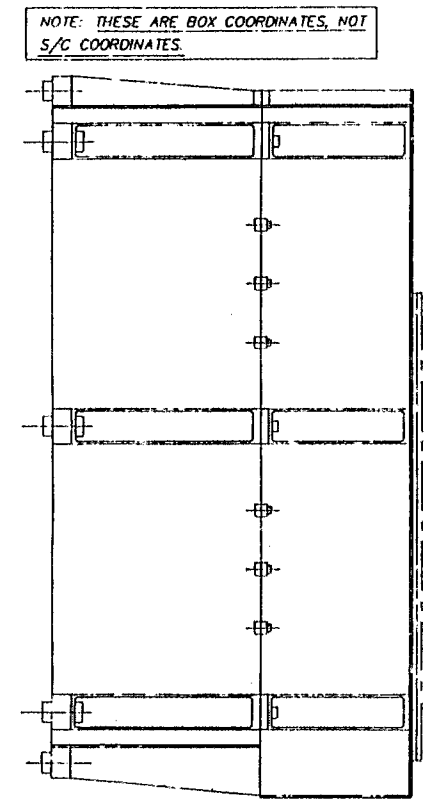


- NOTES: UNLESS OTHERWISE NOTED
- 1.) PRIMARY 90 DEGREE FIELDS OF VIEW TO BE FREE OF ANY S/C OBSTRUCTIONS TYP 4 PLS
  - 2.) SECONDARY 146 DEGREE FOV TO HAVE MINIMAL S/C OBSTRUCTION TYP 1 PLACE.
  - 3.) EST EXPERIMENT MASS: 29.33 kg
  - 4.) EST. CENTER OF GRAVITY: FROM DATUMS ( X, Y, Z )  
10.45 " 9.75 " "
  - 5.) INERTIA MATRIX:  
THE INERTIA MATRIX IS CALCULATED USING UNITS OF METERS & KILOGRAMS- INPUT DATA IS IN UNITS OF INCHES & GRAMS.
- IXX= .4448641 IXY= 4.196377E-02 IXZ= 2.542118E-02  
IYY= 4.196377E-02 IYY= .6203227 IYZ= -4.521741E-03  
IZZ= 2.542118E-02 IZY= -4.521741E-03 IZZ= .875388J



- NOTES- CONTINUED
- 5a) CENTER OF GRAVITY & MOMENTS OF INERTIA CALCULATED TO 10% ACCURACY.
  - 6.) HOLES IN MOUNTING FEET TO BE LOCATED & DRILLED USING CRIS INSTRUMENT DRILL TEMPLATE GD1549624-1
  - 7.) MATCHING DRILL TEMPLATE GD1549624-2 TO BE PROVIDED TO APL FOR LOCATION OF FASTENERS IN APL S/C VERTICAL SUPPORT PANEL.
  - 8.) PURGE CONNECTOR: LOCATION AS SHOWN. SWAGELOC 1/4 TUBE O.D., .19 MIN OPENING. SWAGELOC CATALOG # A-401-1-2.
  - 9.) RED TAG ITEMS: ( 1 ) PROTECTIVE APERTURE COVER ( REMOVE PRIOR TO S/C TESTING & FLIGHT ) ( 2 ) HANDLING INSTALLATION FIXTURES ( REMOVE AFTER INSTALLATION OF EXPERIMENT ON S/C )
  - 10.) GREEN TAG ITEM: GREEN GSE CONN COVER TO BE INSTALLED PRIOR TO DELIVERY TO APL
  - 11.) LIFTING INSTRUCTIONS: THE EXPERIMENT SHOULD BE LIFTED & INSTALLED BY THE " RED TAG " HANDLING/ INSTALLATION FIXTURES GD154962J LOCATED ON EACH END. SEE SHEET 2 GD1549600 FOR EXPERIMENT HANDLING/INSTALLATION FIXTURE LOCATION

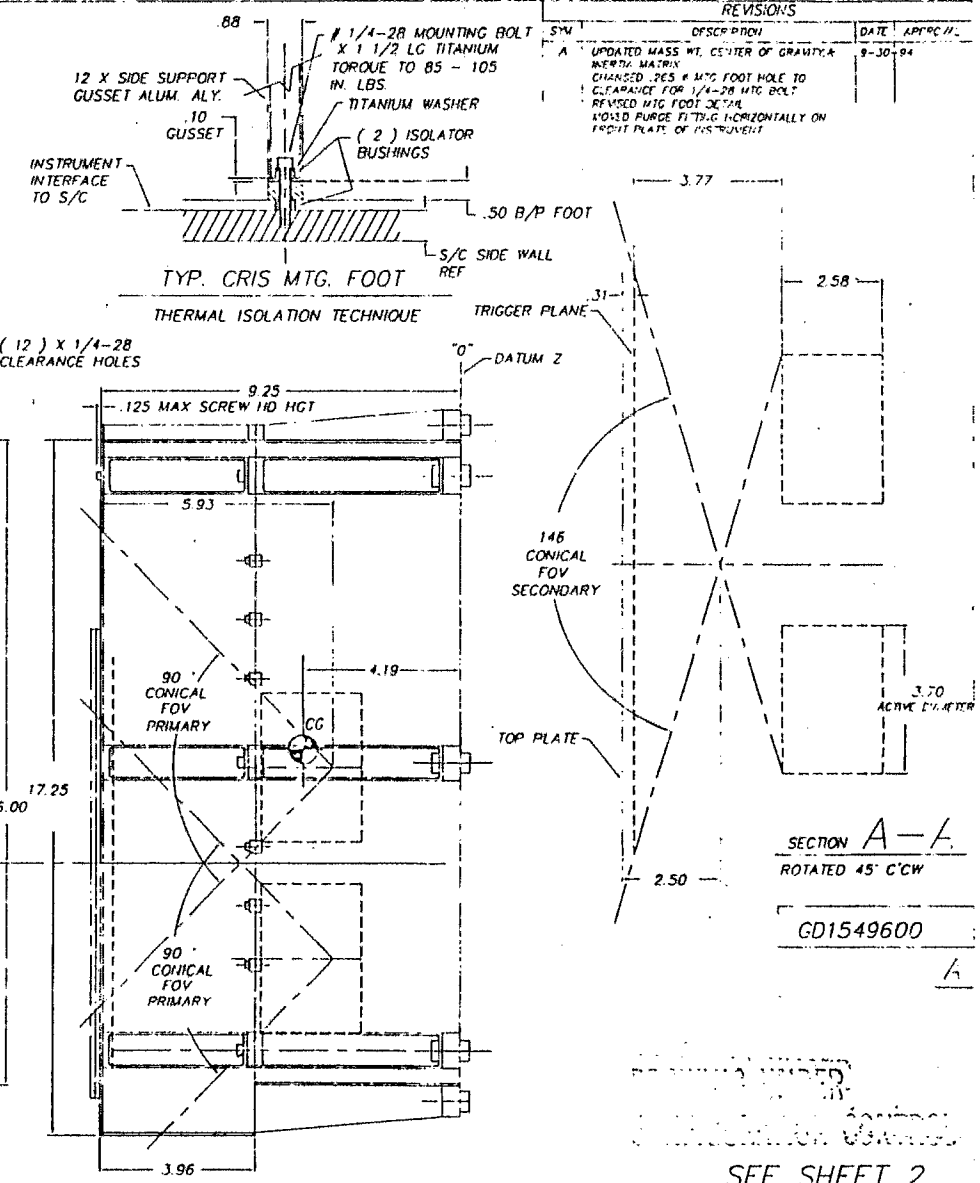
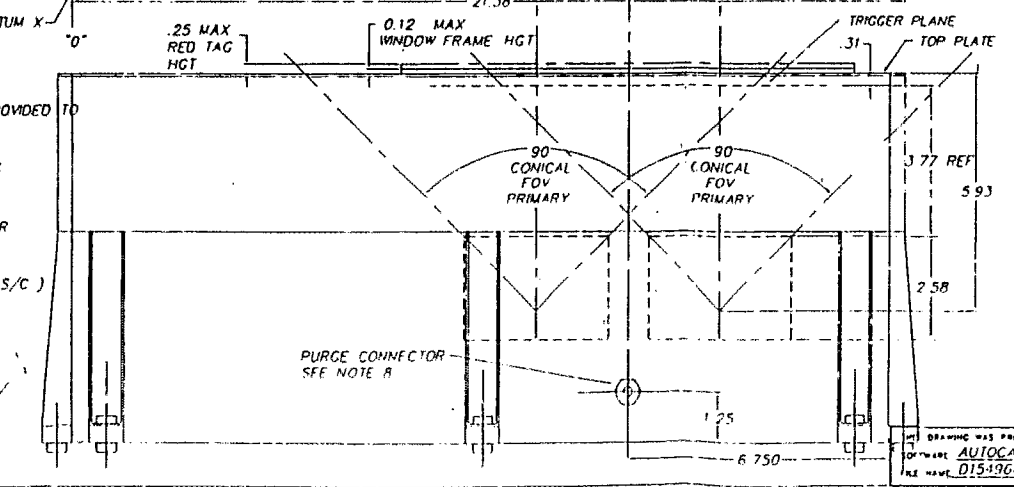
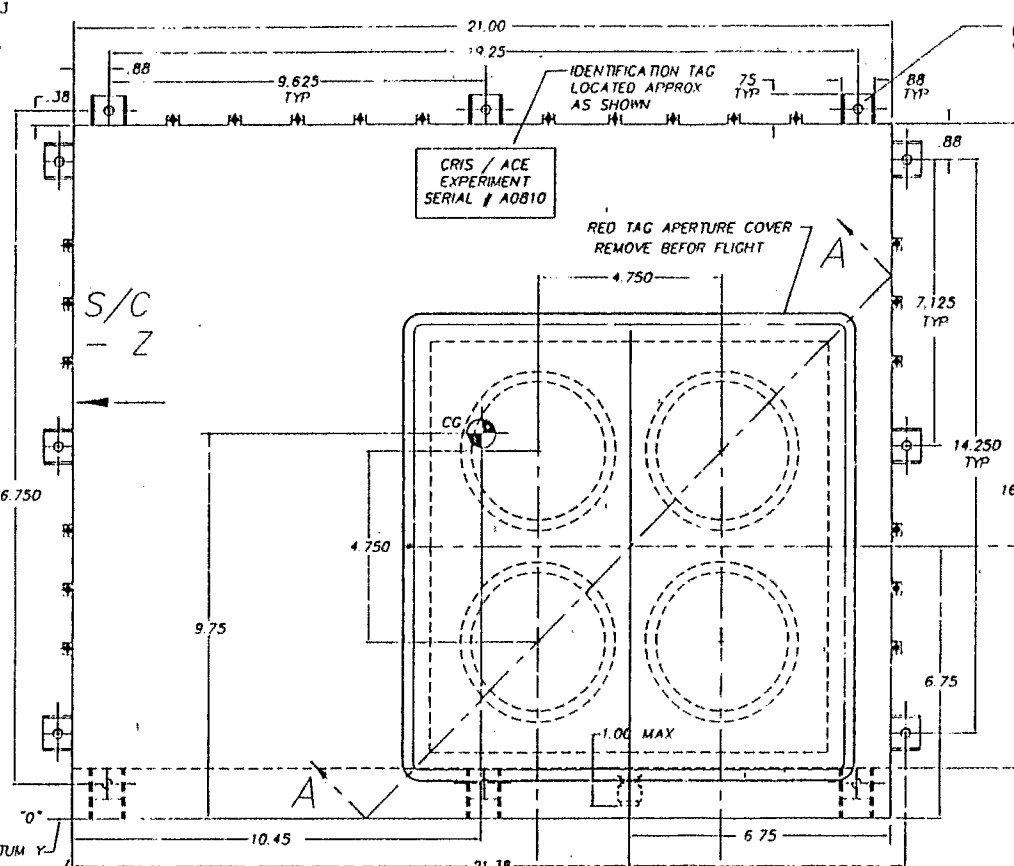
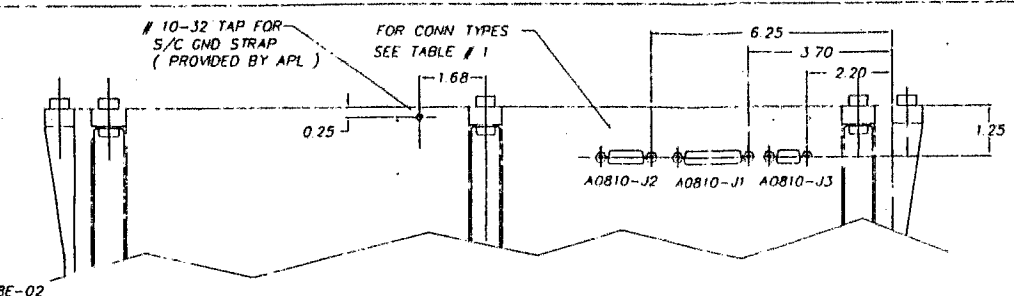


TABLE # 1

CONN #	TYPE	DESCRIPTION	NAME
A0810-J1	EQUIV TO 311P407-3P-B-15	44 PIN HD MALE	S/C DATA CONN
A0810-J2	EQUIV TO 311P409-2P-B-15	15 PIN REG DEN MALE	S/C POWER CONN
A0810-J3	EQUIV TO 311P407-1P-B-15	15 PIN HD MALE	GSE CONN ( INTERNAL )

LIST OF MATERIAL			
ITEM #	PART NO	DESCRIPTION	QUANTITY
Goddard Space Flight Center			
1	TRIXEL	...	...
2	TRIXEL	...	...
3	SIUMAN	...	...
4	TRIXEL	...	...

REVISIONS

SYN	DESCR	DATE	APPROV
A	UPDATED MASS W/ CENTER OF GRAVITY & INERTIA MATRIX CHANGED PER 1/4-28 MTG BOLT CLEARANCE FOR 1/4-28 MTG BOLT REVISED MTG FOOT DETAIL TO ADD PURGE FITTING HORIZONTALLY ON FRONT PLATE OF FOOT	9-30-94	

SECTION A-A  
ROTATED 45° C/W

GD1549600

SEE SHEET 2 FOR ADDITIONAL INFO

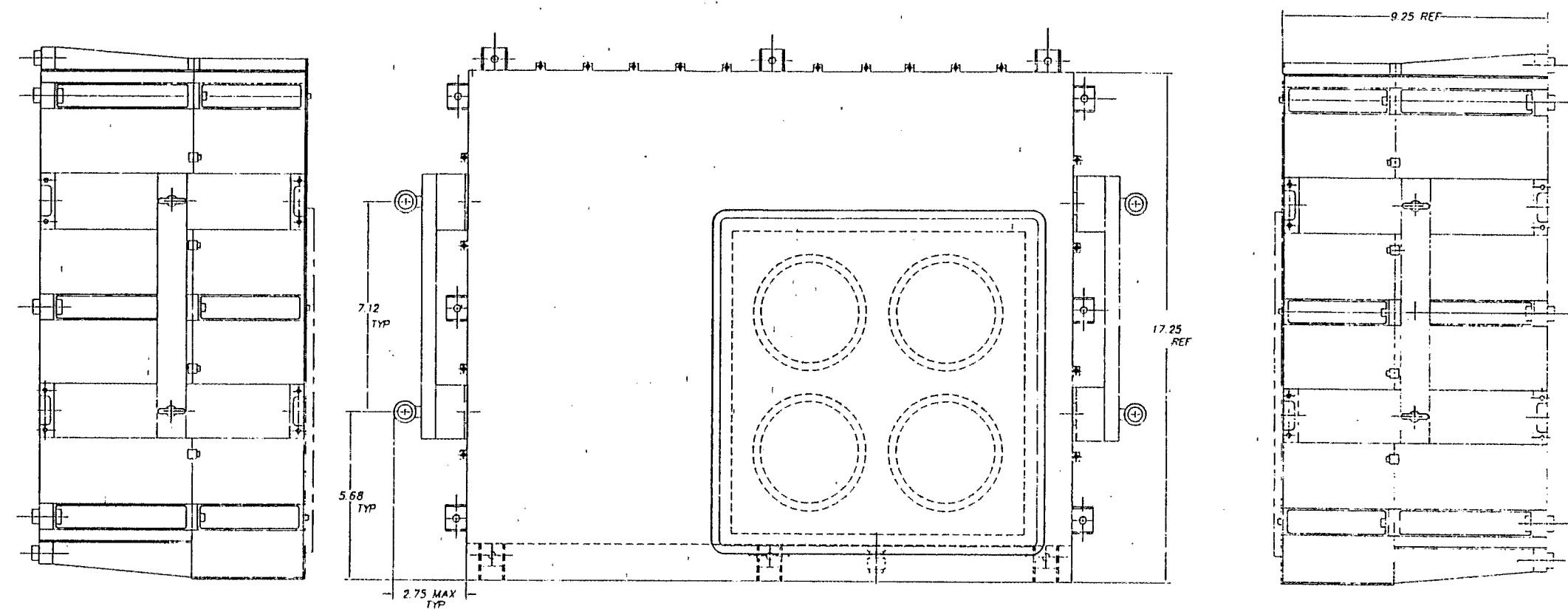
9-30-94

CRIS INTERFACE CONTROL DRAWING  
CRIS/ACE

GD1549600 REV A

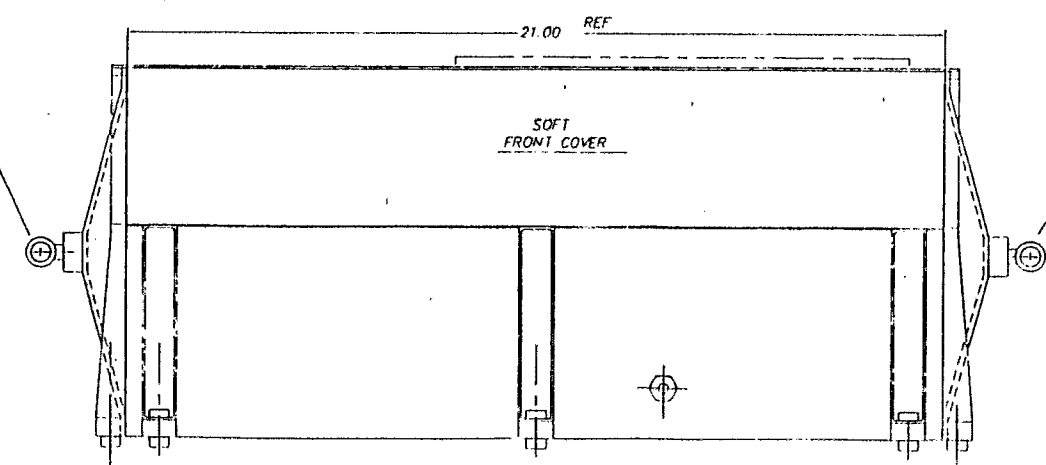
0216 1A 1/2

REVISIONS		DATE	APPROVAL
SYM	DESCRIPTION		
A	SEE SHEET 1	9-30-94	



GD1549600

EXPERIMENT HANDLING/INSTALLATION FIXTURE  
GD1549623



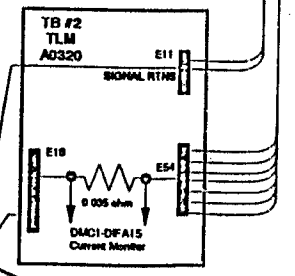
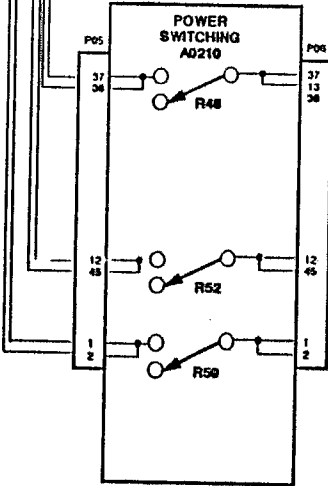
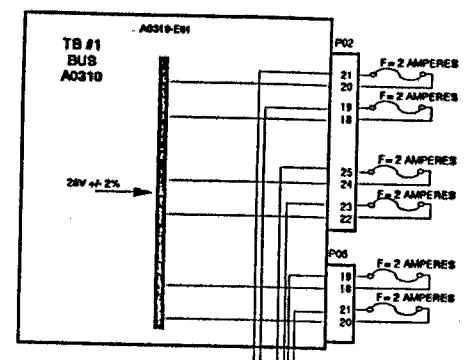
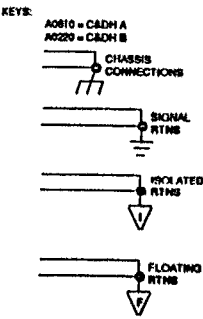
EXPERIMENT HANDLING/INSTALLATION FIXTURE  
GD1549623

DRAWING UNDER  
INSTALLATION CONTROL

SEE SHEET 1 FOR ALL OTHER INFO 9-30-94

REV	DATE	APP'D	DESCRIPTION	INITIALS	REVISION SPECIFICATION	REVISION
LIST OF MATERIAL						
Goddard Space Flight Center						
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES						
TOLERANCES: ±.02 ±.005 ±.1 ±1/32						
FINISHES: ANGLE FRACTIONS 8/32						
REMOVE ALL BURRS AND SHARP EDGES, R10 R ON CHAMFER ED						
<input type="checkbox"/>	FLIGHT HARDWARE/POST FIB	HARDNESS TEST REQ'D				
<input type="checkbox"/>	HARDNESS TEST	NON REQUIRED				
<input type="checkbox"/>	TEST HARDNESS PER ASTM E-18	LOCATION OPTIONAL				
<input type="checkbox"/>	TEST HARDNESS PER ASTM E-18	AT LOCATION INDICATED BY O				
<input type="checkbox"/>	NO NON-DESTRUCTIVE EXAMINATION (NDE) REQ'D					
<input type="checkbox"/>	NDE REQUIRED PER S-313-009 CODE					
THIS DRAWING WAS PRODUCED USING SOFTWARE: AUTOCAD VERSION REL 1 FILE NAME: D9600SH2			APPROVED BY: CRIS/ACE		DATE: 5-30-94	
REV: ASSY			USED ON		DRAWING INTERFERED PER 687C-1873-001	
					CRIS INTERFACE CONTROL DRAWING	
					CRIS/ACE	
					GD1549600 REV 1	
					FORM 667 1 5-30-94	
					0116 IN (REV)	

- CRIS PARTICULARS**
- GROUNDING**
    - CRIS SECONDARIES ARE TIED TO CHASSIS
    - CRIS IS THERMALLY & ELECTRICALLY ISOLATED FROM PANEL
  - TEMPERATURE OPERATIONS**
    - ACCEPTABLE RANGE:  $-25^{\circ}\text{C}$  to  $+35^{\circ}\text{C}$
    - 21 SW - QUIESCENT CONDITION
    - 25 HW - PERIODS OF HIGH SOLAR ACTIVITY
    - TSDW - PERIODS OF SUPPLEMENTAL HEATING (TSDW OPERATIONAL HEATER, TSDW SURVIVAL HEATER)
  - POWER PROFILE**
    - REQUIRES HUMIDITY & TEMPERATURE CONTROLS TO PREVENT CONDENSATION
  - HANDLING**
    - THE 90V DETECTOR BIAS MUST BE APPLIED TO CRIS FOR 264 HOURS OUT OF EACH 328 HOUR PERIOD. BIAS REQUIRED UNTIL LAUNCH. NO MORE THAN 3 DAYS UNBIASED IN ANY 2 WEEK PERIOD.
    - OUTGAS IN VACUUM ( $\sim 10^{-5}$  TORR) FOR 24 HOURS BEFORE OPERATING MCP HIGH VOLTAGE
  - ACCESS REQUIREMENTS**
    - ASSESS REQUIRED FOR HV SAFETY PLUG
  - RADIATION SOURCES**
    - NONE
  - CLEANING AGENT**
    - ETHYL ALCOHOL IS AN APPROVED CLEANING AGENT ON AHI (AHI IN THE INSTRUMENT)
    - USE OF VOLATILE CHEMICALS HEAVILY MUST BE RESTRICTED.
  - GREEN & RED TAGGED ITEMS**
    - GREEN - INSTALL HV ENABLE PLUG (A0816-P03) PRIOR TO LAUNCH
    - RED - REMOVE HV SAFETY PLUG PRIOR TO LAUNCH
  - RELEASE MECHANISM**
    - NONE
  - PURGE REQUIREMENTS**
    - NITROGEN PURGE REQUIRED UNTIL LAUNCH
    - GSE NITROGEN SPECIFIED AS MAX. 5.0 psi PRESSURE
    - GSE IN LINE RESTRICTOR WILL REDUCE NITROGEN FLOW RATE TO 0.5 L/min
  - HIGH VOLTAGE EXTREMES OF -2000V AND +8000V.**
- C.A.H. ALLOCATIONS**
- TURN ON INITIALIZATION TEST DATA TBO 4 MINUTES
  - INSTRUMENT DATA - 484 BITS/SEC (PER MINOR FRAME) FOR 828 BYTES MAJOR FRAME
  - TLM DATA:
    - DCM-800 - SCIENCE DATA
    - DCM-8E47 - 28V MAIN BUS VOLTAGE
    - DCM-AD14 - TEMP A
    - DCM-AD15 - TEMP B
    - DCM-AD16 - CRIS HF TEMP
    - DCM-DF15 - CRIS INPUT CURRENT HF & SURVIVAL HEATER CURR
    - TLM-CH1X1 - CMD R54A/B TELLTALE
    - TLM-CH1X2 - CMD R52A/B TELLTALE
    - TLM-CH1X3 - CMD R50A/B TELLTALE
  - COMMANDS**
    - CMD R50A/B - CRIS TURN ON/OFF
    - CMD R52A/B - CRIS INTERNAL HEATER ENADISABLE
    - CMD R44A/B - CRIS HF & SURVIVAL HTR ENADISABLE
    - LOC-01 - CRIS LOW VOLTAGE ON PULSE (TBR7)
    - DATA-01 - CRIS DATA CMD



TO GSE VIA UMBILICAL JACK

A0230-J06	35	24P	TEST	T0010-P02	A	TEST/CRS DECK TEMP ADS90 +
A0230-J06	36	24P	TEST	T0010-P02	B	TEST/CRS DECK TEMP ADS90 -
A0230-J06	33	24P	TEST	A0010-P01	16	CRS / 90V DETECTOR BIAS
A0230-J06	34	24P	TEST	A0010-P01	17	CRS / 90V DETECTOR BIAS RTN
A0610-P15	22	24S	CHD	A0010-P01	3	CRS / C-CK1/CHD CLOCK A
A0610-P15	22	24S	CHD	A0010-P01	4	CRS / C-CK1/CHD CLOCK B
A0610-P15	21	24S	CHD	A0010-P01	1	CRS / C-DA1/CHD DATA A
A0610-P15	21	24S	CHD	A0010-P01	2	CRS / C-DA1/CHD DATA B
A0610-P15	23	24S	CHD	A0010-P01	5	CRS / C-EM1/CHD ENABLE A
A0610-P15	23	24S	CHD	A0010-P01	6	CRS / C-EM1/CHD ENABLE B
A0610-P08	5	24P	SGN	A0010-P01	31	CRS / DCH1-AD14/THPSENS1 - A
A0610-P02	72	24P	SGN	A0010-P01	32	CRS / DCH1-AD14/THPSENS1 - B
A0220-P08	5	24P	SGN	A0010-P01	33	CRS / DCH1-AD14/THPSENS1 - B
A0220-P08	72	24P	SGN	A0010-P01	34	CRS / DCH1-AD14/THPSENS1 - B
A0610-P08	63	24P	SGN	A0010-P01	35	CRS / DCH1-AD15/THPSENS2 - A
A0610-P02	51	24P	SGN	A0010-P01	36	CRS / DCH1-AD15/THPSENS2 - B
A0220-P08	63	24P	SGN	A0010-P01	37	CRS / DCH1-AD15/THPSENS2 - B
A0220-P02	51	24P	SGN	A0010-P01	38	CRS / DCH1-AD15/THPSENS2 - B
A0610-P07	38	24S	SGN	A0010-P01	11	CRS / DCH2-R0G0/TLM DATA ENABLE A
A0220-P07	38	24S	SGN	A0010-P01	12	CRS / DCH2-R0G0/TLM DATA ENABLE B
A0610-P07	52	24S	SGN	A0010-P01	43	CRS / DCH2-S00/TLM DATA A
A0220-P07	52	24S	SGN	A0010-P01	7	CRS / DCH2-S00/TLM DATA B
A0610-P20	78	24S	CHD	A0010-P01	8	CRS / LD-P1/CHD LOGIC PULSE A
A0220-P20	78	24S	CHD	A0010-P01	8	CRS / LD-P1/CHD LOGIC PULSE B
A0610-P10	42	24S	SGN	A0010-P01	13	CRS / THCK08/TLM CLOCK A
A0220-P10	42	24S	SGN	A0010-P01	14	CRS / THCK08/TLM CLOCK B
A0320-E11	15	24	GND	A0010-P01	39	CRS / SIGNAL RTN A
A0320-E11	16	24	GND	A0010-P01	40	CRS / SIGNAL RTN B
			SHIELD SHLD	A0010-P01	18	CRS / TLM DATA A SHIELD
			SHIELD SHLD	A0010-P01	41	CRS / TLM DATA B SHIELD

A0210-P06	37	22P	HTR	A0010-P02	11	CRS/R48/+28V SURV. POWER A
A0210-P06	12	22P	PWR	A0010-P02	4	CRS/R52/+28V HEATER POWER 1
A0210-P06	45	22P	PWR	A0010-P02	5	CRS/R52/+28V HEATER POWER 2
A0210-P06	1	22P	PWR	A0010-P02	1	CRS/R50/+28V POWER 1
A0210-P06	2	22P	PWR	A0010-P02	2	CRS/R50/+28V POWER 2
A0320-E54	1	22P	PWR	A0010-P02	6	CRS/R59/+28V POWER RTN 1
A0320-E54	2	22P	PWR	A0010-P02	7	CRS/R59/+28V POWER RTN 2
A0320-E54	3	22P	PWR	A0010-P02	8	CRS/R52/+28V HEATER POWER RTN 1
A0320-E54	4	22P	PWR	A0010-P02	9	CRS/R52/+28V HEATER POWER RTN 2
A0320-E54	6	22P	HTR	A0010-P02	13	CRS/R48/+28V SURV. POWER A RTN
A0210-P06	13	22P	HTR	A0010-P04	A	CRS/R48/+28V SURV. POWER B
A0320-E54	7	22P	HTR	A0010-P04	B	CRS/R48/+28V SURV. POWER B RTN
A0210-P06	36	22P	HTR	H0010-P01	A	HTR/R48/CRIS INTERFACE POWER
A0320-E54	5	22P	HTR	H0010-P01	B	HTR/R48/CRIS INTERFACE POWER RTN
A0610-P08	44	24P	SGN	T0010-P01	A	DCH1-AD16/CRIS HF ADS90*A
A0220-P08	44	24P	SGN	T0010-P01	B	DCH1-AD16/CRIS HF ADS90*B
A0610-P02	25	24P	SGN	T0010-P01	C	DCH1-AD16/CRIS HF ADS90*A
A0220-P02	25	24P	SGN	T0010-P01	D	DCH1-AD16/CRIS HF ADS90*B

NITROGEN PURGE (TEFLOW TURBINE)

A0816-P03 HV ENADISABLE PLUG

#19 PWR TERMINAL

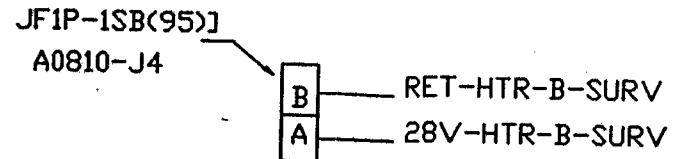
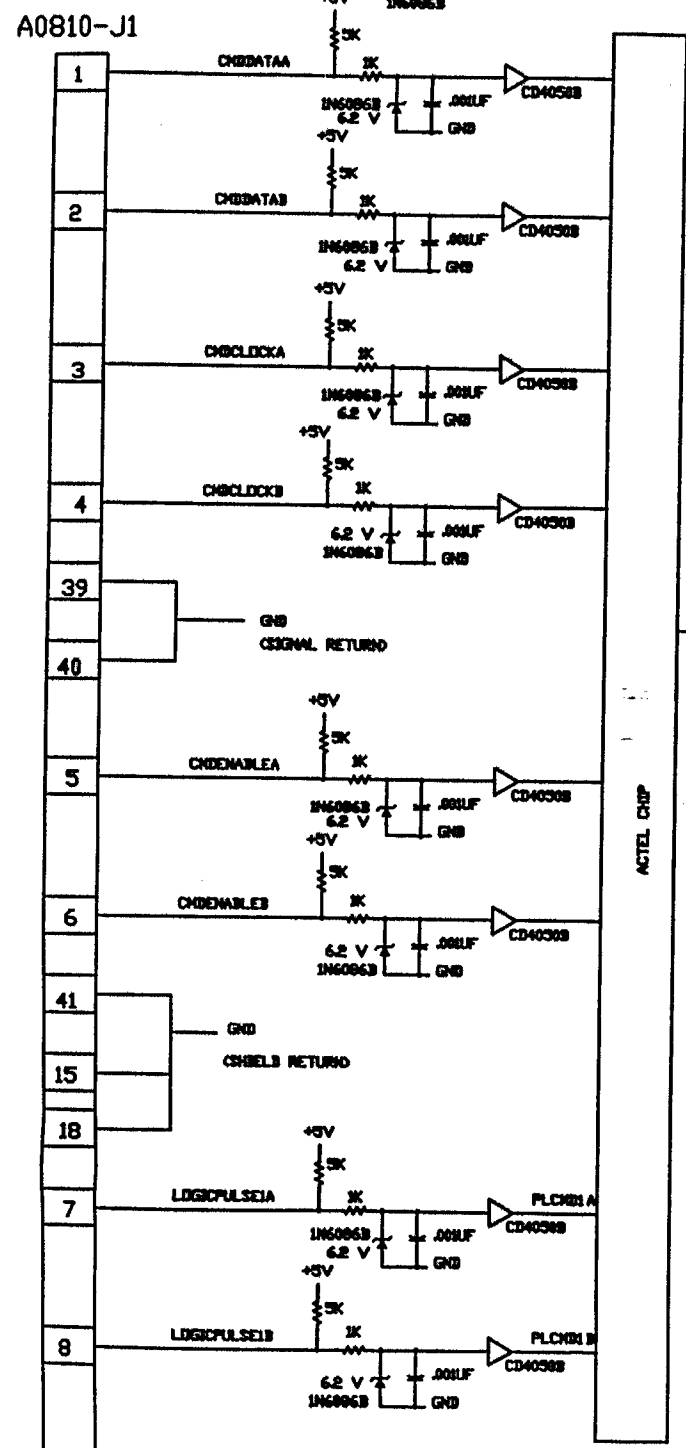
2 GROUND WIRES

ULTRIMINSULATORS THERMALLY & ELECTRICALLY ISOLATED

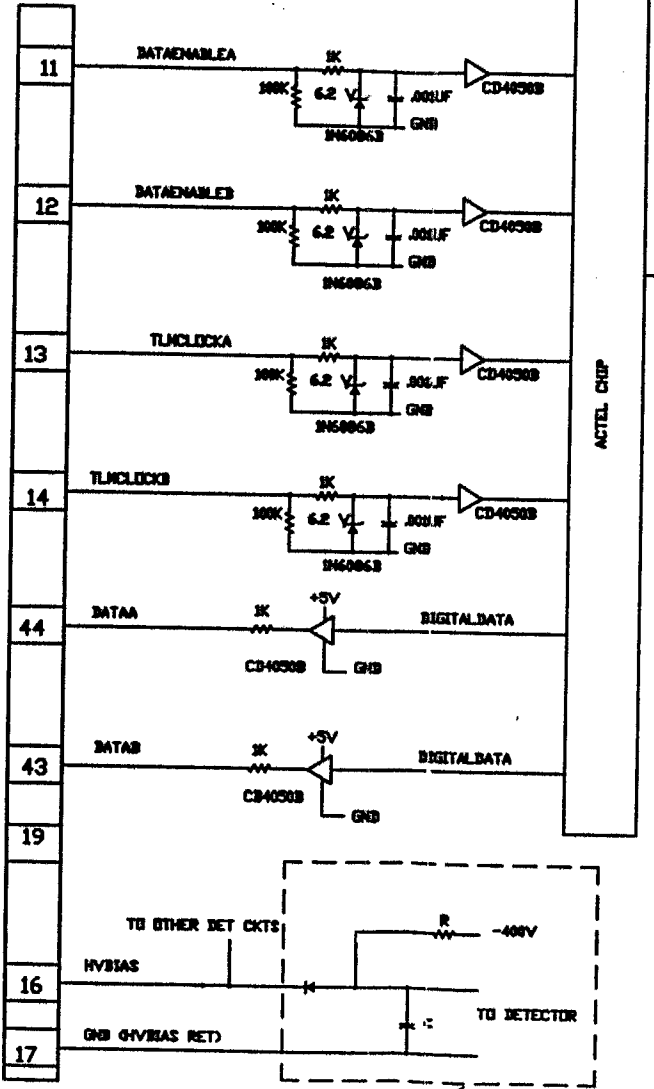
ENGINEER J.M. ROBERTS	THE JOHNS HOPKINS UNIVERSITY APPLIED PHYSICS LABORATORY	
TITLE	ACE BLOCK DIAGRAM (CRIS)	
SIZE: <b>D</b>	CODE IDENT NO: <b>88898</b>	DOCUMENT NUMBER: <b>7345 - 2211</b>
FILE: ACE DIAGRAMS	DATE: MAY 2, 1995	SHEET 1 OF 1

FILE NAME	REV.	DATE	APPROVED
REVISIONS			
ZONE	REV.	DESCRIPTION	DATE
F	INITIAL RELEASE		2/16/95
G	MODIFIED J1 PART NO. REMOVED HV MONITOR		2/29/95

INTERFACE SIGNALS  
DB44 HI DENSITY  
311P407-3P-B-12

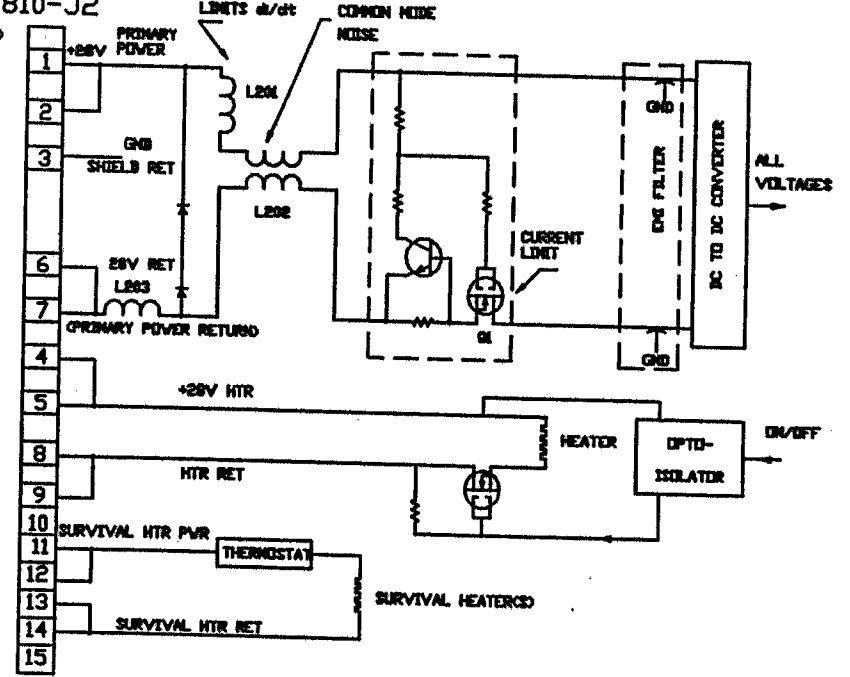


INTERFACE SIGNAL CONNECTOR  
A0810-J1

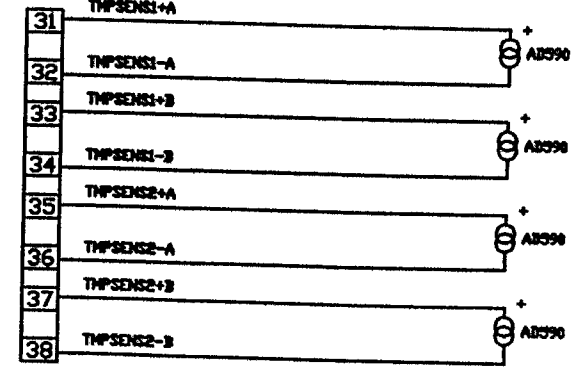


DB15 HI DENSITY  
GSE CONNECTOR  
311P407-1P-B-15  
A0810-J3

POWER CONNECTOR  
311P409-2P-B-15  
A0810-J2  
DB15P



SIGNAL CONNECTOR  
A0810-J1



NOTES:  
D ALL CD4050'S ARE POWERED WITH +5V  
E SIGNAL RETURN AND CHASSIS ARE CONNECTED INSIDE THE CRIS INST.

3/29/95

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE:  
DIMES 1.0" - .30"  
3 PLACE DECIMALS 1.00  
6 PLACE DECIMALS 1.02

PRODUCT	DATE
APPROVALS	DATE
DRAWN	DATE
CHECKED	DATE
ENGINEER	DATE

SPACE INSTRUMENTS			
ICD, ELECTRICAL, CRIS INSTRUMENT CALTECH			
SIZE	CAGE CODE	REV.	
D	610054	G	
SCALE	SHEET 1 OF 1		