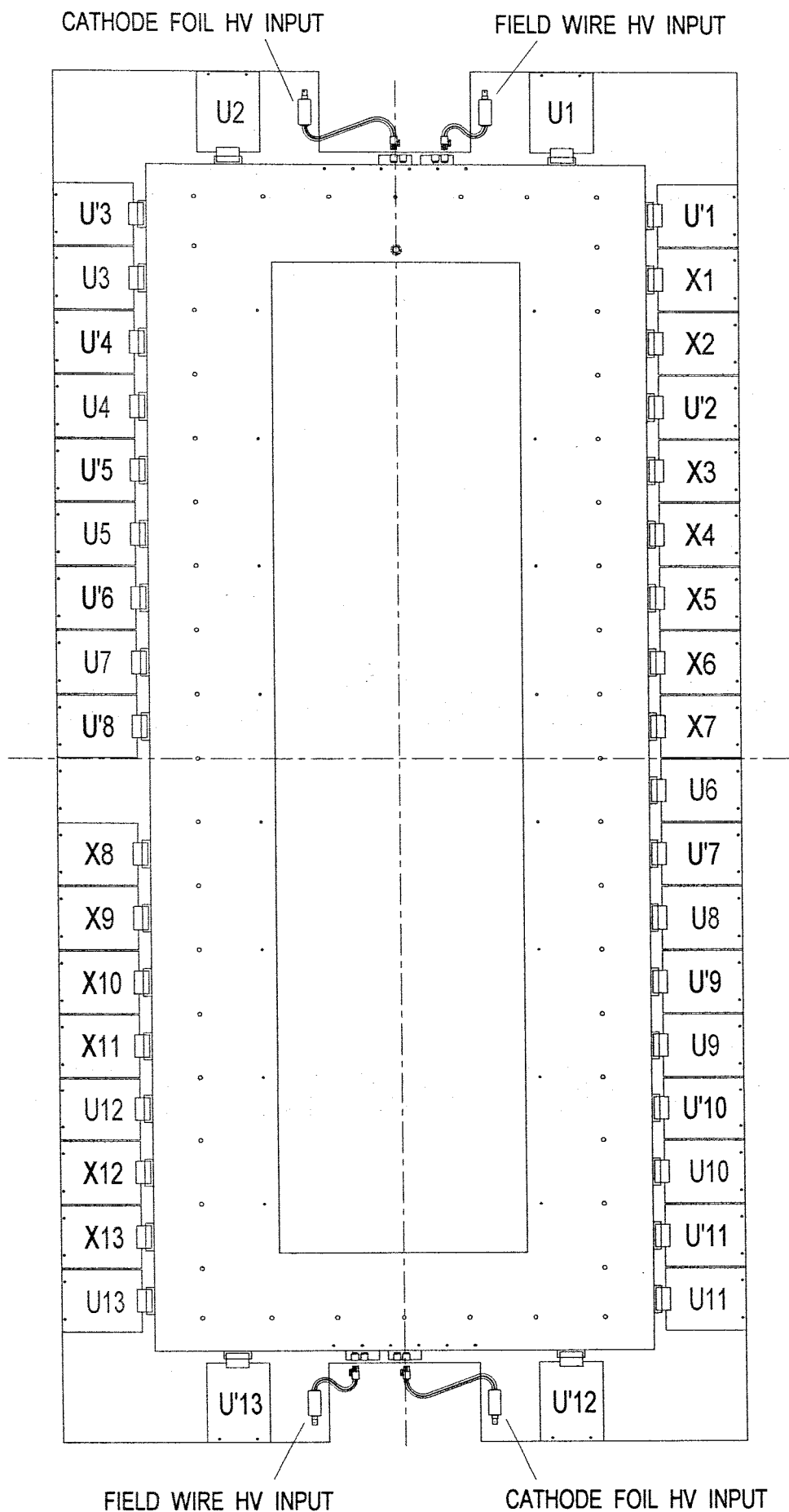
HV CABLING: END #1



HV CABLING: END #2



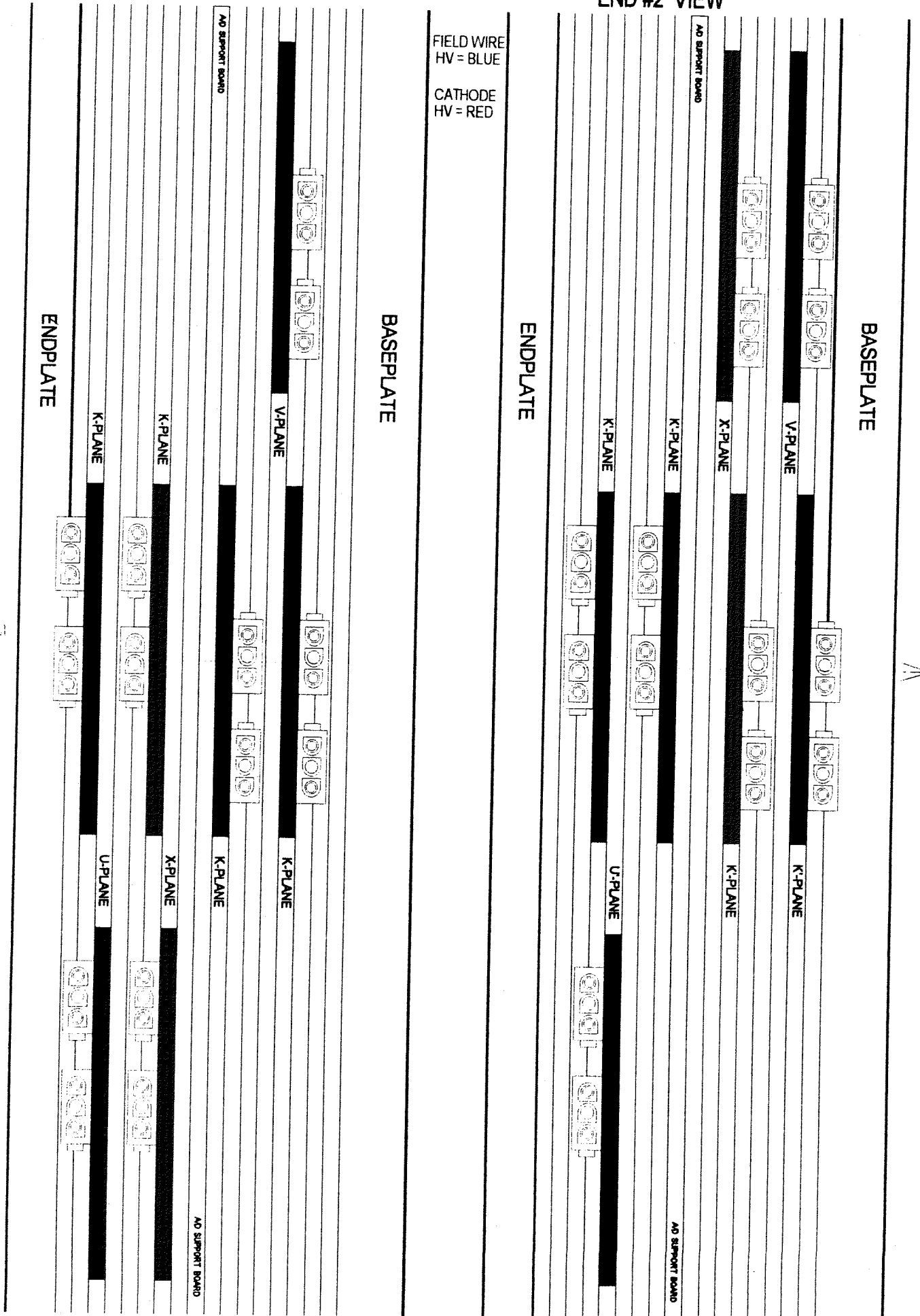
BBC3 FRONT CHAMBER ASSEMBLY SHOWING FIELD WIRE AND CATHODE FOIL HV INPUTS



BBC3 CHAMBER FIELD WIRE & CATHODE HV INPUTS (SCALE = 1:1)

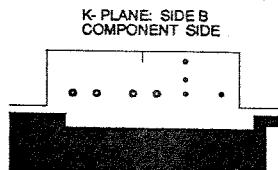
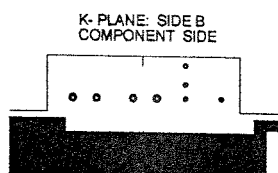
END #1 VIEW

END #2 VIEW

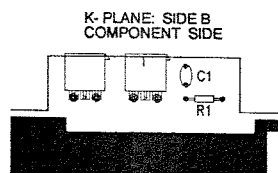


BBC3 HV COMPONENTS & ASSEMBLY

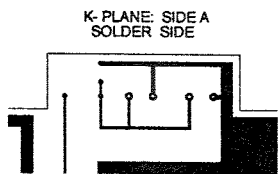
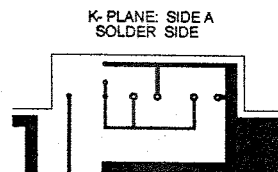
HV TABS: K-PLANE



HV TRACES SHOWN IN RED

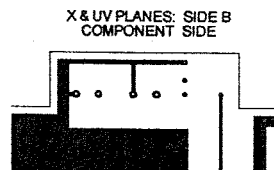
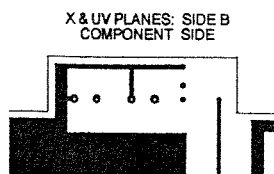


R1: 1.0 MEGOHM, 1/4 WATT
C1: 0.001 uF, 3 KV

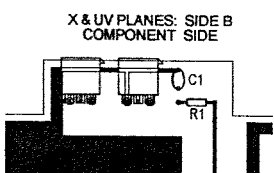


HV TRACES SHOWN IN RED

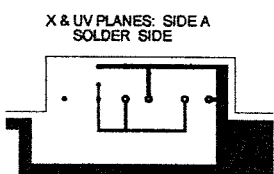
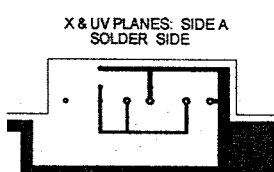
HV TABS: X & UV PLANES



HV TRACES SHOWN IN RED

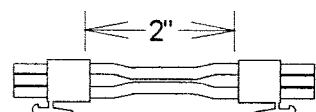
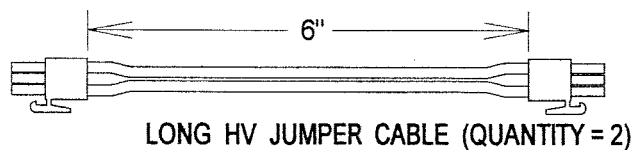
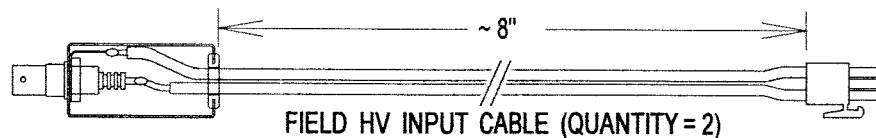
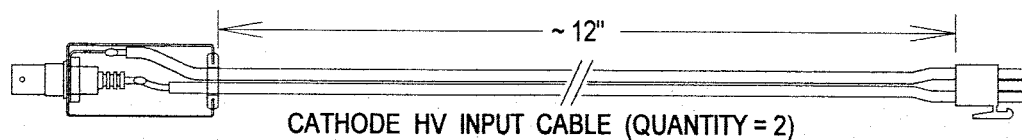
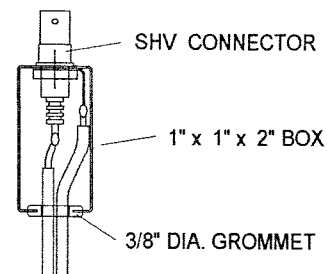


R1: 1.0 MEGOHM, 1/4 WATT
C1: 0.001 uF, 3 KV



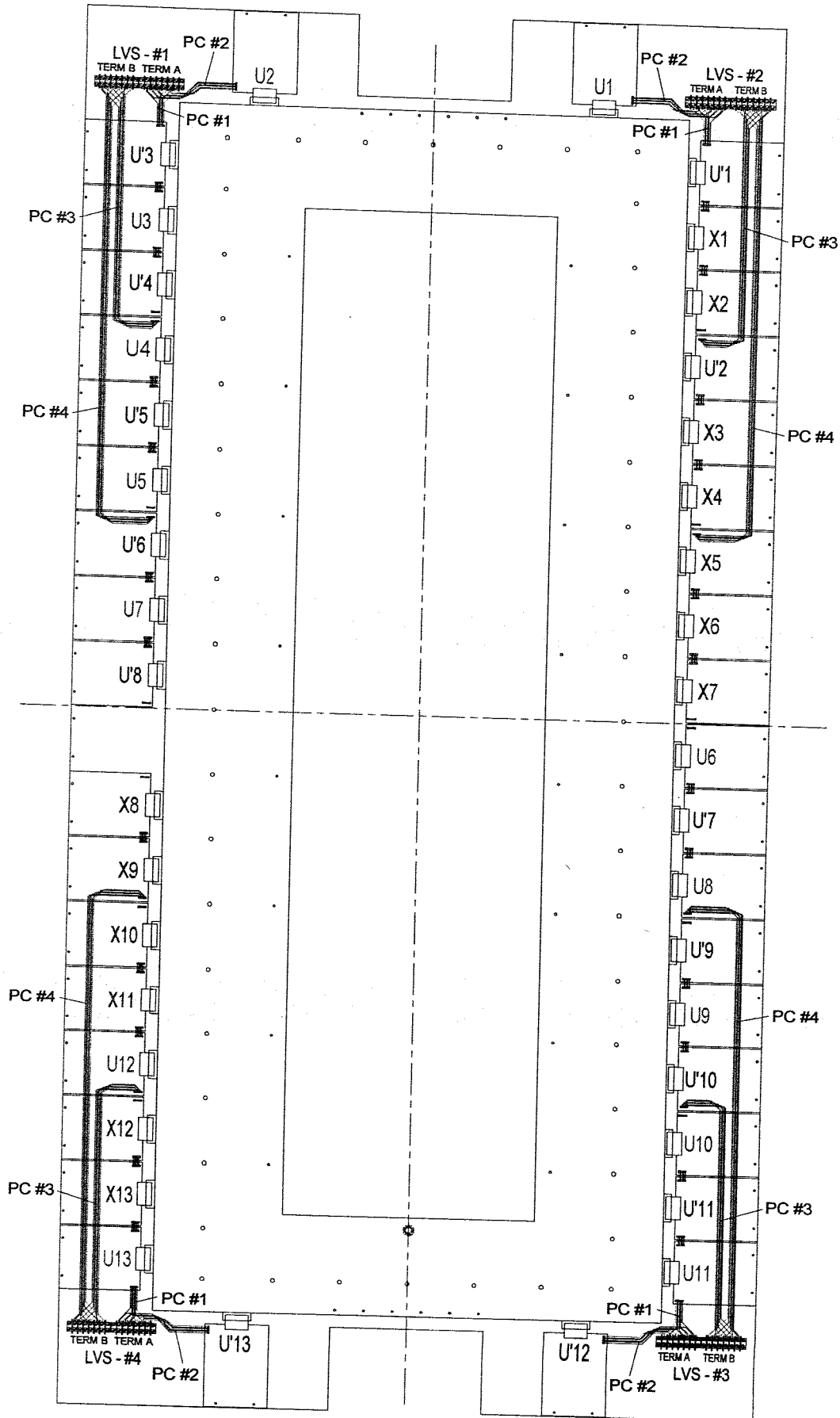
HV TRACES SHOWN IN RED

HV ADAPTER BOX



BBC3 FRONT CHAMBER LOW VOLTAGE DISTRIBUTION DIAGRAM SHOWING THE CABLING FOR THE AD ADAPTER CARDS FOR THE U, U', X PLANES

(LOOKING DOWNSTREAM WITH BEAM)



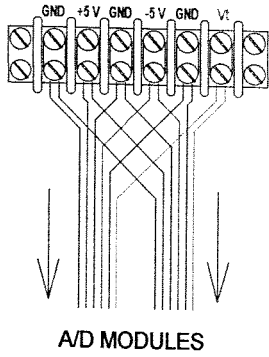
BBC3 REAR CHAMBER LOW VOLTAGE DISTRIBUTION DIAGRAM SHOWING THE CABLING FOR THE AD ADAPTER CARDS FOR THE X',V,V' PLANES

(LOOKING UPSTREAM TOWARD BEAM)

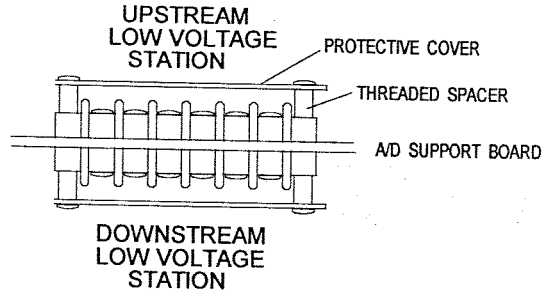


BBC3 LOW VOLTAGE POWER AND A/D BIAS DISTRIBUTION COMPONENTS

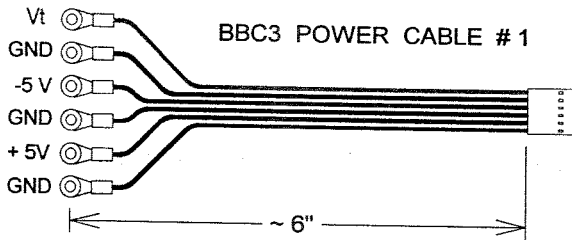
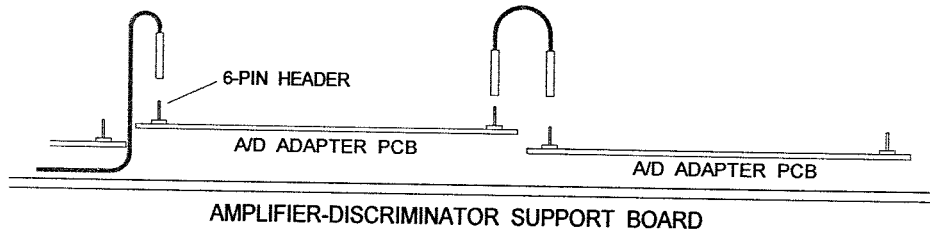
LOW VOLTAGE POWER & A/D BIAS INPUT STATION



BACK-TO-BACK LVS STATIONS

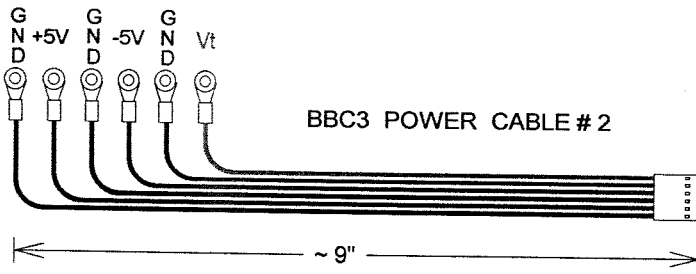


LOW VOLTAGE POWER AND CHAMBER BIAS CONNECTIONS TO A/D ADAPTER PCB'S

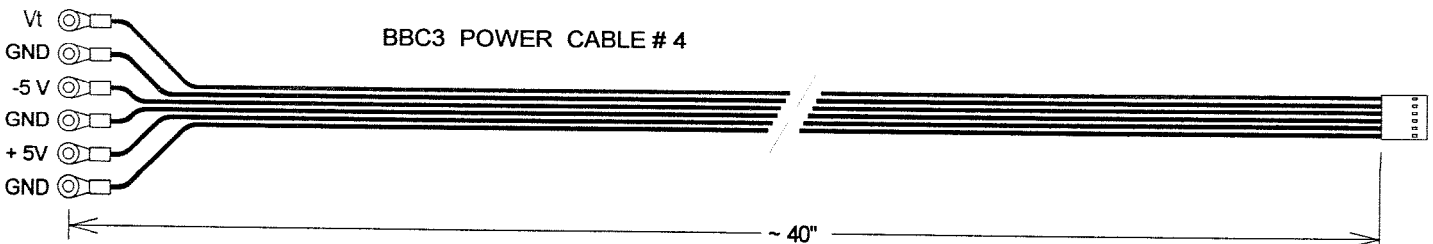
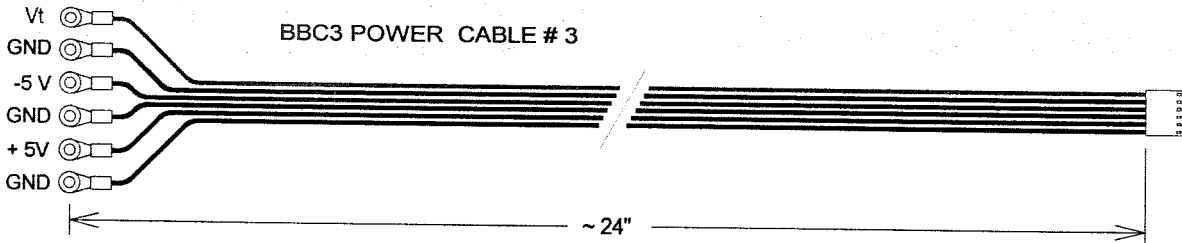


BBC3 POWER CABLES: REQUIRED QUANTITIES

BBC3 POWER CABLE #1	8
BBC3 POWER CABLE #2	8
BBC3 POWER CABLE #3	8
BBC3 POWER CABLE #4	8
JUMPER POWER CABLE	46

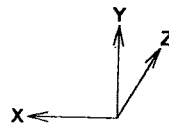
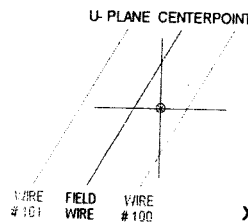
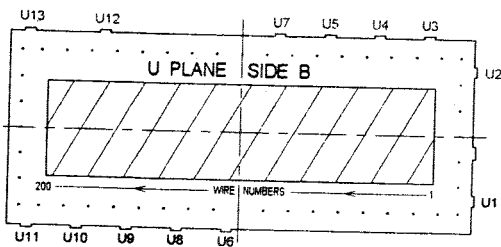
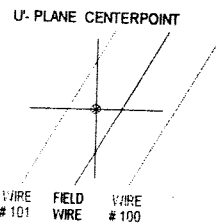
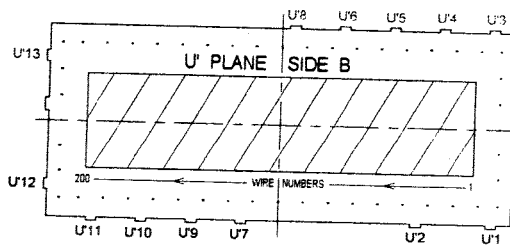
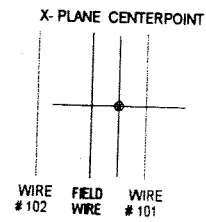
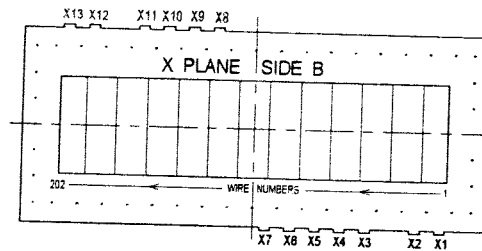
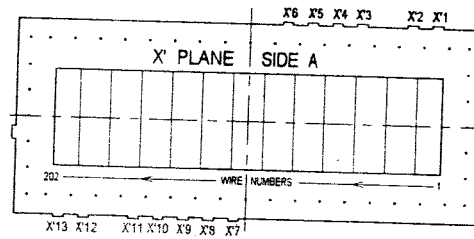
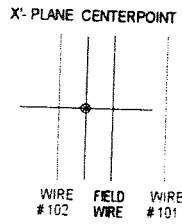
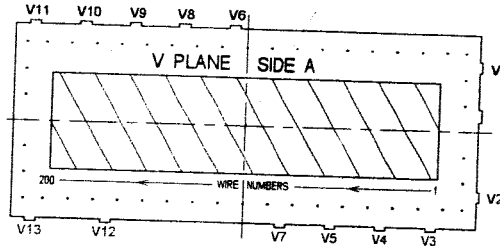
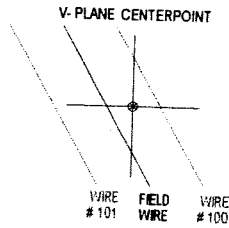
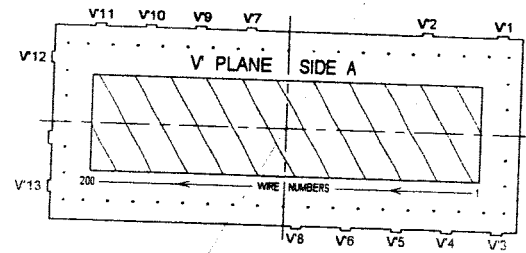
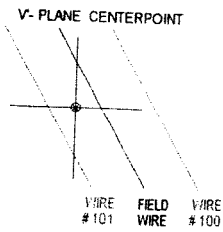


JUMPER POWER CABLE



BBC 3 WIRE PLANE GEOMETRY

GREEN: A/D CHANNEL # INCREASES WITH INCREASING WIRE #
 RED: A/D CHANNEL # DECREASES WITH INCREASING WIRE #



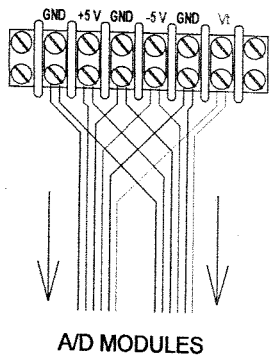
100-25

BBC3 WIRE MAPS

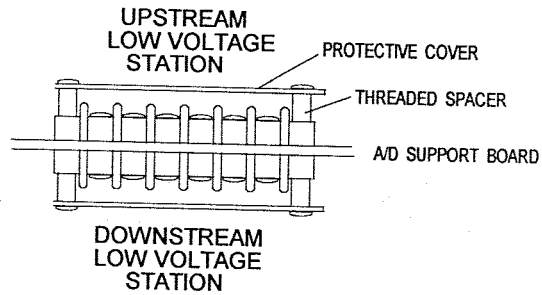
U-PLANE			U'-PLANE			X-PLANE			X'-PLANE			V-PLANE			V'-PLANE		
WIRE GROUP	WIRE #	A/D CHAN #	WIRE GROUP	WIRE #	A/D CHAN #	WIRE GROUP	WIRE #	A/D CHAN #	WIRE GROUP	WIRE #	A/D CHAN #	WIRE GROUP	WIRE #	A/D CHAN #	WIRE GROUP	WIRE #	A/D CHAN #
U1	W1 ⋮ W12	12 ⋮ 1	U'1	W1 ⋮ W12	12 ⋮ 1	X1	W1 ⋮ W13	13 ⋮ 1	X'1	W1 ⋮ W13	13 ⋮ 1	V1	W1 ⋮ W12	12 ⋮ 1	V'1	W1 ⋮ W12	12 ⋮ 1
U2	W13 ⋮ W28	1 ⋮ 16	U'2	W13 ⋮ W28	16 ⋮ 1	X2	W14 ⋮ W29	16 ⋮ 1	X'2	W14 ⋮ W29	16 ⋮ 1	V2	W13 ⋮ W28	1 ⋮ 16	V'2	W13 ⋮ W28	16 ⋮ 1
U3	W29 ⋮ W44	1 ⋮ 16	U'3	W29 ⋮ W44	1 ⋮ 16	X3	W30 ⋮ W45	16 ⋮ 1	X'3	W30 ⋮ W45	16 ⋮ 1	V3	W29 ⋮ W44	1 ⋮ 16	V'3	W29 ⋮ W44	1 ⋮ 16
U4	W45 ⋮ W60	1 ⋮ 16	U'4	W45 ⋮ W60	1 ⋮ 16	X4	W46 ⋮ W61	16 ⋮ 1	X'4	W46 ⋮ W61	16 ⋮ 1	V4	W45 ⋮ W60	1 ⋮ 16	V'4	W45 ⋮ W60	1 ⋮ 16
U5	W61 ⋮ W76	1 ⋮ 16	U'5	W61 ⋮ W76	1 ⋮ 16	X5	W62 ⋮ W77	16 ⋮ 1	X'5	W62 ⋮ W77	16 ⋮ 1	V5	W61 ⋮ W76	1 ⋮ 16	V'5	W61 ⋮ W76	1 ⋮ 16
U6	W77 ⋮ W92	16 ⋮ 1	U'6	W77 ⋮ W92	1 ⋮ 16	X6	W78 ⋮ W93	16 ⋮ 1	X'6	W78 ⋮ W93	16 ⋮ 1	V6	W77 ⋮ W92	16 ⋮ 1	V'6	W77 ⋮ W92	1 ⋮ 16
U7	W93 ⋮ W108	1 ⋮ 16	U'7	W93 ⋮ W108	16 ⋮ 1	X7	W94 ⋮ W109	16 ⋮ 1	X'7	W94 ⋮ W109	1 ⋮ 16	V7	W93 ⋮ W108	1 ⋮ 16	V'7	W93 ⋮ W108	16 ⋮ 1
U8	W109 ⋮ W124	16 ⋮ 1	U'8	W109 ⋮ W124	1 ⋮ 16	X8	W110 ⋮ W125	1 ⋮ 16	X'8	W110 ⋮ W125	1 ⋮ 16	V8	W109 ⋮ W124	16 ⋮ 1	V'8	W109 ⋮ W124	1 ⋮ 16
U9	W125 ⋮ W140	16 ⋮ 1	U'9	W125 ⋮ W140	16 ⋮ 1	X9	W126 ⋮ W141	1 ⋮ 16	X'9	W126 ⋮ W141	1 ⋮ 16	V9	W125 ⋮ W140	16 ⋮ 1	V'9	W125 ⋮ W140	16 ⋮ 1
U10	W141 ⋮ W156	16 ⋮ 1	U'10	W141 ⋮ W156	16 ⋮ 1	X10	W142 ⋮ W157	1 ⋮ 16	X'10	W142 ⋮ W157	1 ⋮ 16	V10	W141 ⋮ W156	16 ⋮ 1	V'10	W141 ⋮ W156	16 ⋮ 1
U11	W157 ⋮ W172	16 ⋮ 1	U'11	W157 ⋮ W172	16 ⋮ 1	X11	W158 ⋮ W173	1 ⋮ 16	X'11	W158 ⋮ W173	1 ⋮ 16	V11	W157 ⋮ W172	16 ⋮ 1	V'11	W157 ⋮ W172	16 ⋮ 1
U12	W173 ⋮ W188	1 ⋮ 16	U'12	W173 ⋮ W188	16 ⋮ 1	X12	W174 ⋮ W189	1 ⋮ 16	X'12	W174 ⋮ W189	1 ⋮ 16	V12	W173 ⋮ W188	1 ⋮ 16	V'12	W173 ⋮ W188	16 ⋮ 1
U13	W189 ⋮ W200	1 ⋮ 12	U'13	W189 ⋮ W200	1 ⋮ 12	X13	W190 ⋮ W202	1 ⋮ 13	X'13	W190 ⋮ W202	1 ⋮ 13	V13	W189 ⋮ W200	1 ⋮ 16	V'13	W189 ⋮ W200	1 ⋮ 16

BBC3 LOW VOLTAGE POWER AND A/D BIAS DISTRIBUTION COMPONENTS

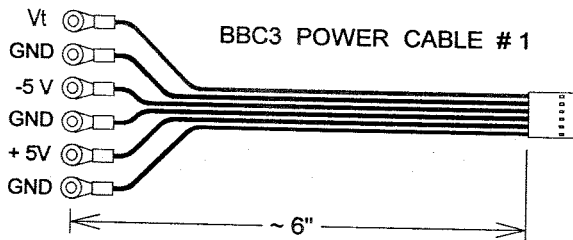
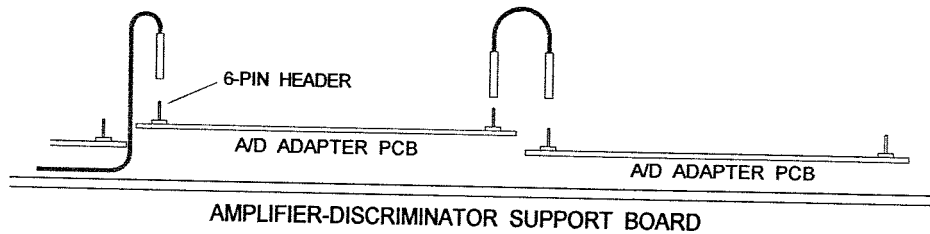
LOW VOLTAGE POWER & A/D BIAS INPUT STATION



BACK-TO-BACK LVS STATIONS

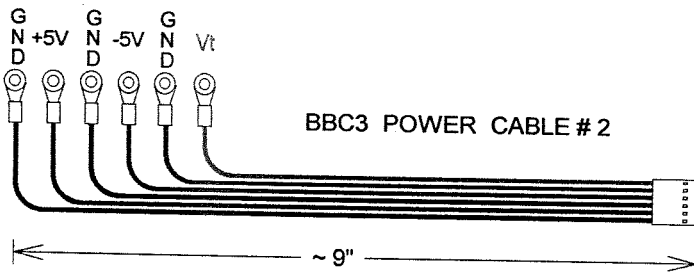


LOW VOLTAGE POWER AND CHAMBER BIAS CONNECTIONS TO A/D ADAPTER PCB'S

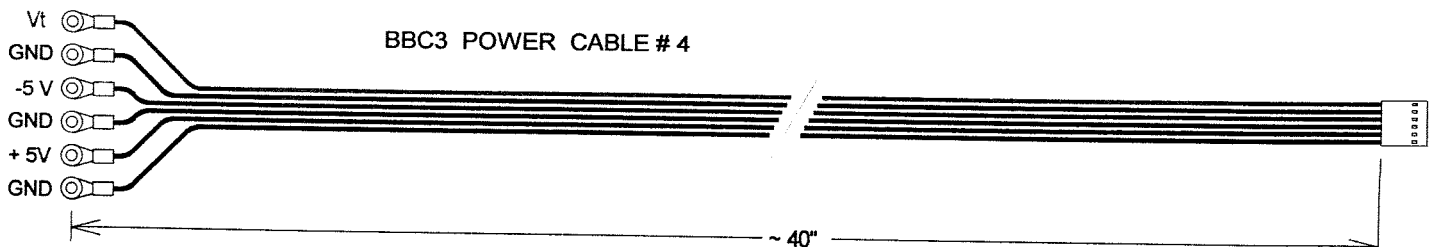
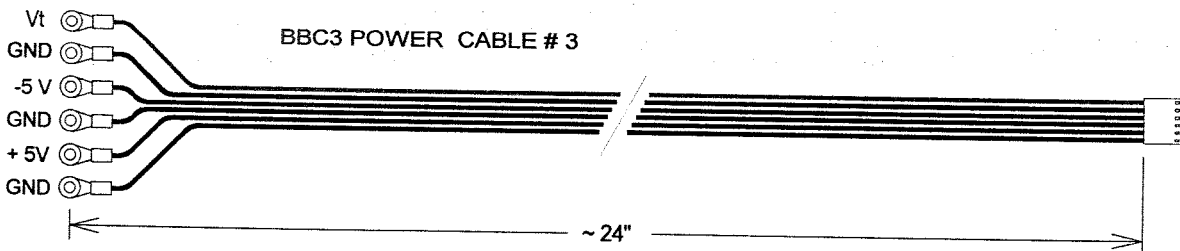
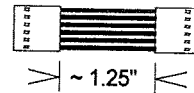


BBC3 POWER CABLES: REQUIRED QUANTITIES

BBC3 POWER CABLE # 1	8
BBC3 POWER CABLE # 2	8
BBC3 POWER CABLE # 3	8
BBC3 POWER CABLE # 4	8
JUMPER POWER CABLE	46

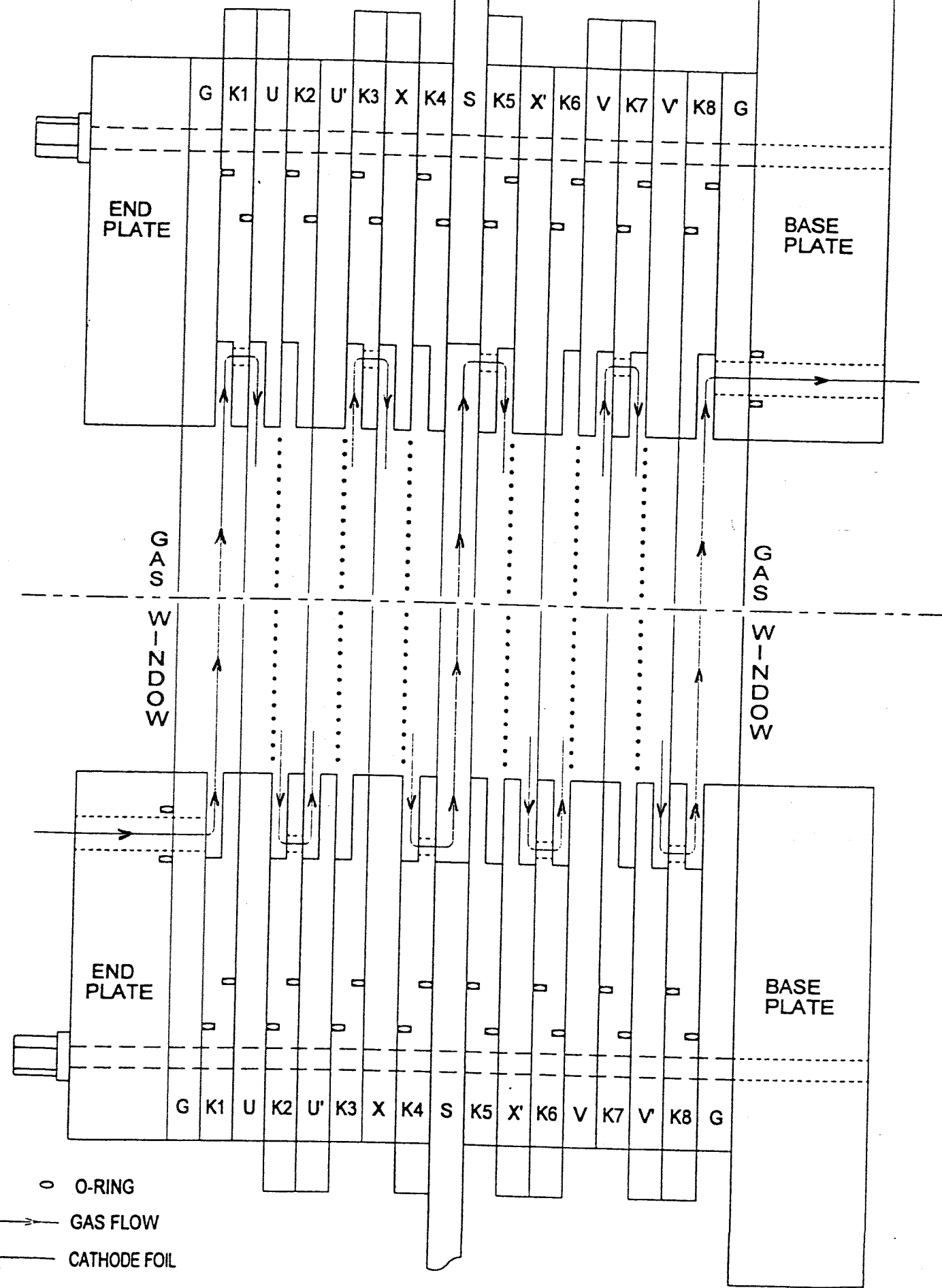


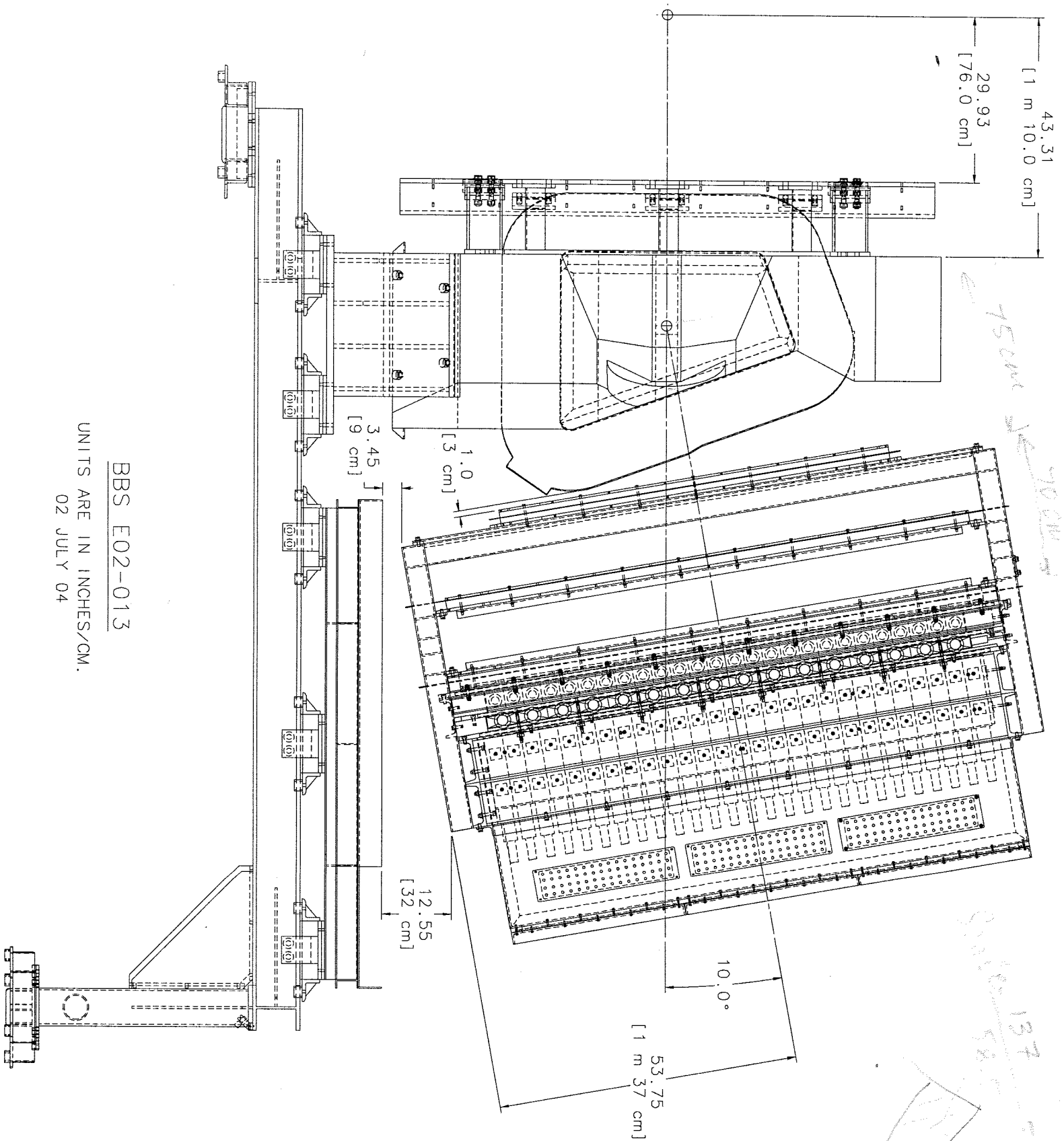
JUMPER POWER CABLE



CHAMBER GAS FLOW - SCHEMATIC

HORIZONTAL SCALE = 4 x VERTICAL SCALE





BBS E02-013

UNITS ARE IN INCHES/CM.
02 JULY 04