### TECHNICAL MANUAL

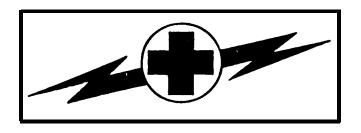
OPERATOR'S ORGANIZATIONAL, DIRECT SUPPORT,
AND GENERAL SUPPORT MAINTENANCE MANUAL
INCLUDING REPAIR PARTS AND SPECIAL TOOLS
LIST (INCLUDING DEPOT MAINTENANCE REPAIR
PARTS AND SPECIAL TOOLS)

VOLUME. V SCHEMATICS

## THERMAL SYSTEM TEST SET

(4931-01-119-7092)

DISTRIBUTION STATEMENT: Approved for public release; distribution is unlimited.



### **WARNING**

### HIGH VOLTAGE

is used in the operation of this equipment.

### **DEATH ON CONTACT**

may result if personnel fail to observe safety precautions.

Never work on electronic equipment unless there is another person nearby. He should be familiar with the operation and hazards of the equipment. He should also be competent in giving first aid. When the technician is helped by operators, he must warn them about dangerous areas.

The power supply to the equipment must be shut off before beginning work on the equipment. Take special care to ground every capacitor likely to hold a dangerous potential.

Be careful not to contact high-voltage connections when installing or operating this equipment.

When possible, keep one hand away from the equipment to reduce the hazard of current flowing through vital organs of the body.

### **WARNING**

Do not be misled by the term "low voltage." Potentials as low as 50 volts may cause death.

For artifical respiration, refer to FM 2I-II.



### RADIATION HAZARD

The anti-reflective coating on all infrared optics contains thorium fluoride which is slightly radioactive. The only potential hazard involves ingestion (swallowing or inhaling) of this coating material. Dispose of broken lens, etc., in accordance with AR 385-II.

**DON'T TAKE CHANCES!** 

# HEADQUARTERS DEPARTMENT OF THE ARMY WASHINGTON, D.C. 31 December 1986

# TECHNICAL MANUAL OPERATOR'S, ORGANIZATIONAL, DIRECT SUPPORT, AND GENERAL SUPPORT MAINTENANCE MANUAL INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST INCLUDING DEPOT MAINTENANCE REPAIR PARTS AND SPECIAL TOOLS THERMAL SYSTEM TEST SET (4931-01-119-7092)

### RPSTL current as of technical manual date

Software PN 12303273 Revision C, current as of technical manual date.

### Reporting Errors and Recommending Improvements

You can help improve this manual. If you find any mistakes or if you know a way to improve the procedures, please let us know. Mai I your letter DA Form 2028 (Recommended Changes to Publication and Blank Forms), or DA Form 2028-2 located in back of this manual direct to: Commander, US Army Armament, Munitions and Chemical Command, ATTN: AMSMC-MAS, Rock Island, IL 61299-6000. A reply will be furnished to you.

DISTRIBUTION STATEMENT: Approved for public release; distribution is unlimited.

### **NOTE**

This manual is divided into three bindings. The first binding consists of volumes I, II, and III and front matter for all three bindings. The second binding consists of volume IV and an index for volumes I through IV. Test set schematic and functional diagrams are contained in the third binding.

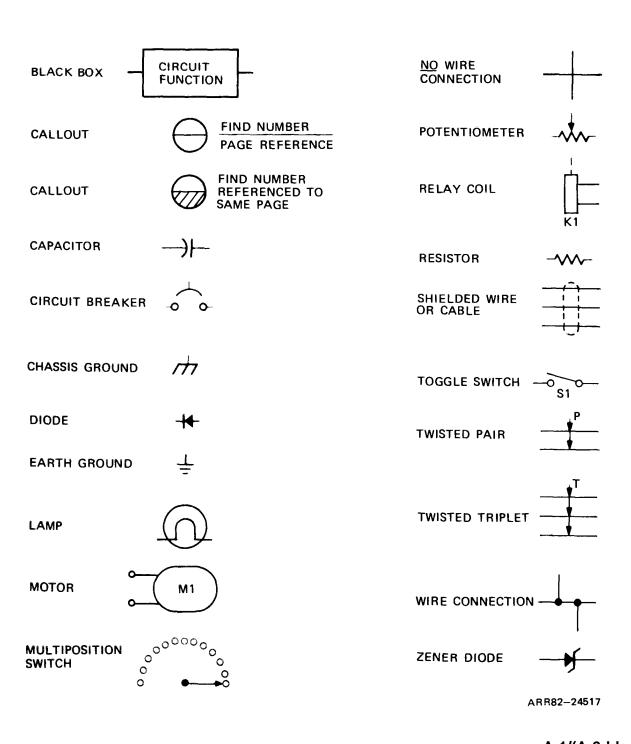
### LIST OF ILLUSTRATIONS

FIGURE	TITLE	PAGE
FO-1	Thermal System Test Set (TSTS) Functional Block Diagram	FP-1
FO-2	Internal Harness Interconnection Diagram	FP-5
FO-3	Panel Assembly Al Schematic Diagram	FP-7
FO-4	IDU Simulator Assembly A2 Schematic Diagram	FP-13
FO-5	DSSMotherboard Wiring Diagram	FP-15
FO-6	Electronic Unit (EU) A4 Schematic Diagram	FP-25
FO-7	Load Bank A5 Schematic Diagram	FP-31
FO-8	Power Module A6 Shematic Diagram	FP-37
FO-9	Power Control Unit (PCU) A6Al Schematic Diagram	FP-45
FO-10	Common Power Control Unit (PCU) A6A1 Schematic Diagram	FP-47
FO-11	Internal TTS Interconnect Harness W13 Wiring Diagram	FP-49
FO-12	Internal TIS Interconnect Harness W14 Wiring Diagram	FP-51
FO-13	Internal PCU Interconnect Harness W15 Wiring Diagram	FP-55
FO-14	Internal Panel Interconnect Harness W16 Wiring Diagram	FP-61
FO-15	Internal Power Distribution Harness W17 Wiring Diagram	FP-63
FO-16	Internal TIS Interconnect Harness W19 Wiring Diagram	FP-65
FO-17	Shorting Plug Connectors Wiring Lists	FP-67
FO-18	PCU Holding Fixture Schematic Diagram	FP-69
FO-19	Cable Assembly W9/Video Multiplexer Assembly Schematic Diagram	FP-71

### APPENDIX A

### SCHEMATIC DIAGRAM ELECTRICAL SYMBOLS

A-1. General. The following symbols are used in schematic diagrams throughout this manual. Use this appendix to detirmine what each symbol represents.



By Order of the Secretary of the Army:

JOHN A. WICKHAM, JR. General, United States Army Chief of Staff

Official:

R. L. DILWORTH Brigadier General, United States Army The Adjutant General

### **DISTRIBUTION:**

To be distributed in accordance with DA Form 12-41, Direct and General Support Maintenance requirements for Sighting Components. Fire Control, for M1 Tank.

# RECOMMENDED CHANGES TO EQUIPMENT TECHNICAL PUBLICATIONS SOMETHING WRONG WITH THIS PUBLICATION? FROM: (PRINT YOUR UNIT'S COMPLETE ADDRESS) THEN. JOT DOWN THE DOPE ABOUT IT ON THIS FORM, CAREFULLY TEAR IT OUT, FOLD IT AND DROP IT DATE SENT IN THE MAIL! **PUBLICATION NUMBER** PUBLICATION TITLE **PUBLICATION DATE** Thermal System Test Set-Schematics TM 9-4931-381-14&P-3 BE EXACT. . PIN-POINT WHERE IT IS IN THIS SPACE TELL WHAT IS WRONG PARA-GRAPH FIGURE NO. AND WHAT SHOULD BE DONE ABOUT IT: TABLE FP-1 "23: VDC" should be "24 VDC" SAMPLE SIGN HERE PRINTED NAME, GRADE OR TITLE, AND TELEPHONE NUMBER

### RECOMMENDED CHANGES TO EQUIPMENT TECHNICAL PUBLICATIONS

/	1			RECOMN	MENDED CHANG	GES T	TO EQUIPMENT TECHNICAL PUBLICATIONS
7	5.11	7.			SOMETH		WRONG WITH THIS PUBLICATION?
2			DOPE AE FORM. C.	BOUT IT CAREFULE PLD IT AL	OWN THE ON THIS LY TEAR IT NO DROP IT	FROM DATES	
DUBLICA	TION NUMB	era		,	PUBLICATION DA	ATE	PUBLICATION TITLE
i		31-381-	14&P-3		31 DEC 86		Thermal System Test Set - Schematics
BE EXAC	<del>-</del>	POINT WHE		IN THE	S SPACE TELL W	WHAT IS	IS WRONG
PAGE NO	PARA- GRAPH	FIGURE NO	TABLE NO	AND W	WHAT SHOULD BE	E DON	WE ABOUT IT:
	'	1	1	1			
, !	1	1	1	1			
i !	1	1					
	1 1		1	1			
, ,	1 '	]	1 1				
			1 1	1			
		1	1	1			
. !	1	1	1 1	1			
!		!	1 1	1			
. !	1		1 1	1			
, ,		1	1 1	1			
, !		1	1 1	ĺ			
ı <i>1</i>	1	1 1	1 1	l			
, ,	1	1 '	1 1	1			
1	1	1	1	1			
	1 '	1	1 1	1			
	1	1	1 1	1			
, !	1	1 '	1 1	1			
	1	1 '	1 1	l .			
	1	1 1	1 1	1			
		1 1	1 1	I			
	1	1 1	1	i			
, 1	1		1 1	I			
. !	'	1 1	1 1	l .			
	1		1	I			
			1	I			
PRINTED	NAME GRAC	DE OR TITLE	AND TELEPH	HONE NUM	nta S	SIGN HEI	FQF
	Tomas _	<b>L</b> C.		10.12			-72
1					ì		

FILL IN YOUR UNIT'S ADDRESS

FOLD BACK

### **DEPARTMENT OF THE ARMY**



OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE, \$300

# **BUSINESS REPLY MAIL**

FIRST CLASS

PERMIT NO. 12062

WASHINGTON, DC

POSTAGE WILL BE PAID BY DEPARTMENT OF THE ARMY

COMMANDER
US ARMY ARMAMENT, MUNITIONS
AND CHEMICAL COMMAND
ATTN: AMSMC-MAS
ROCK ISLAND, IL 61201-9990

NO POSTAGE NECESSARY IF MAILED IN THE UNITED STATES TEAR ALONG PERFORATED LINE

### RECOMMENDED CHANGES TO EQUIPMENT TECHNICAL PUBLICATIONS

7 5	7	\			SOMET		WRONG	WITH THIS PUBLICATION?	
		) (	THEN	IOT DO	WN THE	FROM		S COMPLETE ADDRESS)	
5 3		1 1	DOPE AL	BOUT IT	ON THIS LY TEAR IT				
	OUT. FOLD IT AND DROP IT IN THE MAIL: DATE SENT								
PUBLICATION	ON NUMB	ER		ו••••••••••••••••••••••••••••••••••••	PUBLICATION	DATE	PUBLICATION TITE	E	
TM S	9-4931	-381-	14&P-3		31 DEC 8	6	Test Set	Thermal System - Schematics	
BE EXACT	PARA:	FIGURE	TABLE		SPACE TELL				
NO	GRAPH	NO .	NO						
			!						
ľ	į								
								:	
								į	
								ı	
						0.0			
PRINTED NA	ME GRADI	OR TITLE	AND TELEPI	HONE NUMB	EH	SIGN HEI	1t		

FILL IN YOUR
UNIT'S ADDRESS

FOLD BACK

### **DEPARTMENT OF THE ARMY**



OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE, \$300

# **BUSINESS REPLY MAIL**

FIRST CLASS

PERMIT NO. 12062

WASHINGTON, DC

POSTAGE WILL BE PAID BY DEPARTMENT OF THE ARMY

COMMANDER
US ARMY ARMAMENT, MUNITIONS
AND CHEMICAL COMMAND
ATTN: AMSMC-MAS
ROCK ISLAND, IL 61201-9990

NO POSTAGE NECESSARY IF MAILED IN THE UNITED STATES TEAR ALONG PERFORATED LINE

RECOMMENDED CHANGES TO EQUIPMENT TECHNICAL PUBLICATIONS									
S. W.	SOMETHING								
THEN JOT DOWN THE DOPE ABOUT IT ON THIS									
FORM, CAREFUL OUT, FOLD IT A	LLY TEAR IT IND DROP IT								
IN THE MAIL!	IN THE MAIL! DATE SENT								
PUBLICATION NUMBER	PUBLICATION DATE	PUBLICATION TITLE Thermal System Test Set - Schematics							
TM 9-4931-381-14&P-3  BE EXACT PIN-POINT WHERE IT IS IN THE	31 DEC 86								
IN IN	IS SPACE TELL WHAT IS WHAT SHOULD BE DON	S WRONG IE ABOUT IT:							
OF OR VITE AND TELEPHONE MILL	I SIGN HE								
PRINTED NAME GRADE OR TITLE AND TELEPHONE NUM	ABER SIGN HE	RE							

FILL IN YOUR
UNIT'S ADDRESS

FOLD BACK

### **DEPARTMENT OF THE ARMY**



OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE, \$300

# **BUSINESS REPLY MAIL**

FIRST CLASS

PERMIT NO. 12062

WASHINGTON, DC

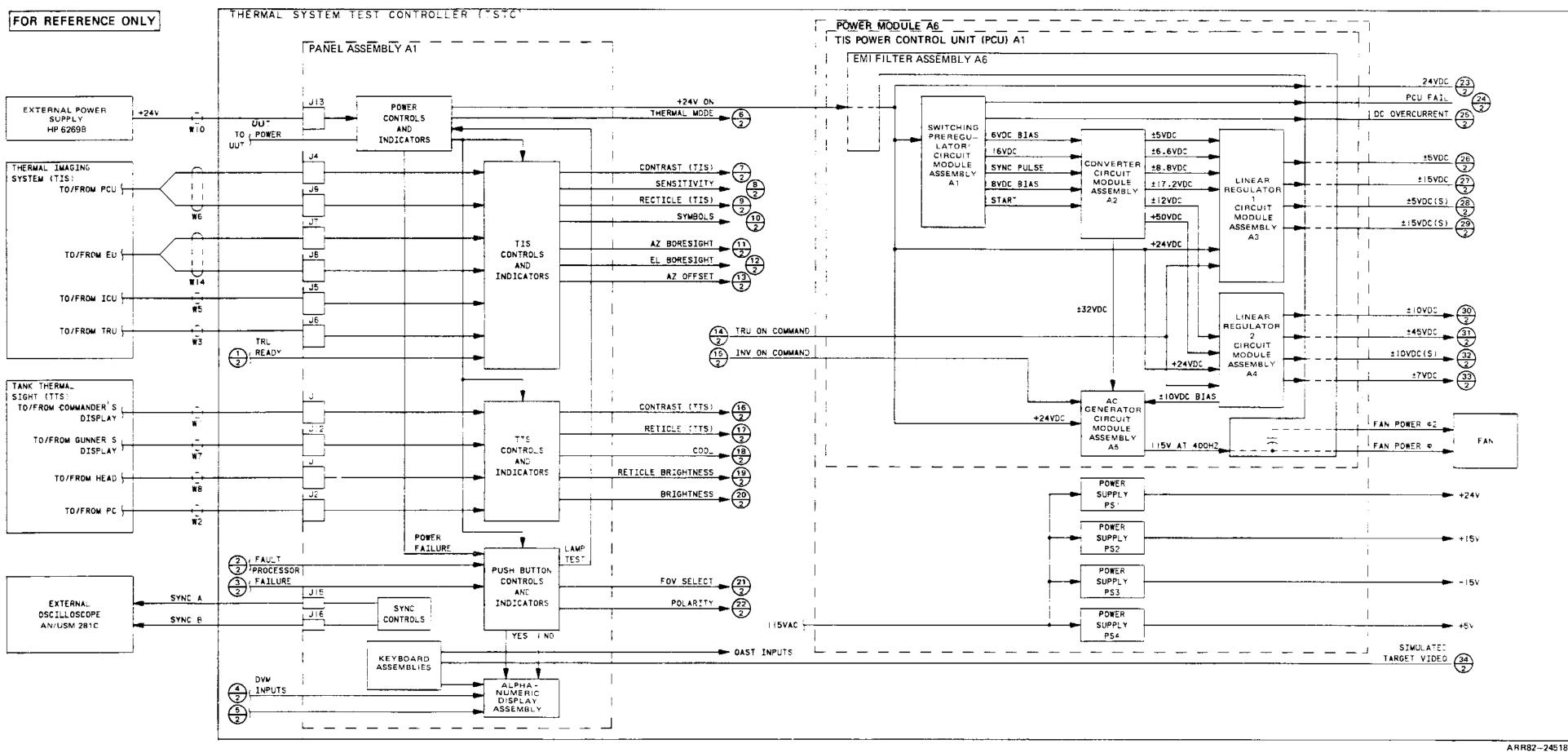
POSTAGE WILL BE PAID BY DEPARTMENT OF THE ARMY

COMMANDER
US ARMY ARMAMENT, MUNITIONS
AND CHEMICAL COMMAND
ATTN: AMSMC-MAS
ROCK ISLAND, IL 61201-9990

NO POSTAGE NECESSARY IF MAILED IN THE UNITED STATES



TM 9-4931-381-148F-7



FO-1. Thermal System Test Set (TSTS) Functional Block Diagram (Sheet 1 of 2)

FP-1/(FP-2 blank)

TM 9-4931-381-14&F-3 FOR REFERENCE ONLY FAULT

TRU READY

TRU BIT

TRU ON COMMAND

INV ON COMMAND

15 IMAGE DISPLAY UNIT (IDU) SIMULATOR ASSEMBLY A2 XMI TIS THERMAL ELECTRONICS UNIT (EU) A4 BIT GENERATOR/ 6 THERMAL MODE DEFLECTION VERTICAL DEFLECTION HIGH VOLTAGE AMPLIFIER CIRCUIT CARD POWER SUPPLY TEST ASSEMBLY CONTROLLER DC DVERCURRENT CIRCUIT CARD! 7000VDC | 850- | +300VDC | 1350VDC | 125VDC INTERLACE ASSEMBLY ! HORIZONTAL HORIZONTAL HORIZONTAL DEFLECTION DISABLE 27 ±15VDC SWEEP/VIDEO RELAYS AMPLIFIER ELECTRON TUBE 28 ±5VDC(S) K! THRU K4 CIRCUIT CARD | GRID ASSEMBLY **ASSEMBLY** RETICLE VIDEO 29 ±15VDC(S) RETICLE
DATA
PROCESSOR
CIRCUIT
CARD
ASSEMBLY GENERATOR POSITION DATA
AZIMUTH
POSITION DATA
RETICLE
POSITION STROBE 30 (±10VDC +45VDC 1 32 ±10VDC(S) ±10VDC CIRCUIT
CARD HORIZONTAL
ASSEMBLY AND VERTICAL 11 AZ BORESIGHT EL BORESIGHT SWEEP GENERATOR CIRCUIT CARD ASSEMBLY \*\*\*\*\*\* VERTICAL SWEEP GRC DATA

FOV SELECT HORIZONTAL SWEEP 7 (CONTRAST(TIS)

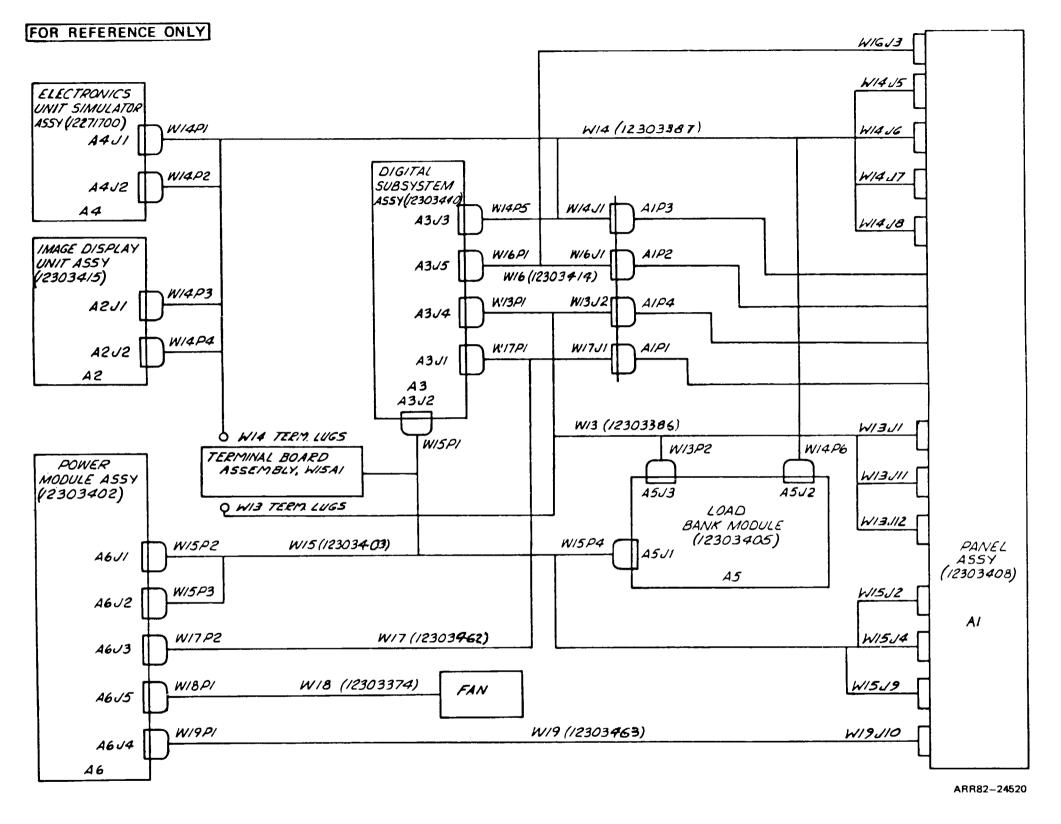
8 1 SENSITIVITY
1 9 RETICLE(TIS)
10 1 SYMBOLS
1 16 CONTRAST(TIS)
1 RETICLE(TYS)
1 18 COOL
19 1 RETICLE BRIGHTNESS
1 20 BRIGHTNESS
22 1 POLARITY HORIZONTAL BLANK A VERTICAL AND THORIZONTAL SYMBOL SWEEP AZIMUTH
TIME
GENERATOR
CIRCUIT
CARD
ASSEMBLY
A4 SYMBOL GENERATOR CIRCUIT CARD ASSEMBLY 3 SCAN POSITION PULSE INTERLACE REFERENCE RETICLE BIT SYMBOL DECODER CIRCUIT CARD ASSEMBLY DIGITAL SUBSYSTEM ASSEMBLY (DSS) A3 FCS MALFUNCTION
MULTIPLE RETURNS
READY TO FIRE COMPOSITE BLANK VIDEO DATA RETICLE VIDEO VIDEO PROCESSOR A14 RANGE
FCS MALFUNCTION
MULTIPLE RETURNS
READY TO FIRE
GRC DATA
FOV SELECT
21 SIMULATOR 34 SIMULATED TARGET VIDEO PROCESSOR LOAD BANK ASSEMBLY PANEL INTERFACE A3 SCAN POSITION PULSE INTERLACE REFERENCE SCANNER BOARD ASSEMBLY VOLTMETER A5, A6, A7 PROCESSOR FAILURE 3 ARR82-24519 FO-1. Thermal System Test Set (TSTS) Functional

Block Diagram (Sheet 2 of 2)

FP-3/(FP-4 blank)



TM 9-4931-381-14&P-3



FO-2. Internal Harness Interconnection Diagram

FP-5/(FP-6 blank)

FO-3. Front Panel Assembly A1 Schematic Diagram (Sheet 1 of 3)

FP-7/FP-8 blank

TM 9-4931-381-14%P-3

FO-3. Front Panel Assembly A1 Schematic Diagram (Sheet 2 of 3)

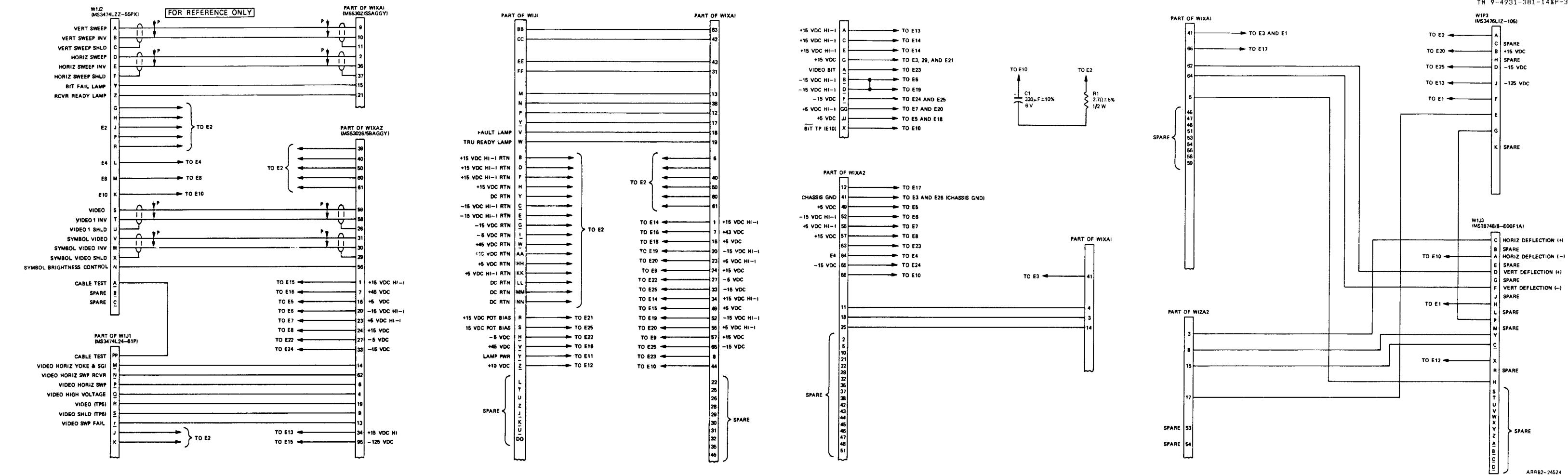
FP-9/(FP-10 blank)

TM 9-4931-381-14&P-3

TM 9-4931-381-14%F-3

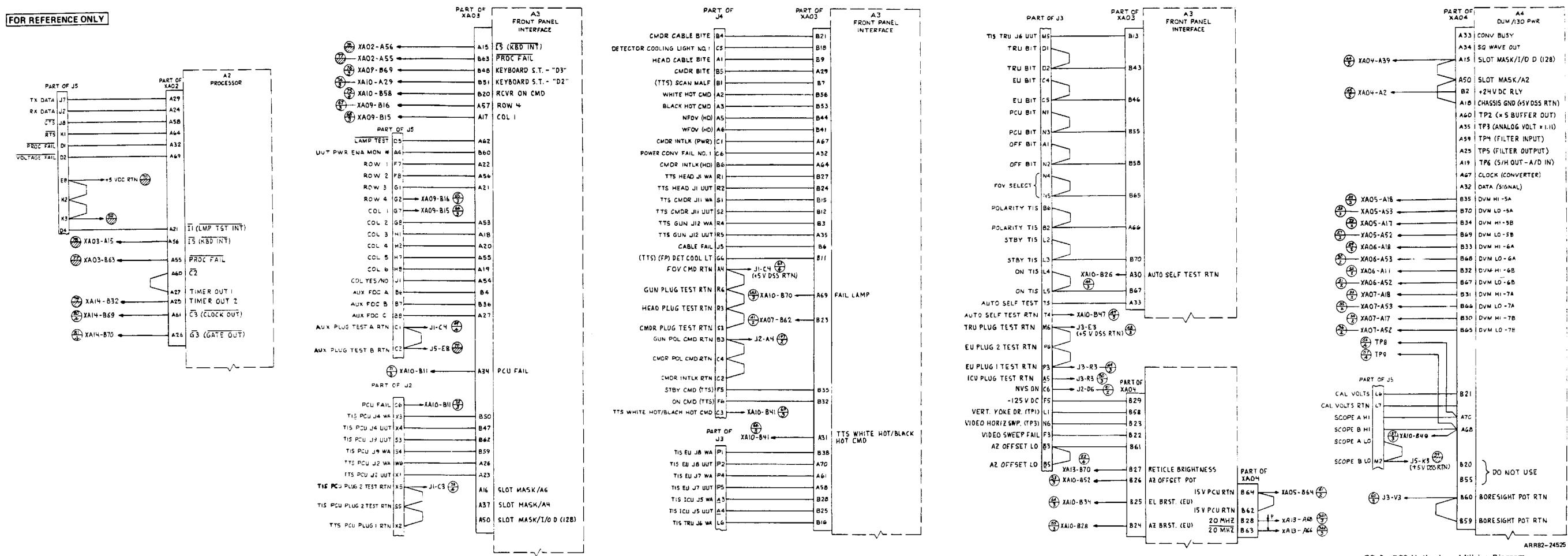
FO-3. Front Panel Assembly A1 Schematic Diagram (Sheet 3 of 3)

FP-11/(FP-12 blank)



FO-4. IDU Simulator Assembly A2 Schematic Diagram

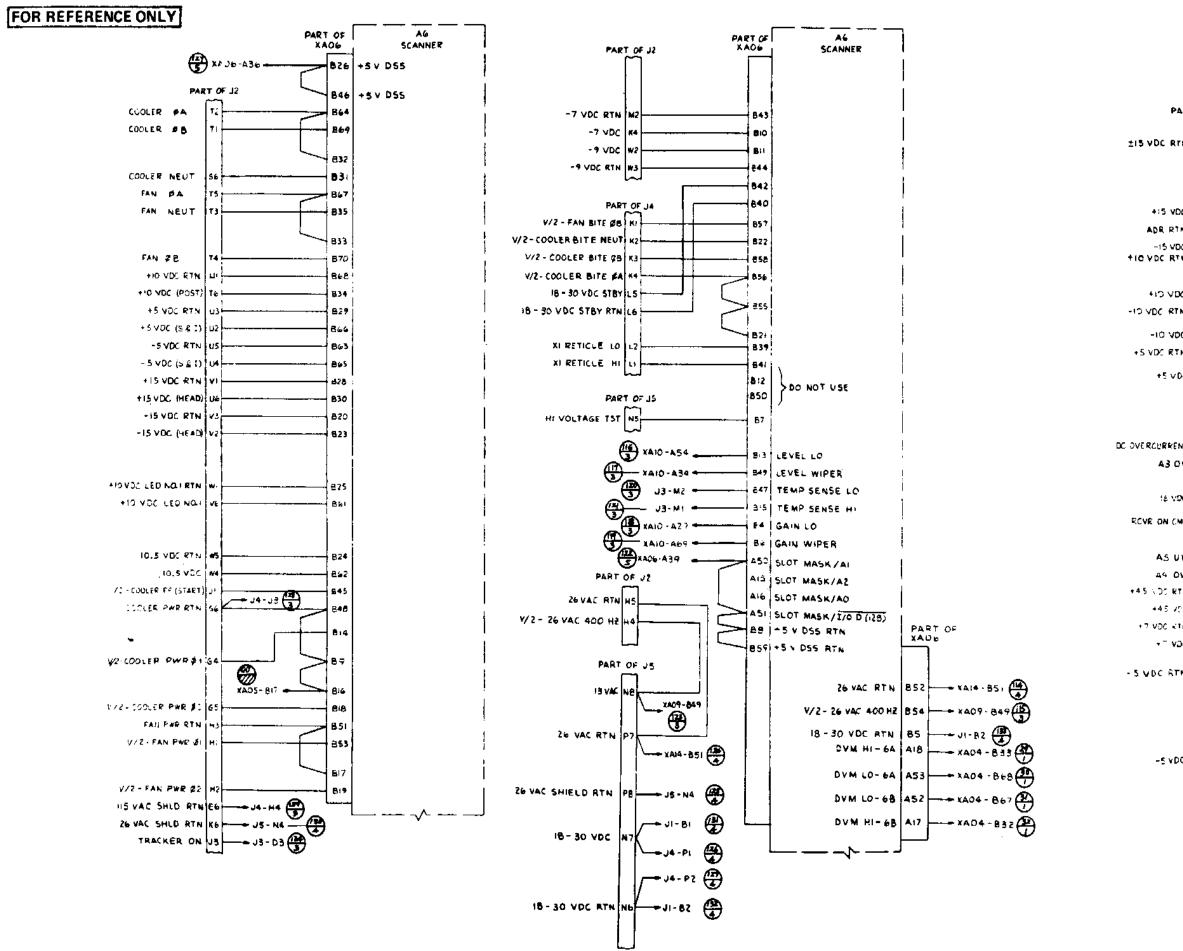
FP-13/(FP-14 blank)



FO-5. DSS Motherboard Wiring Diagram
(Sheet 1 of 5)

FP-15/(FP-16 blank)

TM 9-4931-381-148P-3



PART OF A7 PART OF US +5 VOC DET BIAS A7 PART OF J2 ±IS VOC RTN L5 XA05-A36 814 +5VDC D55 POLARITY CMD A6 PART OF J2 +4.25 VDC PI -+5 VEC RTN BZ XAID-548 J4-83 865 +5 VDC D55 -4.25 VOC P2 ±15 VDC RTN 44 GAIN CMD NO.1 PS /-- U5-C6 (4) J5-81 € GAIN CMD NO.2 P4 HS MUX F | J~-- J5 - B2 (24) +5 VDC AUX RTN G3 VIDEO 2 RTN NA 15 VOC TTS BITE YS VIDEO 2 MS A16 SLOT MASK /AO ADR RIN A3 --- XAIO-BSI +5 VOC TTS RTN YS B29 SYNC RTN L AIS SLOT MASK/AZ +24V PP RTN B24 - XA07- B24 +10 VDC RTN A5 --- XA07-843 (7) ASI SLOT MASK/1/0 D (128) SYNC 4 L XAO6-846 BIT COOLER POWER RTN 410 VDC CI -- J3-A4 B35 ASO SLOT MASK/AL +24V PP RTN BZ5 SYNC 2 LZ - J3-G5 W2 - 115 VAC N. S. 14 -10 VDC RTN A6 J3 A6 B33 +24 V PP RTN B60 - 1414 - B6 +24 V PP RTN BZ8 B4 +5 V DSS RTN +5 VDC RTN 23 10 VOC RTN 61 ---+ 24 V OUT (PCU Jr-8) Za +24 VDC OPR GUN YI 124 V PP RTH | 820 28 +5V DSS RTN - XA:4-864 +24 VOC OPP RTN YZ +24 V PP RTN 855 -1 HO VOC E4 V PCU RTN ---- YAIO-B33 (FO) SLOT MASK/AD AIL TAOS-A39 # XAID - 864 - - - 862 INV ON CMD SYNC DC OVERCURKENT DI A XAO3-823 ----SLOT MASK/A2 AIS L-1 1- XAJ4 B:2 44 105-867 - 832 10V PCU RTN -1 400 cs -12 (4) PART OF J3 > B67 IOV PCU RTN ROVE ON CHO D3 ----- XAIC BES (3) J-- U5-C7 INTERLACE REF 45 #A05-A37 BE4 FOV PCU RTN +5 V DS5 RTN |846 -INTERLACE REF J4 OC RTN MI 44 OV 43 +5 V DSS RTN :854 356 IOV PCU RTN SCAN POS. PULSE HI +45 VOS RTN | M3 BZ! IOV PCU RTN +45 456 US ---+5 V DSS RTN 863 SCAN POS. PULSE KI DVM HI-5A AIB - XAC4-E3; +7 VOC KTN LG +24V PP RTN B24 - XA05-B21 SYMBOL VIDEO ÇI ≥ B55 IOV PCU RTH += vac | Ks ----A4 OC ME AS DC M4 --- 1410-457 DVM LO-58 A52 - XA04 - Beq GRC DATA (-) B25 -- XA13-B3 -- XA13-B37 -- XA13-B37 -5 VDC RTN B y==•v≥- €5 🕰 SYMBOL VIDEO B44 IOV PCU RTN SYMBOL VIDED NV5 ON 06 --- 13-C6 39 10 V PCU RTN VERT. SWEEP HI 818 --- XA09-A61 SYMBOL VIDEO +24 VDC PP E1 XA14 - A2 VERT. SWEEP LO BIG - XA09-A27-SCAN POS. PULSE KZ J2-A5 - 843 ID V PCU RTN HORIE. SWEEP HI BI4 - XA09-A34 - XA09-A65 XAIB-885 ----- 846 VIDEO LEVEL WIPER +15 VDC (5P) |05 DO NOT USE - XAI4-BZO (705) SCAN POS. PULSE HZ XAI4-BZZ - 842 CHANNEL VIDEO (SCOPE) -5 VDC 15 KAI3 624 - 866 -5 VDC INTERLACE REF 854 - XAI4 - A70 SYMBOL VIDEO SHLD XA04 - B31 - AIS DVM HI - 7A XA09-866 - A53 DVM LO-7A SCAN POS PULSE 849 - XAI4 - BI3 A52 CVM LO - 78 XA04-830 ----- AI7 DVM H1-78 3 XAM-818 - 861 OV INT 1 SCAN POS. PULSE SHID INTERLACE REF INTERLACE REF H6 XAIG-BIS INTERLACE REF SHLD JA INTERLACE REF SHLD H4 XAI4-B47

FO-5. DSS Motherboard Wiring Diagram (Sheet 2 of 5)

FP-17/(FP-18 blank)

TM 9-4931-381-1488-3

+24 V PP RTN JASE

+24 V P P RTN |462 K

+24 V PPRTN 1465

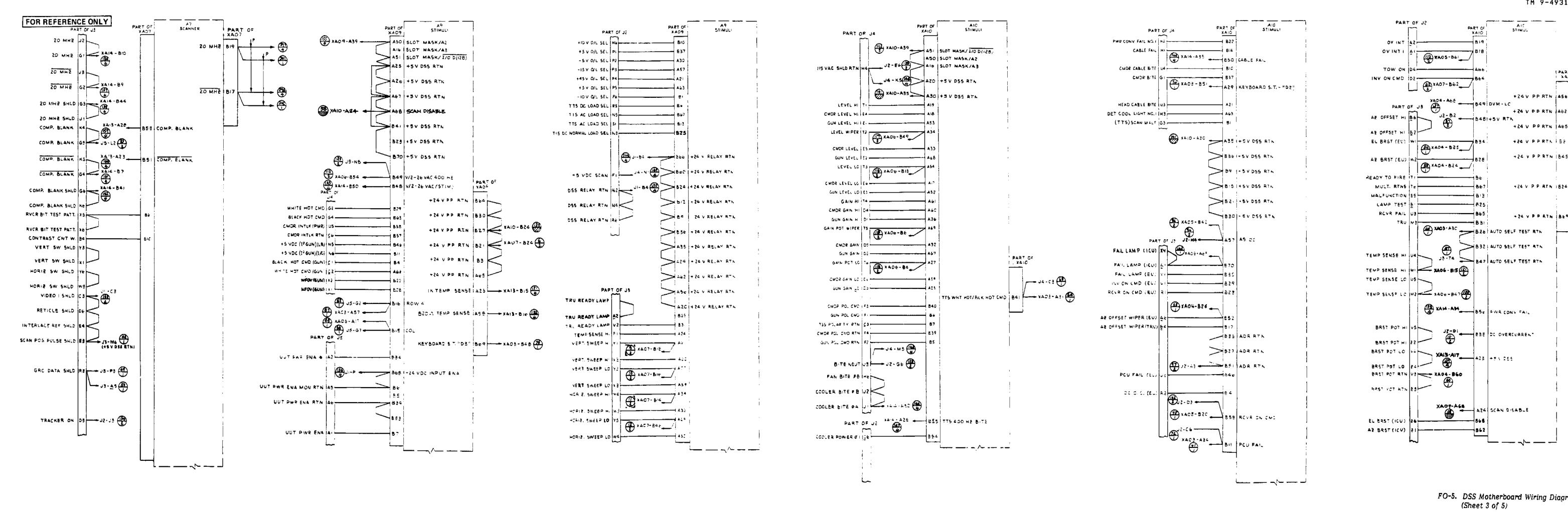
+24 V PPRTN 155

+24 V P P RTN | 645 K

+24 V P P ATN 1824 X400-377

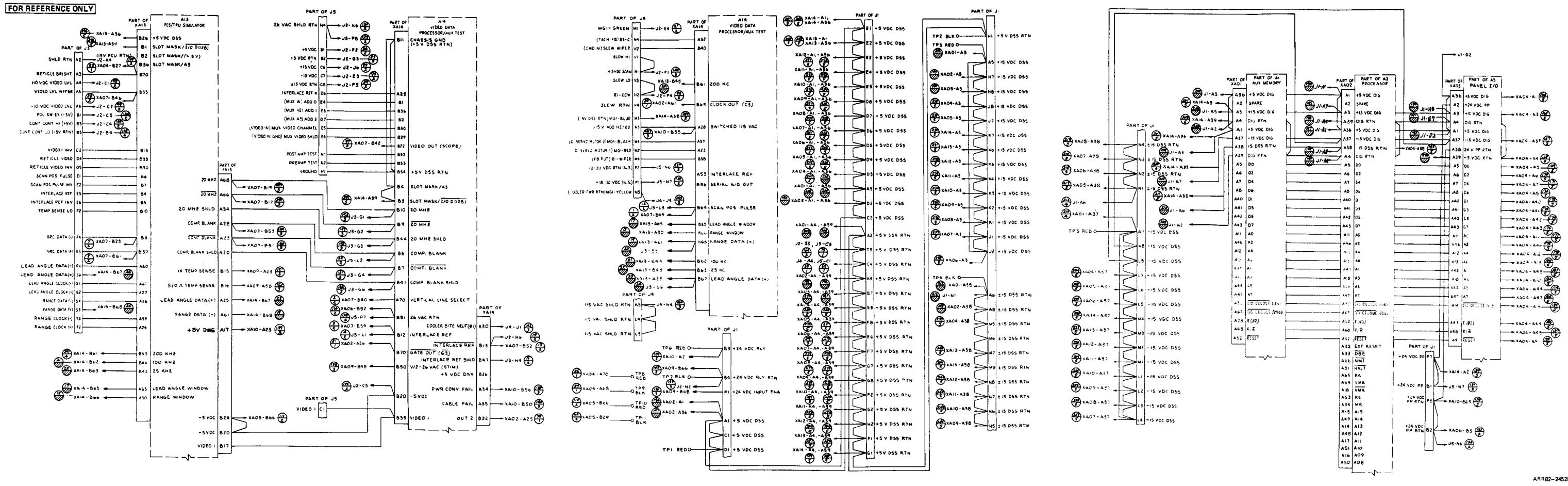
- 24 V P P RTH | 869 - JI-PE

B32 | AUTO SELF TEST ATN



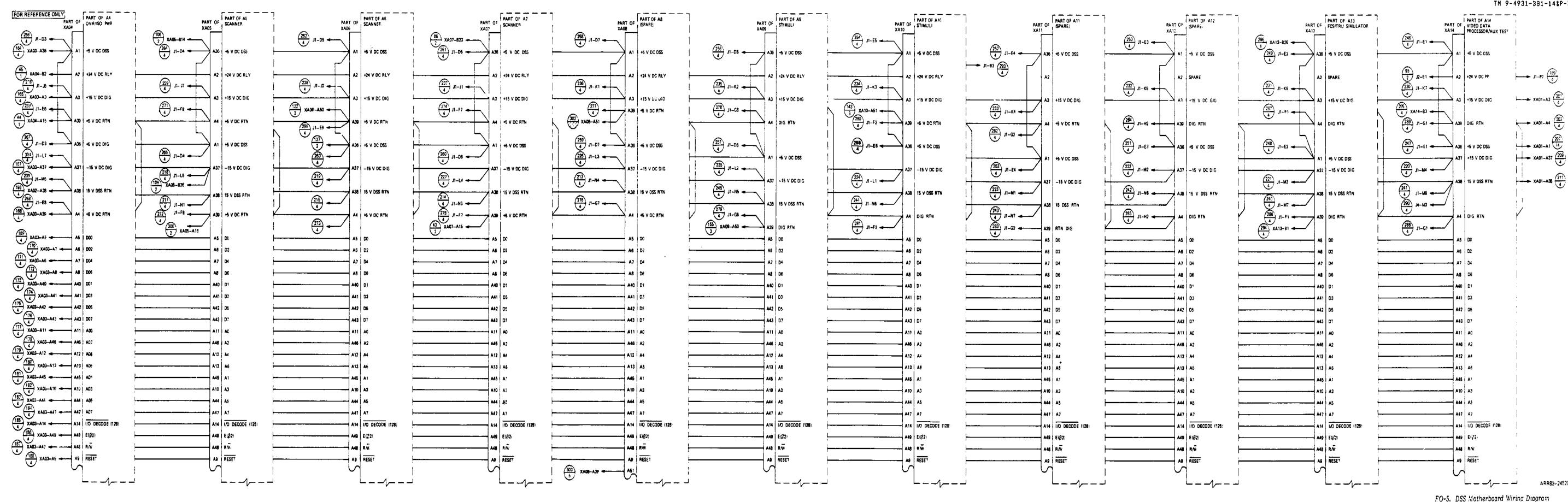
FO-5. DSS Motherboard Wiring Diagram (Sheet 3 of 5)

FP-19/(FP-20 blank)



FO-5. DSS Motherboard Wiring Diagram
(Sheet 4 of 5)

FP-21/(FP-22 blank)



(Sheet 5 of 5)

FP-23/(FP-24 blank)

TM 9-4931-381-142P-3 78 x 4/40/- 18 J1-37, XA1J1-25 (83) 2

Diagram (Sheet 1 of 3)

FP-25/(FP-26 blank

12272021 MX2 (-) TP 78 XA7J1-6 (37) SYMBOL VIDEO (+) Y XA7,11-3 (11) CABLE TEST A JI-64 10 BRST POT RTN J (49) EL BRST | 1 | XA2J1-30 (50) BIT 2 45 XA7JI-4 (124) RCVR FAIL NN XA1J1-9 (30) SYMBOL VIDEO (-) Z XA7J1-30 (112 PRESET RET COUNTER TP 14 XABJI-22 (18) RANGE DATA (+) 34 ------ XA7J1-66 (101) SYMBOL VIDEO SHELD U SYMBOL VIDEO (-) 47 XA7J1-30 (125) RCVR BIT TEST PATTERN HH XA1J1-36 31 VERT SYMBOL SWP TP 15 XASJ1-43 AZ BRST K XA2J1-2 (B) RANGE DATA CLOCK (+) 36 XA7J1-56 (102) COMPOSITE BLANK SHLD | B | ANALOG RTN 82 COMPOSITE BLANK (-) A A7J1-29 (114) +15 V DC 38 K4-A2 TEMP SENSE C XA1J1-8 NEG BRST POT EXCIT | T | 1 | XA2J1-29 (52) READY TO FIRE RTN 5 XA1J1-16 BIT EL BRST 16 XA2J1-50 (87) SHLD RTN 83 COMPOSITE BLANK (+) | V | XA7J1-1 (110) TEMP SENSE RTN W XA1J)-35 POS BRST POT EXCIT L XA2J1-1 BIT GRC 17 XA2J1-22 +24 V DC | 37 | K1-X1 MALFUNCTION RTN 6 XAIJI-43 ı1−25 3 DIG RTN 8US | 85 XA7J1-15 (139) -16 V DC 38 K4-B3 FAIL LAMP 8 ...... XA1J1-7 BRST SHLD AA XA2J1-31 SHLD RTN 7 | GG | **----**-15 V DCRTN 8 ----SHLD RTN MX0 (-) TP | 86 | XA7J1-34 (140) CABLE TEST HCVR D XA1J1-34 (35) +10 V DC 39 K3-83 FOV SELECT RTN | K | XA3J1-26 (30) -E V DC RTN 8 HORIZ SWP (4) TP 87 XA5J1-6 (141) (76) XA1J1-17 +10 V DC 55 XA7J1-18 (28) 410 V DC RTN 10 ---424 V DC RTN 40 XA1J1-28, K1-81 22 2 RCVR READY LAMP C XAIJI-6 (38) FOV SELECT | BB | XA3J1-4 ( 30 ) -10 V DC RTN | 11 HORIZ SYMBOL SWP TP 23 XABJ1-42 (18) MD TP | 56 |------ XA7J1-32 (127) BIT OFF E XAIJI-33 (37) 46 V DC RTN 12 RETICLE VIDEO (+) N TO XASU1-3 BIT RETICLE (+) 24 XA7J1-23 (19) VERT SWP (-) TP | 57 | XA5J1-26 (128) PCU BIT 0 XA1J1-5 38 PCU FAIL 42 XA1J1-28 24 RETICLE VIDEO (-) N XALI1-24 (2) 78.125 MHz 25 XA2J1-52 69 2 RETICLE BIT ENABLE | 92 XA2J1-40 (73) SYMBOL VIDEO (+) 58 XA7,11-3 (129) RETICLE VIDEO SHLD M ICU BIT X XA1,11-32 (39) AUTO SELF TEST RTN 43 XA1J1-56 (26) 20 MHz SHLD P BIT LEAD ANGLE CAL 93 XA2J1-13 BIT AZ BRST 26 XA2,11-23 (70) +6 V DC RTN 44 EU BIT E XA1J1-4 40 20 MHz (+) N + XA3J1-23 (----+6 V DC RTN 45 SPARE CNDCT 18 XA2J1-48 (18 HORIZ SWP (-) TP | 94 | XA5J1-27 (142) 20 MHz (-) R + XA3J1-1 (01) 45 V DC 46 .... RCVR BIT F XAIJI-31 (41) +6 V DC 47 SCAN DISABLE 95 XAAJ1-29 94 INTERLACE REF (+) S XAAJ1-25 (85) STBY Z XAIJI-3 42 EL POS TP 1 XA3J1-43 (82) \_5 V DC 21 --- K1-A2 (2// +10 V REF | 98 XA\$J1-7 (143) INTERLACE REF (-) F XALJI-3 (-0) -15 V DC 65 XA7J1-17 (30) ON H XA1J1-30 (43) REY POS STR TP 2 XASJI-42 (85) RCVR ON CMD 22 XAIJI-54 (17 BIT SCAN POS PULSE 97 XAMJ1-8 SCAN POSITION PULSE (+) T XAAJ1-2 (87) BIT RETICLE (-) 33 XA7,11-50 (120) LEAD ANGLE CLOCK (+) | 50 XAZJ1-28 (-20) VERT SYNC (-) TP 3 ----- XAAJI-44 (89 DC OVERCURRENT 23 XAIJI-55 (10) SCAN POSITION PULSE (-) 0 XAAJ1-23 (88) MX1 (-) TP 98 XA7,/1-11 (144) RO TP | 57 | XA7J1-5 (134) LEAD ANGLE CAL RTN F XA2J1-5 46 ATG BIT ENABLE 99 XA7J1-38 HORIZONTAL SWEEP (+) R - XASJI-3 (106) SYMBOL 2 TP 68 \_\_\_\_\_ XA7J1-33 (133) LEAD ANGLE CAL BIAS G | XA2J1-32 46 +24 VDC RTN 35 XA1J1-26 (1) RANGE DATA (-) 52 XA7J1-27 (104) VERT INTERLACE (-) TP | B | XAU1-43 (91) +5 V DC RTN 25 BIT INTERLACE REF 100 XAMJI-9 (96) .+24 VDC 36 XAIJ1-25 (7) 45 V DC 27 K2-A2 LEAD ANGLE CAL G XAZJI-4 (47) HORIZONTAL SWEEP (-) V XASJ1-24 RANGE DATA CLOCK (-) 53 XA7J1-28 (105) HORIZ INTERLACE(-) TP | 6 XAAJI-21 (92)  $\begin{array}{c} \begin{array}{c} \\ \end{array} \end{array} \begin{array}{c} \\ \end{array} \end{array} \begin{array}{c} \\ \end{array} \end{array} \begin{array}{c} \\ \end{array} \end{array} \begin{array}{c} \\ \end{array} \end{array} \begin{array}{c} \\ \end{array} \begin{array}{c} \\ \end{array} \begin{array}{c} \\ \end{array} \end{array} \begin{array}{c} \\ \end{array} \end{array} \begin{array}{c} \\ \end{array} \end{array} \begin{array}{c} \\ \end{array} \end{array} \begin{array}{c} \\ \end{array} \begin{array}{c} \\ \end{array} \begin{array}{c} \\ \end{array} \begin{array}{c} \\ \end{array} \end{array} \begin{array}{c} \\ \end{array} \end{array} \begin{array}{c} \\ \end{array} \end{array} \begin{array}{c} \\ \end{array} \begin{array}{c} \\ \end{array} \begin{array}{c} \\ \end{array} \begin{array}{c} \\ \end{array} \end{array} \begin{array}{c} \\ \end{array} \begin{array}{c} \\ \end{array} \begin{array}{c} \\ \end{array} \begin{array}{c} \\ \end{array} \end{array} \begin{array}{c} \\ \end{array} \begin{array}{c} \\ \end{array} \begin{array}{c} \\ \end{array} \end{array} \begin{array}{c} \\ \end{array} \end{array} \begin{array}{c} \\ \end{array} \end{array} \begin{array}{c} \\ \end{array} \end{array} \begin{array}{c} \\ \end{array} \end{array} \begin{array}{c} \\ \end{array} \begin{array}{c$ LEAD ANGLE CAL SHLD H XA2J1-7 48 GRC DATA (-) 29 XA2:1-25 (19 VERT SWP GATE (-) TP 7 XA4J1-42 VERTICAL SWEEP (+) | W | XASJ1-23 (108) +15 V DC RTN 56 XA2J1-57 (20) LEAD ANGLE (--) 30 XA2J1-54 (2) VERTICAL SWEEP (-) | \$ | 1 | XASJ1-1 (110) 10 MHz TP | 8 ---- XA3J1-44 (54 DIG RTN BUS 75 \_\_\_\_\_ XA7J1-16 (134) LEAD ANGLE CLOCK (-) 21 XAZJ1-86 AZ POS TP 9 XA3J1-22 (00) MALFUNCTION 32 XA7J1-53 (90) +15 V DC 76 ...... XA7J1\_44 (135) S CLOCK TP 10 XA3J1-21 66 2 -6 VDC 44 XA7J1-47 (122) VERT SWP (+) TP 77 XA5J1-5

J3-97, XA1J1-11 (B) (147) BIT SCAN POS PULSE | B ----BIT INTERLACE REF | 8 .3-100, XAIJI-12 (86) 10 MHz 10 XA3J1-10 (192) ANALOG RTN 11 XASJ1-11, XASJ1-11 (217) (193) DIG RTN BUS 12 XASJ1-12, XASJ1-12 (213) (194 DIG RTN BUS 13 4 XA5J1-13, XA3J1-13 (214) (195) -15 V DC 14 XASJ1-14, XASJ1-14 (215) (196 +10 V DC | 15 | XABJ1-15, XABJ1-15 (216) +5 V DC 16 T XA5J1-18, K2-82 (217) (97) HORIZ BLANK 17 XA5J1-17, XA3J1-17 (218) (198) VERT SYNC 19 XA5J1-19, XA3J1-19 (219) HORIZ INTERLACE (-) TP | 21 | 3-6 (97) VERT SYNC (-) TP 44 33-3 (89 HORIZ BLANK (-) TP 22 34 (90) SCAN POSITION PULSE (-) 23 - 2- 2- 2- 68 SH RTN 24

FOR REFERENCE ONLY

BIT 2 1 XA7JS-4 (201)

STBY 3 - 12-2 (42)

PCL 8/7 | 5 | ------ J2-D (#)

ACVR FAIL 9 J7-NN (SV)

+10 V REF | 10 ----- XA2J1-10 (7777

BIT SCAN POS PULSE 11 XA4J1-8 (147)

BIT INTERLACE REF 12 XA4J1-9 (148

BIT LEAD ANGLE CAL 13 XA2J1-13 (149)

ANALOG RTN 14 XA2J1-14, J1-1 (150) (17)

DIG RTN BUS 15 XA1J1-15, J1-4 (151) (13

DIG RTN BUS 16 XAZJ1-16, J1-5

-15 V DC 17 K4-82, XA2J1-17 (18)

+10 V DC | 18 | K3-BZ, XAZJ1-18 | 78 | 154

+5 V DC 19 4 12-A3 XA2J1-15 (80) (155)

HORIZ BLANK 20 --- XA3.jt-17 (150)

PSEUDO HORIZ BLANK 21 XASJ1-18 (2

COVE READY LAND C JOE JOE (30)

MODE/RIT RTN (24 V RTN) | 2 | 12-KK (44)

BUILT IN TEST 12271918-7 12272023-5

ASSEMBLY BIT AZ BRST 23 XAZJI-23 (158)

BIT LEAD ANGLE DATA 24 XAZJI-24 (159)

+74 V DC 25 K1-X1, J3-36 (B2)

INV BIT CMD | 27 | \_\_\_\_\_\_ J1-41 (23)

PCU FAIL | 28 | J1-42 | 49 N

RCVR 8IT 31 32-F (41)

ICU BIT 32 - R-K (39)

TEMP SENSE RYN | 35 - 2-W (33.)

SCAN DISABLE | 38 - XA4J1-Z9 (160

RETICLE BIT ENABLE 40 XA2J1-40 (777)

10 MHz | 41 XA3J1-10 (163)

ANALOG RTN 42 XA2J1-42, J1-2 (164) (12)

+15 V DC 44 K4-A3, XA2J1-44 (75) (66)

-10 V DC 45 K3-A3, XA2J1-45 77 (167)

+5 V DC 46 K2-A3, XA2J1-46 79 (168)

RCVR BIT TEST PATTERN 36 J2-HH (31)

ON 30 72-H (43)

CONTROLLER AIPI IXAIJI

CIRCUIT CARD

( BUILT IN TEST 12271918-7/12272020-5

CONTROLLER CIRCUIT CARD ASSEMBLY

BUILT IN TEST 12271918-7 12277023-5 CONTROLLER AIP1 XAIJI

-5 V DC 47 K1-A3, XA2J1-47 82 (69)

VERT INTERLACE 48 XA3J1-59

BIT EL BRST | 50 | XA2:11-50 (777)

73.125 KHz | 52 | XA2J1-52 | 177

EU OFF | 53 | K1-12 (84)

DC OVERCURRENT | 65 - 31-23 (16)

AUTO SELF TEST RTN | 56 | J1-43 (25)

AZ BRST | 2 | 12 K (-51)

9RST POT RTN | 3 | 12-j (45)

LEAD ANGLE CAL 4 2-G (47)

LEAD ANGLE CAL SW 7

AZ PCS ĐATA 8 XA3J1-27 (1/4)

+10 V REF 10 XASJ1-7, XA1J1-10 (208) (146)

RETICLE POS STROBE 9 XA3J1-28 (1/9)

RETICLE DATA 12271918-9 12272023-7

GRC POT ARM (NOT USED) 6

PROCESSOR A2P1 XA2J1
CIRCUIT CARD POS BRST POT 1
ASSEMBLY EXCIT 1

12-L (53)

BIT LEAD ANGLE CLK 51 XA2J1-51 (172)

\_\_\_\_

CIRCUIT CARD

ASSEMBLY

RETICLE DATA 12271918-9112272023-7

RETICLE BIT ENABLE 40 ------ 13-82, XA1J1-40 73 (182)

ANALOG RTN 42 XA3J1-33, XA1J1-42 (184) (184)

DIG RTN 8US 43 + XA331-34, XA131-43 (185) (165)

+15 V OC 44 XA3J1-55, XA1J1-44 (186) (186)

-10 V DC 45 XA311-36, XA111-45 (187)

45 V DC 46 XA3J1-J7, XA1J1-46 (188) (188)

-5 v DC 47 XA3J1-38, XA1J1-47 (89) (69)

SPARE CHOCT 48 21-18 (15)

BIT LEAD ANGLE CLK | 61 | XALJI-51 (172)

GRC DATA (+) | 53 | J1-48 (76)

LEAD ANGLE (-1 ) 54 ----- J1-30 (20)

LEAD ANGLE CLOCK (-) | 55 | \_\_\_\_\_ J1-31 (21)

BIT EL BAST 50 .3-16, XA1J1-50 67 171

78.125 KHz 52 173

HORIZ INTERLACE 49

PRESET RET COUNTER 41 XA3J1-37 (191)

RETICLE GENERATOR CIRCUIT CARD

12271918-3 12272023-1

20 MHz (-) | 1 | J2-R (-)

RETICLE VIDEO (+) 3

FOV SELECT 4 ---- 12-88 (50)

EL POS DATA | 5 XA2J1-35 (182)

\$ CLOCK | 6 XA2J1-36 (183)

10 MHz 10 XA4J1-10, XA1J1-41 (52) (63)

ANALOG RTN 11 XA2J1-14 (183) (176)

DIG RTN BUS 12 XA4J1-12, XA2J1-15

DIG RTN BUS 13 XAAJI-13, XA2JI-18 (185) (178)

-15 V DC 14 XAAJI-14, XA2JI-17 (79)

+10 V DC | 15 XA4J1-15, XAZJ1-18 (37)

HORIZ BLANK 17 XA1J1-20 (198) (56)

+5 V DC | 16 XA2J1-19 (181)

BIT RETICLE (+) 20 XA7J1-23 (709)

20 MHz (+) | 23 | 12-N ( 00 )

RETICLE VIDEO (-) 24 7-M (58)

A3P1 XA3J1

RETICLE GENERATOR CIRCUIT CARD ASSEMBLY

12271918-3 12272023-1

FOV SELECT RTN 26 J2 K 55

RETICLE POS STROBE 28 XA2J1-9 (175)

PRESET RET COUNTER 32 ---

AZ POS DATA | 27 | XA2J1-8 (774)

----- XA5J1-32, XA2J1-41 (210) (191)

DIG RTN BUS 34 XA4J1-34, XA2J1-43 (201) (85

+15 V DC 35 - XA4J1-35, XA2J1-44 202 (186

-10 V DC 35 XA4J1-35, XA2J1-45 (203) (87)

-5 V DC 38 XA4J1-38, XA2J1-47 (204) (189)

VERT INTERLACE 39 XA4J1-39, XA1J1-48 (205) (770)

HORIZ INTERLACE 40 XA4JI-40, XA2JI-49 206 190

\*BIT RETICLE (-) 41 ------ XA7,11-50 (211)

HET POS STR TP 42 33-2 (63)

EL POS TP 43 3-1 (62)

10 MHz TP 44 J3-8 (64

-5 V DC | 37 | XA2J1-46 (727.3)

AZIMUTH TIMING 12271918-4 12272023-2

SCAN POSITION PULSE (+) 2 J2-T (87)

INTERLACE REF (-) 3 - J2-7 (86)

GENERATOR AAPT XAAJI
CIRCUIT CARD
ASSEMBLY SPARE 1

RETICLE DATA 12271918-8 12272023-7

BIT AZ BRST 23 ---

GRC DATA (-) 25

LEAD ANGLE (+) 27

BIT LEAD ANGLE DATA 24 XAIJI-24 (159)

LEAD ANGLE CLOCK (+) 28 J1-50 (28)

NEG BRST POT EXCIT 29 12-J (5/1)

LEAD ANGLE CAL BIAS 32

GRC POT CCW (NOT USED) 33

GRC POT CW (NOT USED) 34

EL BRST | 30 | .2-1 (20)

BRST SHLD 31 J2-AA (54)

EL POS DATA 36 XA3J1-5 (182)

S CLOCK 36 1831 - XA3J1-6 (777)

ANALOG RTN 14 XAJJ1-11, XAJJ1-14 (176)

DIG RTN BUS 15 x331-12, XA131-15 (777) (151)

DIG RTN BUS 16 XA1J1-16, XA1J1-16 (178)

-15 V DC 17 XA3J1-14, XA1J1-17 (179) (153)

+10 V DC 18 XA3J1-15, XA1J1-18 (89)

+5 V DC 19 XA3J1-16, XA1J1-19 (81) (155)

\_\_\_\_\_ .3-17. XA1J1-22 (8) (157)

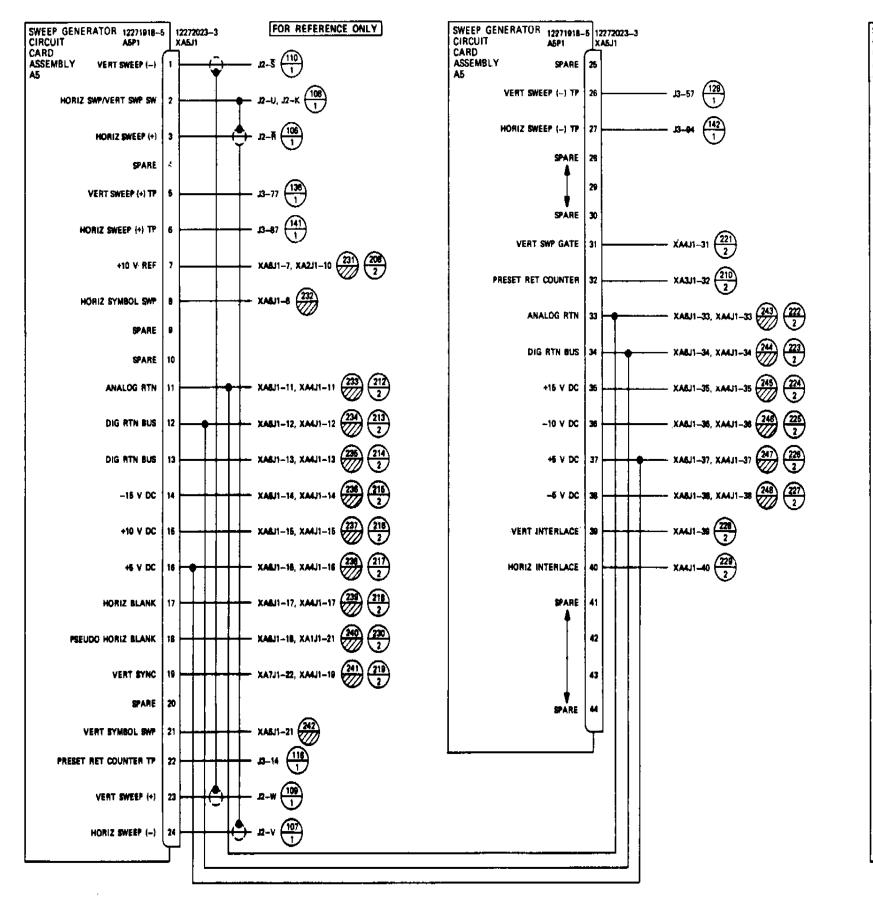
.5-26, XAIJ1-23 (70) (158)

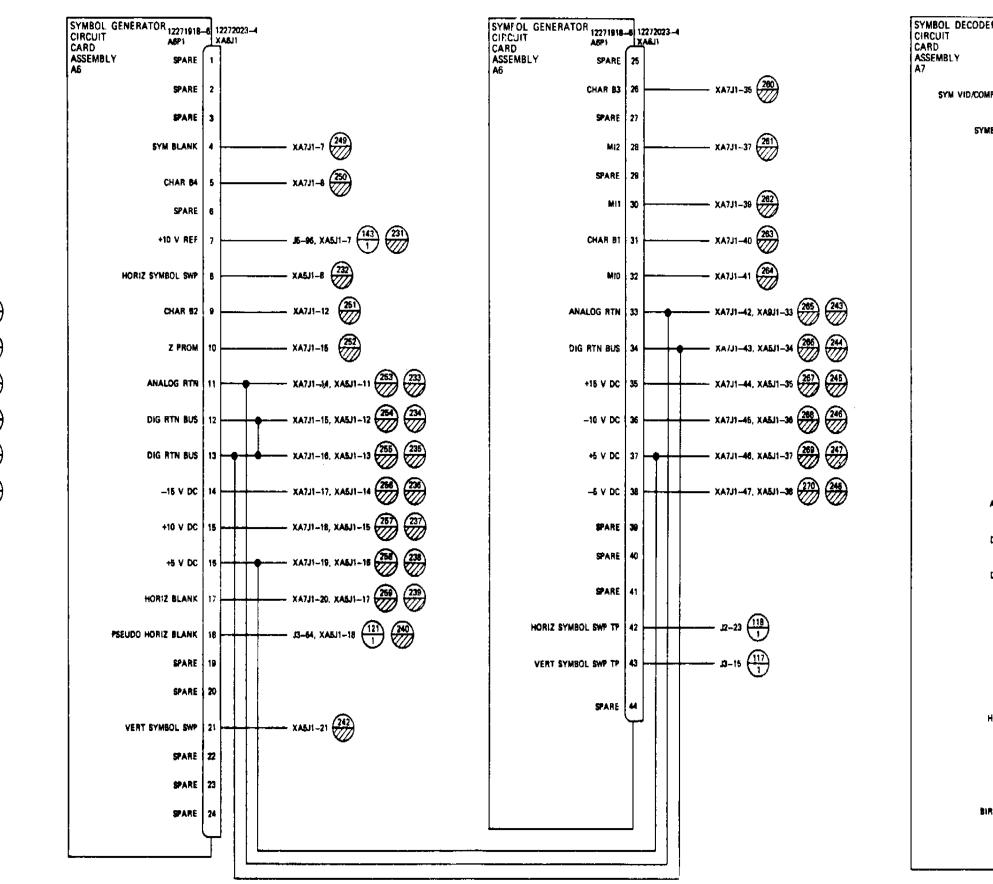
PROCESSOR AZPI XAZJI

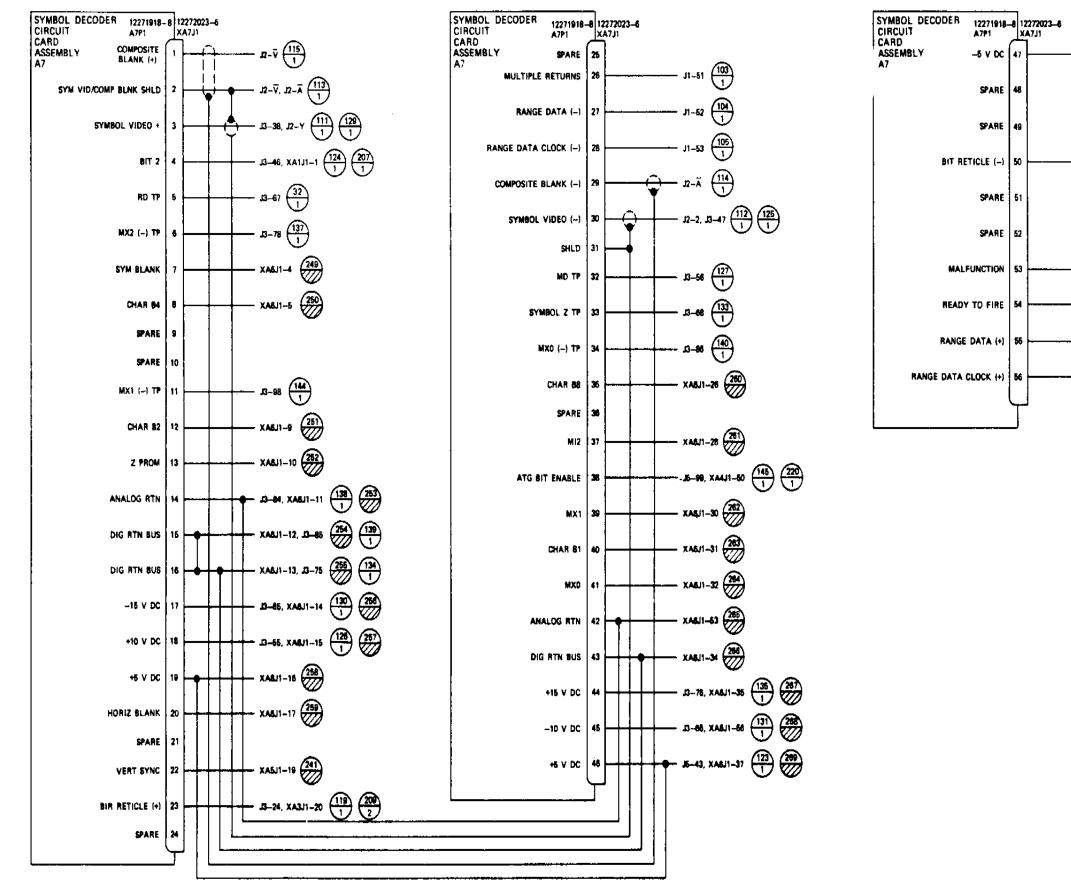
CIRCUIT CARD

FO-6. Electronic Unit (EU) A4 Schematic Diagram (Sheet 2 of 3)

FP-27/(FP-28 blank)







TM 9-4931-381-14&P-

11-32

BIT RETICLE (-) 50

MALFUNCTION 53 ----

READY TO FIRE 54 100

RANGE DATA (+) | 55 | J1-34 (101)

FO-6. Electronic Unit (EU) A4 Schematic Diagram (Sheet 3 of 3)

FP-29/(FP-30 blank)

FO-7. Load Bank A5 Schematic Diagram (Sheet 1 of 3)

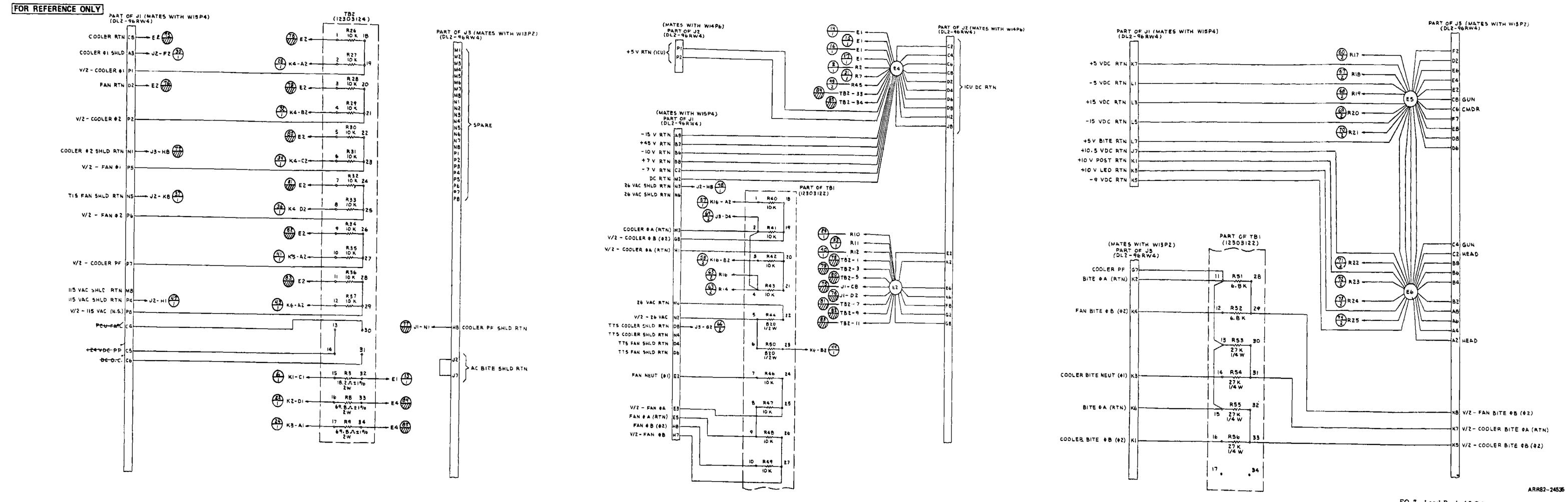
FP-31/(FP-32 blank)

KII SELECT

PART OF LBMA5J3 (DL2-96RW4) PART OF LBMA5JI (DL2-96RW4) -5 VDC (5 & I) (HEAD) 81 R19 TO E5 68 +5V BITE (HEAD) C3 +5V BITE (GUN) R21 6.34 A 10 W -AI +10.5 VDC 13.3 % TO E6 (7) R 23 12.7.A 20 W R24 6.34 A 30 W 20 W LA SPARE FO-7. Load Bank A5 Schematic Diagram

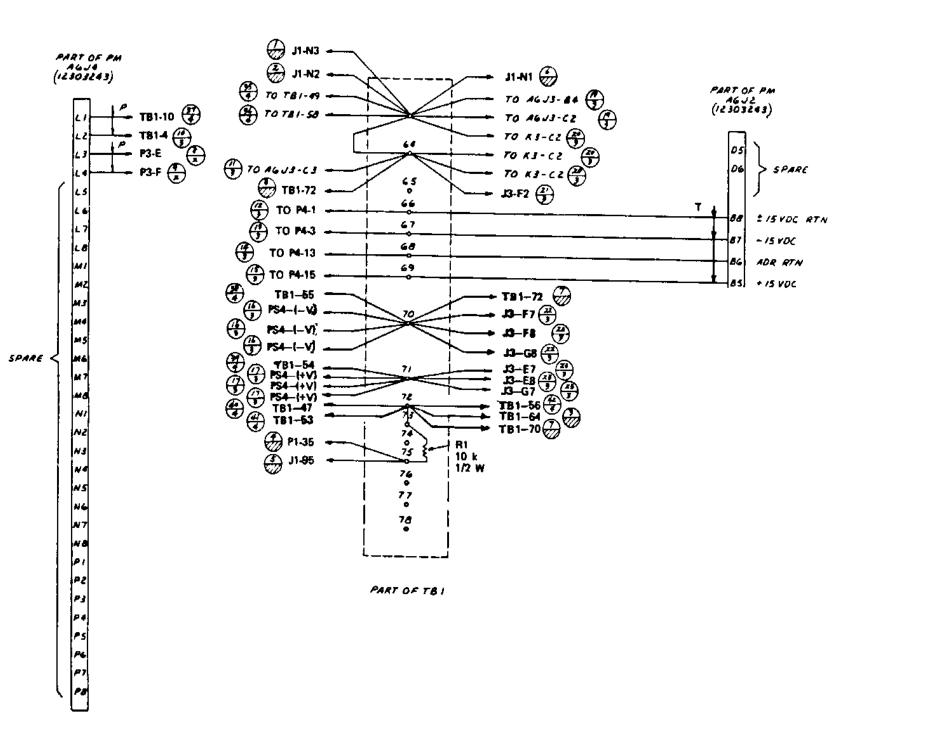
(Sheet 2 of 3)

TM 9-4931-381-14&P-3



FO-7. Load Bank A5 Schematic Diagram (Sheet 3 of 3)

FOR REFERENCE ONLY



PART OF PI (MATES WITH AGAIN!) (MB3723 - 75 R 2255N) PART OF UI (MATES WITH WISPE) (12303243) PART OF JI (MATES WITH WISP2) (12303243) PART OF PI (MATES WITH AGA WI) (M 03723-75 R 22-55) PCU FAIL + 24 VOC RTN DC OYERCURRENT +24 VOC OUT RTN INV ON CMD +24VDC DUT REVR ON CMD +24VDC TOW ON(FUS) BLK +24 VDC RTN + IS VOC SPARE + P WHT + ZAVDC +15 YDC SPARE +24 VDC RTN OV FAULT AS OV FAULT A SHLO RTN LAMP POWER SIGNAL RTN LAMP TEST SIGNAL RTN CONV ON (COLL) NVS ON (FYS) +8.8 VOC BIAS 24 YOC SWITCHED (FVS) -8.8 VOC BIAS TB1-75 ----OV INTI (FVS) +16 VDC BIAS OV INTI (FVS) ADR RTN WHT + 15VDC PART OF PL. (MATES WITH 46A 1J2) (MS3475L-22-55PW) I 15 VDC RTN RED -15VDC +10 VOC RTN WHT BLK -15VDC SCAN - IOYDC RTN WHT 115 VDC SCAN RTN P BLK +15 VDC 5 PS -ISVOC SPS + SVOC RTN 40 P BLK - TO TB1-28 TO BLK ± IOVOCRTN -5 VDC RTN 70 TB1-61 (2) - BLK - NO VOC AUX WHT WHT I IOYOC AUX RTN WHT +5VDC + SYDC AUX +5VDC RTN TO 12-13 WHT 1 SYDC AUX RTN +5 VOC TO TB1-10 ±15 VOC SPS RTN (FVS) +5YDC RTN TO TBI-4 +7 VDC (FVS) SHLD RTN -TVOC (FVS) WHT P SHLD RTN + 10 VOL BIAS REG BLK SHLD RTN + 10 VOC BIAS REG WHT P MT +24 VDC SIGNAL RTN 20 + IOVOC AUX BLK SIGNAL RTN N2 + Z4VOC RTN +10 VDC LOGIC WHT P M8 +24 VDC SIGNAL RTN -10 VDC LOGIC N3 +24 VOC RTN BLK SIGNAL RTN 33

FO-8. Power Module A6 Schematic Diagram (Sheet 1 of 4)

FP-37/(FP-38 blank)

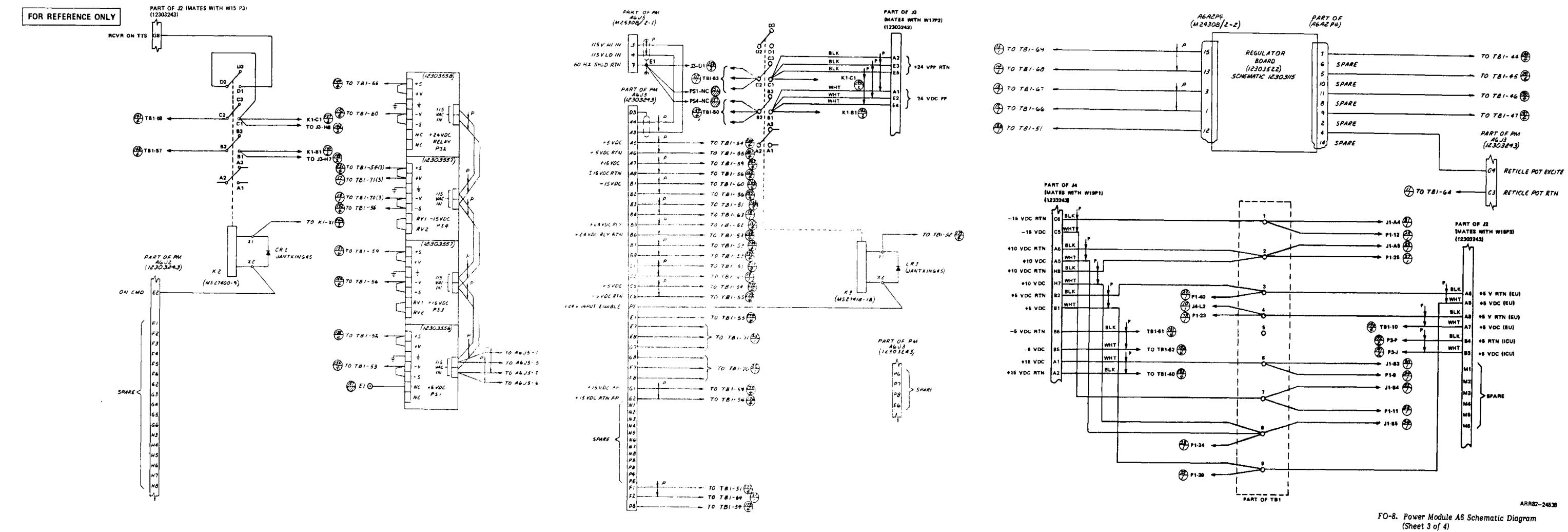
TM 9-4931-381-14&P-3

PART OF PM AG J 2 (12303243) FOR REFERENCE ONLY PART OF PCU A6AI P3 [M53475L-20-41P] PART OF PM R6 J3 (12303243) PART OF PM AG J I (12303243) PART OF J1 MATES WITH W15P2) (12303243) PART OF P2 (MATES WITH A6A1.02) MS 3475L-72-56 PW) SPARE +5V LSM > SPARE +15 VOC +5VDC LOGIC (HI-1) +15VDC +5 VDC LOGIC DC RTN +5 VDC SCAN (HI-1) +15VOC -5VDC SCAN <del>{})</del> TB1-25 (<del>{</del> ±5VDC SCAN RTN (HI-I) +15 VDC INV ON TTS DC RTN 14-64 +10 VDC +10VDC LOGIC RT 115VAC SHLD RTN DCATN \_\_\_\_(A) (SH 10) (₹ +10VDC BIAS REG RTN COOLER 01 SHLD RTN +5 VOC FAN SHLD RTN +10VDC BIAS REG RTN TO T81-49 -AZ +24VOC RTN DCRTN COOLER 01 +7 VOC E3 +24 YOC RTN COOLER POWER RTN (**ਕ**) TB1-14 (**ਕ** -7 VOC COOLER 02 <del>"Д)</del> тв1-13 <del>("#)</del> BLK. COOLER PWR PF DC RTN RED SPARE DC RTN FAN RTN SHLD RTN SHLD RTN (HI-1) -15 VOC TO K2-XI (1) K2-81 WHT 1 47 +24 VPP(UNSW) +24 VPP(UNSW) +24 VRTN(UNSW) -SVDC RTN DCRTN ——(C) ESH 10) DC RTN DC RTN DC RTN FAN PWR SHLD DC RTN COOLER PWR SHLD (MS27400-9) SHLD RTN OC FAULT A3 DC FAULT AT IN TEST (FVS) LAMP PWR LAMP TEST TRACKER ON (FVS) STRY CMD EI UV FAULT AS -5VDC AUX SHLDRTN DC FAULT A5 OV FAULT A3 OV FAULT 45 +5VDC LOGIC RTN OC FAULT A4 +5VDC LOGIC RTN CABLE TEST SPARE

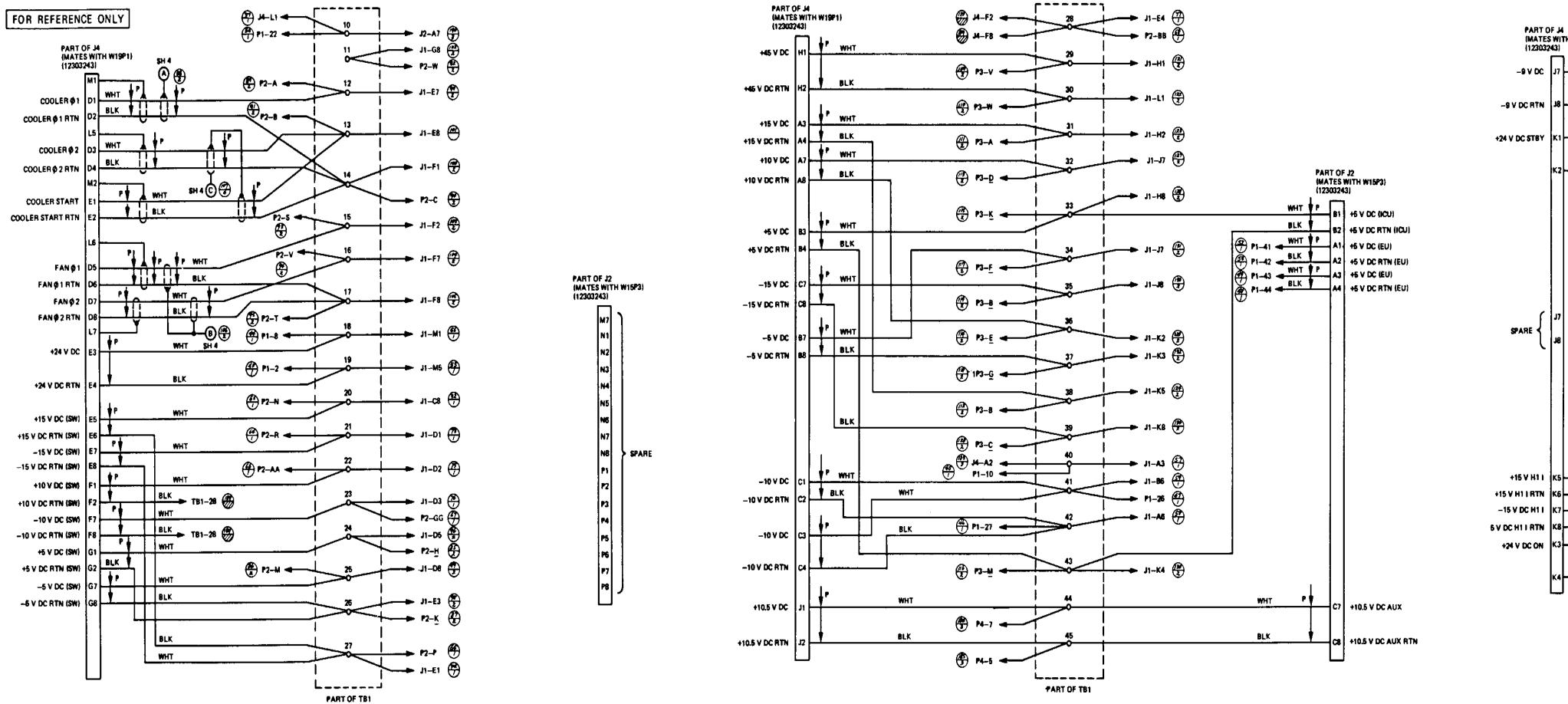
FO-8. Power Module A6 Schematic Diagram (Sheet 2 of 4)

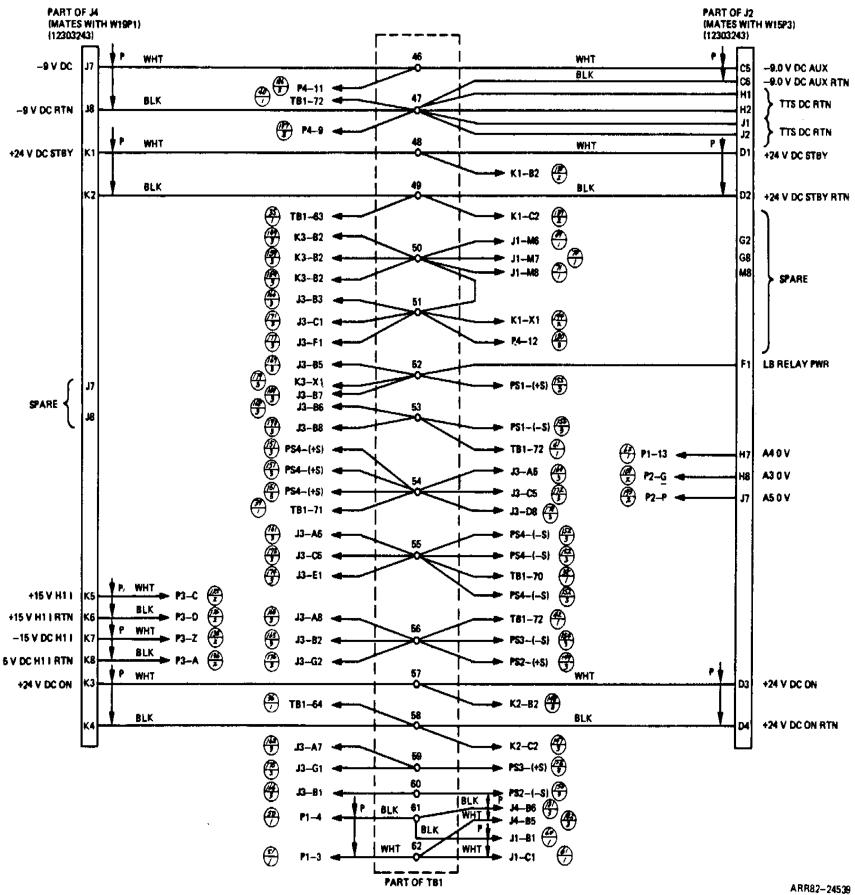
FP-39/(FP-40 blank)

TM 9-4931-381-148F-3



FP-41/(FP-42 blank)





FO-8. Power Module A6 Schematic Diagram (Sheet 4 of 4)

FP-43/(FP-44 blank)

MS3474LZZ555W HIS VDC SCN N

+15 VDC SPS 🔝

-15 VDC SPS C +5 VDC SCN H

+5 VDC AUX E

+5 VDC LSM Y

+5 VDC LOGIC H +5 VDC LOGIC

- 5 VDC AUX G - 5 VDC EE

DC RYN B

COOLER PWR SHLD D

FID VOC BIAS REG + IO VDC BIAS REG +10 VDC AUX X +10 ADC FORIC A -10 VDC GG -10 VDC AUX Z

FAN PWR SHLD U

SHLD RIN L

-10 VDC LOGIC

COOLER PWR ØI A

COOLER PWR 02 B -----

COOLER PWR RYN C 400V C32 122
FAN PWR Ø1 5 (C49
FAN PWR RYN T 15 400V C33 122
(SPARE) 26V 400 HZ ØA FVS

COOLER PWR PF

+ID VDC AA

C47

LOUF 400V

<sup>1</sup>\ 1.5∪₹}

FOR REFERENCE ONLY

24VDC RTN 52 54 54 57 52 59 59 A6A6

2000 A7A7

36 CIICH A8A8

1 C2 D9 D9 B7 B7

1 C2 D9 D9 B7 B7

1 C8 DIDH B0B0

33 33 7 C8 DIDH B0B0

O V FAULT A4 13 C23 90HD DC RTN DC RT

SPARE LINE 15 +8.8V BIAS IE

+15 VDC 9

RCVR ON CMD 1

TOW ON(FVS) 31 C2C DIBD

-15 VDC 11 A4 A4

+5 VDC 41 5/3-K 12272095 C66C6

C9 C9

DIODO CIOCIO CIICII D7 D7 D8 D8 D9 D9

~8.8VDC

-15 VDC\_N0. 2

INV DN CHT

M83723/74R2255N

SPARE 3

SIGNAL RTN

DC OVERCURRENT 6

PCU FAIL 5

+16V BIAS 2

DC RTN 27

SPARE LINE 15

DC RTN 42

DC RTN 44

DC RTN 4

SHLD RIN 46 - T+J3G

+5 VDC 22 -13-B SPARE 14 --13-E

+15 VDC NO. 2(5PARE) 30

INV ON CMD 7

SHLD RTN 50

-15 VDC NO.2(SPARE) 48

-8.6V BIAS 17

OV FAULT, AI 29 DC RTN 12 -

SPARE 3

A3 A3 FOR
A4 A4 SCHEMATIC
A5 A5 SEE IC

5EE 46A6 12271791 A

PART OF

BZ BZ SCHEMATIC

A41A4 SCHEMATIC B318

FOR

SEE

C7 SCHEMATIC AGAG

. 1 + 24 VDC

E BYDC RIN

FO-9. Power Control Unit (PCU) A6A1 Schematic Diagram

FP-45/(FP-46 blank)

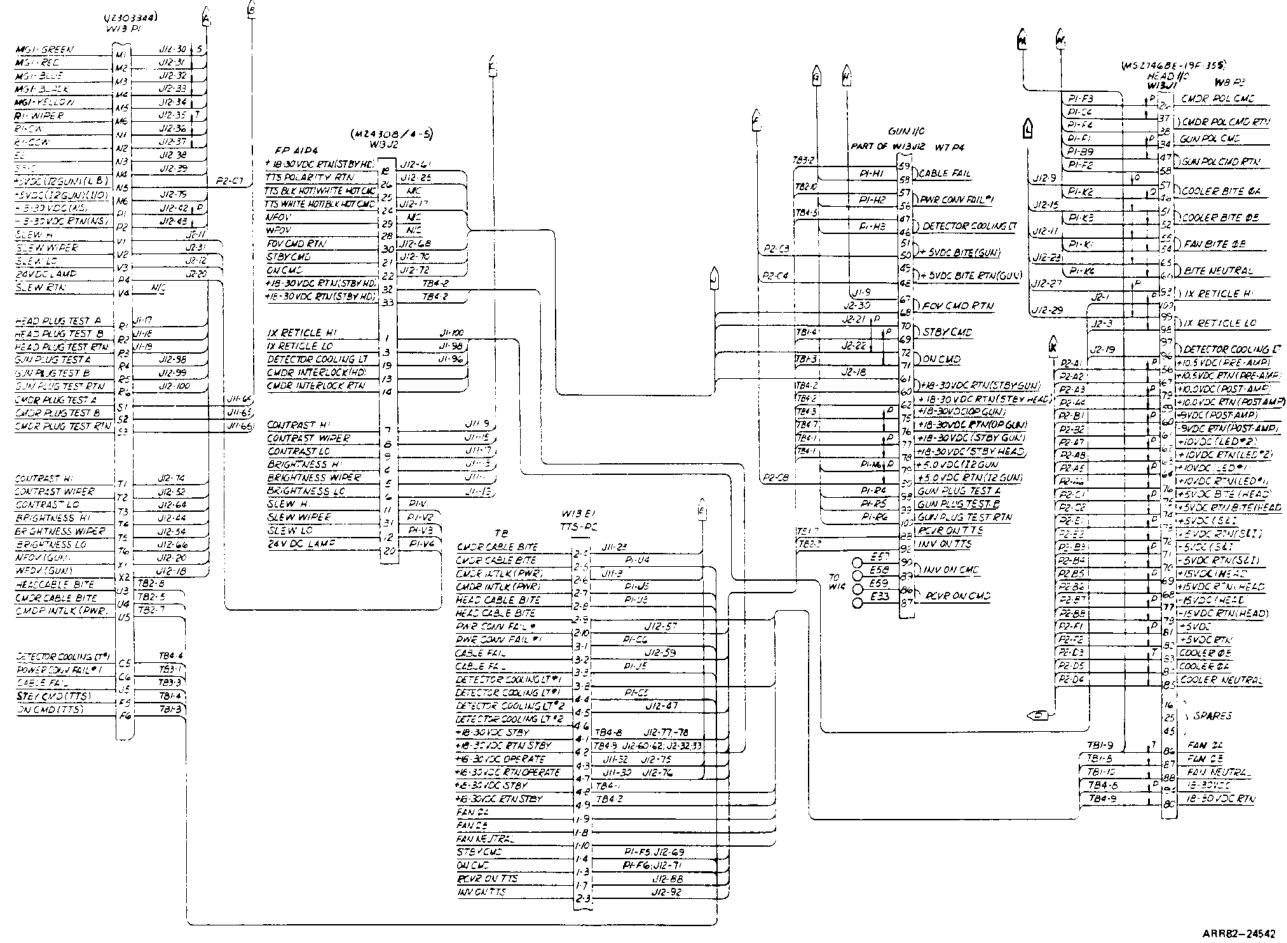
ARR82=245

FO-10. Common Power Control Unit (PCU) A6A1 Schematic Diagram

D5 D5 - A1P1-A2

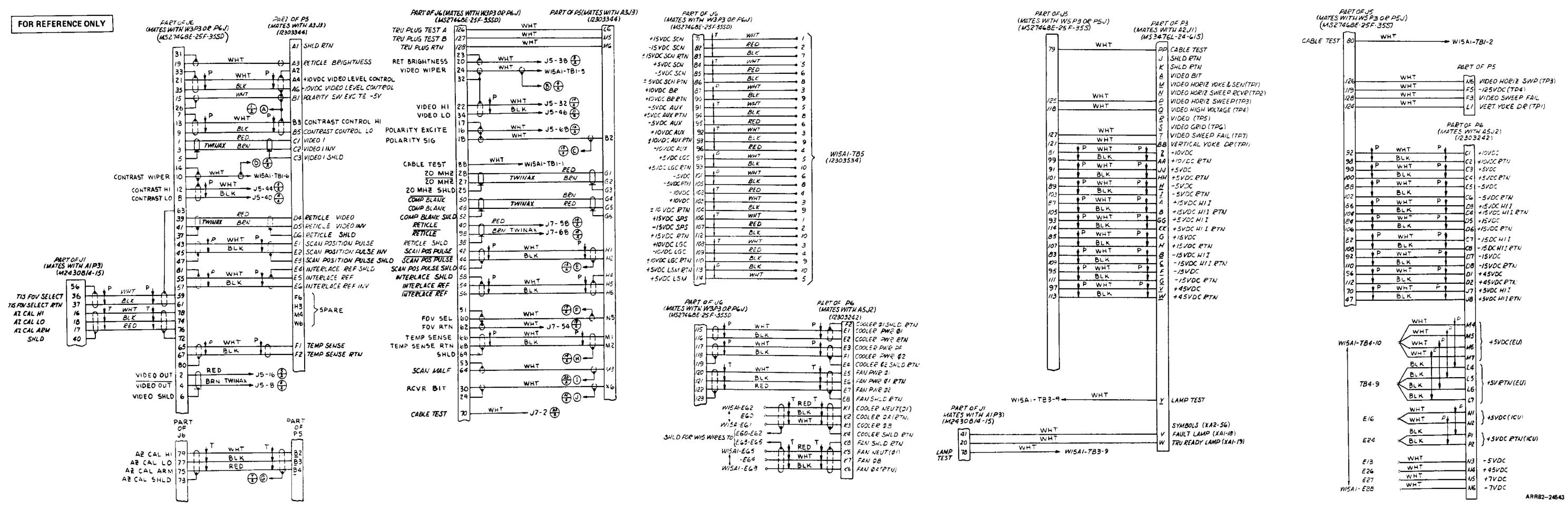
FP-47/(FP-48 blank)

IM 9-4931-381-148P-3

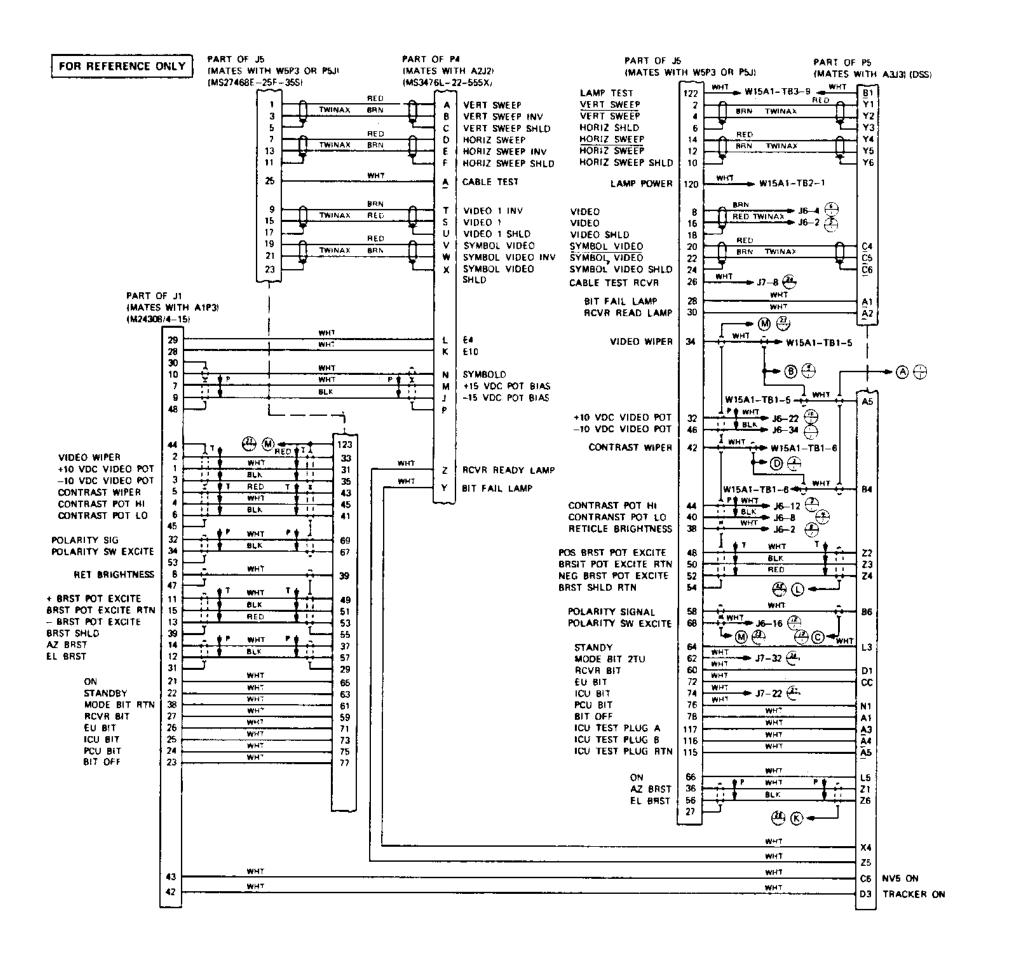


FO-11. Internal TTS Interconnect Harness W13 Wiring

FP-49/(FP-50 blank)



FO-12. Internal TIS Interconnect Harness W14 Wiring Diagram (Sheet 1 of 2)



PART OF JB

PARTS OF P2 (MATES WITH W4P4 OR P7J) PART OF P6 PART OF J7 (MATES WITH A4J2) (MATES WITH W4P3 OR PSJ) (MATES WITH A5J2) (MS27468E--25F-353A) (MATES WITH W4P4 OR P7J) (MS3476L-24-61P) (MATES WITH W4P3 OR P8J) (MATES WITH A4J1) (MATES WITH A3J3) PART OF P1 A CABLE TEST (MS27468E - 23-353C) (MS3723-75-7-22-55-6) +5 VDC RTN 68 ₩HT = J6-98 (3) FF SHLD RTN +5 VDC ------ 38 | -15 VDC U4 TEMP SENSE TEMP SENSE +5 VDC RTN 8 -15 VDC RTN 39 +10 VDC US TEMP SENSE RTN TEMP SENSE RTN WHT <sup>P</sup> ♦ +5 VDC I FAIL LAMP 10 +10 VDC RTN CABLE TEST ROVE +5 VDC RTN - V2 RCVR READY LAMP RCVR READY LAMP -15 VDC 20 -10 VDC N2 BIT OFF BIT OFF 36 +15 VDC ~15 VDC RTN ( N3 PCU BIT PCU BIT +10 VDC ----- 55 | +15 VDC RTN ICU BIT +10 VDC RTN 45 46 +5 VDC <del>- - I ----</del>I C5 | EU BI3 i FU BUT -10 VDC RTN 50 45 +5 VDC RTN D2 RCVR BIT 25 RCVR BIT 47 +5 VDC -10 VDC L2 STBY 27 STBY \_\_\_\_\_L4 | ON +15 VDC \_\_\_\_\_ 12 | +5 VDC RTN ADR RTN BS LEAD ANGLE CAL RTN - 22 RCVR ON CMD LEAD ANGLE CAL RTN B6 | LEAD ANGLE CAL BIAS F7 A5K5-83 ----- 25 DC OVERCURRENT LEAD ANGLE CAL BIAS A6 LEAD ANGLE CAL 85 +7 VDC 45 LEAD ANGLE CAL ---- 28 +5 VOC 87 -7 VDC PART OF P5 (12303344) LEAD ANGLE CAL SHLD JZ DSS RLY RTN (MATES WITH A3J3) 44 +5 VDC RTN W2 AZ BRST K AZ BRST 25 SHIELD RTN WI LEL BRST EL BRST **⊕ ®** • • • • • AA BRST SHLD WHT W15A1-E59 W15A1-E33 → WHT R1 V3 BRST POT RTN ROVE ON CMD 2 BRST POT RTN V4 NEG BRST POT EXCITE 51 L POS BRST POT EXCIT V5 POS BRST POT EXCITE 48 GRC DATA (+) NEG BRST POT EXCIT (£) (£) **←** 29 GRC DATA DC OVERCURRENT → 51 Î MULTIPLE ATN SHLD RYN ---- 32 | MALEUNCTION ··· N | RETICLE VIDEO (+) N4 FOV SELECT - 33 | READY TO FIRE M RETICLE VIDEO (-) GRC DATA (+) --- M | RETICLE VIDEO SHLD GRC DATA (-) JT 20 MHZ SHLD --- 35 RANGE DATA CLK (+) P 20 MHZ SHLD MULTIPLE RTN \_\_\_\_\_\_\_ J2 ↓ 20 MHZ (+) 53 RANGE DATA CLK (-) MALFUNCTION J3 | 20 MHZ (→) 37 +24 VDC READY TO FIRE 18 ---- W3 HORIZ SWEEP (+ W4 HORIZ SWEEP (-) S INTERLACE REF I+ RANGE DATA CLK (+) 22 ----- WS | HORIZ SWEEP SHLD P INTERLACE REF (-) RANGE DATA CLK (-) 36 YI VERT SWEEP SHLD 41 INV ON CMD W15A1-TB2-1 +24 VDC X2 VERT SWEEP (+) 42 PCU FAIL 79 R | HORIZ SWEEP (+) 58 BLK W15A1-TB2-2 +24 VDC RTN X3 | VERT SWEEP (-) - 43 AUTO SELF TEST ATN VI FAIL LAMP --- 54 AUTO SELF TEST --- U | HORIZ SWEEP SHLE 24 WHT - W15A1-E57 C3 | SYMBOL VIDEO SHLE INV ON CMD W15A1-E58 → WHI --- X | VERT SWEEP SHLD Č1 SYMBOL VIDEO (+) A W VERT SWEEP (+) PCU FAIL U C2 SYMBOL VIDEO ↔ VERT SWEED (-) AUTO SELF TEST ATN 28 KS I COMPOSITE BLANK (+) SYMBOL VIDEO (+) 30 LEAD ANGLE (-) AUTO SELF TEST --- 49 LEAD ANGLE (+) SYMBOL VIDEO (-) K4 | COMPOSITE BLANK (-4 EU PLUG 1 TEST A K6 COMPOSITE BLANK SHLD SYMBOL VIDEO SHLD EU PLUG 1 TEST B 65 ---COMPOSITE BLANK SHLD J6 SHLD RTN --- 31 LEAD ANGLE CLK (-) EU PLUG 1 TEST RTN | 64 |-------101 TWINAX J4 INTERLACE REF (+) - s2 | RANGE DATA (-) COMPOSITE BLANK (+) LEAD ANGLE (→) JS INTERLACE REF (-) 34 RANGE DATA (+) COMPOSITE BLANK (-LEAD ANGLE (+) ⊢ŘK MODE/BIT RTN (+24 VDC RTN) O U3 RCVR FAIL LEAD ANGLE CLK (+) 42 -LEAD ANGLE CLK (+) 12 ⊕ () **---**RANGE DATA (--) <del>I -------</del> 21 I --6 VDC -X5 RCVR BIT TEST PATTERN RANGE DATA (+) ₹ 9 -6 VDC RTN 5 ---HH ROVE BIT TEST PATTERN PART OF P6 26 +5 VDC RTN SHLD | 121 |-----└── im/mishld rith P4 EU PLUG 2 TEST A (MATES WITH A5J2) --| 27 | +5 VDC PS | EU PLUG 2 TEST B B6 T15 DC RTN P6 EU PLUG 2 TEST RTN BB FOV SELECT B8 T15 DC RTN K1 SCAN POS PULSE (+) K FOV SELECT RTN H2 T15 DC RTN GG SHLD RTN K2 SCAN POS PULSE (-G1 | 115 VAC N.S. **⊕** € **-**1 G2 1 115 VAC RTN H1 1 115 VAC SHLD RTN SCAN POS PULSE (+: G7 26 VAC SCAN POS PULSE (-) GB 26 VAC RTN 2 ₩H? → J6-70 Œ SHLD RTN HB 26 VAC SHLD RTN FB T15 DC RTN B ₩HT J5-26 € H7 A5K3-D3 MHT A5 -5 VDC 86 BLK A6 -5 VDC RTN 22 WHT J5-74 (F 82 WHT A3 +5 VDC 32 WHT - J5-62 (4) 76 BLK A4 +5 VDC RTN

FO-12. Internal TIS Interconnect Harness W14 Wiring Diagram (Sheet 2 of 2)

FP-53/(FP-54 blank)

TM 9-4931-381-14&P-3

TM 9-4931-381-148P-3

											7,7 7,01 301 174, 3
FOR REFERENCE ONLY	(MATES WITH WSF5 OR FBJ) (MATES WITH A3JZ) PART OF WISS (M627468E-23F-25) (12303344)	(MATES WITH ASJ1) (MATES WITH ASJ2)	MATES WITH A3.(2) PART OF WISP1	(MATES WITH WZP2 OR P2J)	MATES WITH WITH OR BOTH				A A	BART OF	Auntor
<del></del>	PART OF WISS PART OF WISPI (MS274GBE-23F-25) (12303344)	PART OF W15P4 PART OF W15P1 (12303344)	(OL1-156P)	(MATES WITH W2P2 OR P2J) PART OF W15J2 (MS27468E-25F-3658)	MATES WITH WZPZ ON PZJJ PART OF W15/2 D65274888-26F-3888)				PART OF TERMINAL	TERMINAL	PART OF TERMINAL
	[~] [~]	H2 WHT R5 TTS DC LOAD SELECT	A TO COL - PO WHT TO COLUMN	HOLD OF THE TOESE	AN PWR RTN (+A) 7 TO BES				şirir		
	TO E27 V BLK  TO E54 V BLK  LS DC RTN  WHAT  AND ON UNIT (E-VE)	P3 WHT M6 OSS RELAY RTN	TO 535 P WHT 76 +10 V DC U1 +10 V RTN		AN PWR RTN (#A) 7 WHT TO 563		0 + r1-40 🏵	j → J2-87 <b>⊕</b>	E1 P1-A1 👰	/→n-s ⊕	M-K4 ∰
	84 TO EST WINT AZ OV INT (FVS)	KS-Q2 N7		HEV DC 18 WHT P TO E38	FAN PWR #1 (NEUT) 11 NED 11 TO E65	(MATES WITH A3J2) PART OF WISP1	<del>                                    </del>	0 12-85 (2)	**************************************	F1=122 - 528 - 3-2 (A)	€50 P1-W2 ← E50 F1-W2
	66 WHT AJ A4OV	at west \$1	TO E38 P WHT U2 +5 V DC			(12303344)	22-111	0 + 12 −80 ∰ 0 + 12 −80 ∰	E2 P1-A3 (#)	P1-K3 - E27 - J8-12 - P1-124 PP3	Ø P1-W3 ← 551 → 72-31 Ø
	TO EZB WHT KA -7 V DC	M1 DSS RELAY RTN E4 WHT DC NOMINAL LOAD	TO E39 -, BLK U3 +5 V RTN	-8 V OC 22 WHT 17 TO E40 €	\$6 → TO W14—E63, £64, E66 S	TO ESQ P WHT W2 -9 V DC	22-113	5 12 48	# H-20 + E3 F1-M	£28 P1-K4	м-л <del>ф</del>
	32 BLK P BLK M2 DC RTN	NS SELECT NS SELECT OSS RELAY RTN	p wut	-S V DC RTN 24 SLK TO E41		TO EST BLK WI -DV HTN	8		M-A2	74-88	£52 27-38 €
	-7 V DC 10 WHY TO E28	E6 WHT NS AC LOAD SELECT	TO E40 P WHT U4 -6 V DC	ADR RTN 28 WHT TO E41 8 BLK TT TO E42		TO E52 WHT W4 +10.5 V DC	j → 12-53 ( <del>2</del> )	0 → n-m Ø	(4) H-22 ← E1 ← P1_A5	Ø P1-L3 ← E29 ← #-22 Ø	<i>y</i> → **-11 ∯
	DC RTN ZZ BLK P TO E29 P WHT K5 -5 V DC	E7 WHT N6 +10 V CVL BEL	29 10E41 - 08 1 - 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	-15 V OC 30 WHT TO SALE		TO ES3 - BLK NS +10.5 V HTN	0 → n-14 <b>(</b>	5 → 12-97 👸			Ø P1—₩5 <del></del>
	B WHT T RE -5 V DC	EB WHT P1 46 V O/L SEL		±16 V DC RTN 32 BLK TO E46		TO E4 P BLK A5 +10 V DC RTN	0 <del>    1</del> 2 €	0 → 12-99 <b>(</b>	£5	E30 - 12-15 - 15-15 -	
	TO E29 - BLK L3 DCRTN	F1 WHYT 72 -6 V O/L SEL	TO E43 WHT VI ADR RTN	10 V DC 44 WHT P TO 646		TO E10 WHT C1 +10 V DC	10 2-10	Ö	71-81 ∰	P1-40	€ P1-L6 ← E54 ← N-28 €
	# A4   -15 V OC	F2 WHT P3 ~15 V Q/L SEL	D. The second	+10 V DC RTN 42 BLK T TO 649		TO E2 WHT A3 ADR RTN			E P1-83	2 34 ← E31 ← M 82 2	P1-13 + E55
	LI -13 * CC (MI+1)	F7 WHT P6 +18 V O/L SEL	TO E42 TO B44 WHT V2 -16 V DC	-9 V DC 40 WHT ↑ TO E50 €		₩HT B6 -18 V DC			P3-H1 + P2-H2 (P)	E33	12-63 - PA-D8 (A) PA-E2 - E56 - PA-D8 (A)
	30 WHT MI DCRTH	G1 WHT PE -10 V O/L SEL	10 E45	-9 V DC RTN 38 BLK TO ES1		TO E3 BLK AM ±15 V DC RTN	TB2	TMS	M-A5 - M-83 - M	Ø 12-53 ← E34 → F1-77 🛞	n-51 +
	A5 A5 UV	TO E16 TO E16 K2 +5 V DC ((CU)		+10.5 V DC 35 WHT P TO E52		TO ES RED BS +15 V DC	P1-25 ( <del>2)</del>	P3-85 (P)	# 14-34 EB P1-86	# P4-D8 = E35 P4-H8 #	ES7
	42 WHT MS OV FAULT AS	1 1 = 1 1	P PT WHT	+10.5 V DC RTN 48 BLK TO E53		TOEL TH WHIT AL HERVEIAS	<del>                                   </del>	(A) 17-25 ← V-E2 (B)		<del></del>	E58
	44 WHY ME OC FAULT AN	TO E24 - TO E24 45 V RTN (ICU)	TO E48 - WHT VB +16 V DC	FAN 01 14 PAED 1 E56 PAED 1 PAED 1 FAN 02 PAED 1 FAN PWR RTN 10 PAED 1 P	V	TO E14 RED OF POLIFAIL	<b>⊕</b> *** + ***	₩ H-52 <del>+   , /   + 13-8</del> 7 ∰	£9 M-46	£38 12-8 - P1-18 <b>2</b>	E60
	50 WHT SS TIE PCU PLUG 2 TEST RTN	TO TB2-1 (24 V DC PRIME) 25	10 E49 4 1 10 V N I N	FAN #2 12 1 WHT 1 ESS   WHT	10 TO TO 10-9	TO E16 - BLK 01 0C 0/C	0 + r2-47 🕏	£ 12-20 → 10 → P1-63 ∰	P1-01 ₩	M-K1 (2)	E61 77-3 A
	84 TIS PCU PLUG 2 TEST 8		1 '	FAN PWR RTN 10 TRED TEES THE	TO TNI-10 @		Ø 12-69 <del>←    </del>	2 2 4 7 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1	€ 44-44 €10 F4-A1 €	£37 F1-U1	E62
		(MATES WITH WZF3 OR PZJ) PART OF WIS/Z		63 TO E35, £55, £56, £56 BALD		TO ES - BLK AS -10 V DC RTN	0 4 40 (F)	n-46 + 1-46 # 11-46 #	(f) M-42 - E11 - F1-52 (f)	77-18 (7) 17-18 (7) 17-18 (7)	E83 → J2−7 <b>(</b>
	TO TB1-2 COOLER	T (MS27408E-75F-7580)		ON CMD 111 WHT TO TE1-3	(TB1-4, -8, -10 \$HLD)	TO E11	$ \begin{vmatrix} 0 & -n & -n \\ 0 & -n & n \end{vmatrix} $	4-71	<u> </u>	M-K7	254 22-13
	(CABLE TEST) COOLER	T T T T T T T T T T T T T T T T T T T		Wult	<b>∌</b>		8 n−14 €	P) 12-17 - P1-67 (5)		12-20 - F1-U3 @	J2-11 🔮
(MATES WITH NOTS OR PSJ) (MATES TITH A1/2)	TEZ-2 (24 V DC PRIME FTN) COOL	HER AA MS THELK TO ESA TELK TO 2 COOLER AA		STBY CMO 113 TO TB1-4		TO ES BJ +5 V DC RTN CA +6 V DC	8 n-n (4)	12-13 - 4-92	E12 M-28 - E12	P3-12 ← P3-11 ∰	<del></del>
PART OF WISD1 PART OF WISD1 (12203344)	TES COOLER BAL	ALD RTN DE 47 TTS COOLER RTN		TTS POU PLUG I TEST A 50 WHT	WE PART OF WISP1	C4 +6 V DC	⊕ 12-75 <del>-   -  </del> 8	Ø 12-21 → P1-F4 Ø	<del>\</del>	P1-U4 <b>2</b>	
HE V DC [2] WHIT # TO BE A COM	(24 V DC PRIME)	LS		TTE PCU PLUG 1 TEST 8 52 WHT	X1 (12303344)	TO ET P BLK B4 -5 V DC RTN		(2) 22-27 ← 1, / ← P3-18 (2)	⊕ #-38 <del></del>   £13   ₱1-03 ∰	27-72 - 640 - M-K8 (2)	
DC RTN 34 BLK TO E31	SANTES WITH ASJ1) PART OF WISP4	[, <del>                                     </del>	(MATES WITH WOR'S OR PRJ) (MATES WITH ARZ)	TTE PCU PLUG 1 TEST RTN 54 WHT	X2	TO E13 WHIT CS -5 V DC	L	2 12-31 - P1-F5 (2)	E14 - P1-OS	2-24 - E41 - P1-US (9)	
⊕ TO £25 ← ↑ P WHT .5 +45 V DC	(12303)42)	(MATES WITH A3JZ) PART OF WISP1	PART OF WIS#3 PART OF WIS#3	WHT		<b>3</b>	***	P 1- 10 (F)	# H-40	n-25 - E42	
TO EST BLK MS DC RTN	WHT	(DL1-1889)	(MHZ 7468E-25F-25) (12303247)	+24 Y DC ETBY   87   TO TB4-1 @	Ì	TO T85-1 WHT EZ +15 V SW	TB3	P1-F5 A	P1-8 - E17 - P4-07	71-71	
	-7 V RTN C2 T0 E30 W R1 T3S COOLER SHL	ILD RTN NA TO E34 TO WHT TO WHT WHT	46 V DC (EU) 50 BLR A2 46 V RTN (EU)	+24 V OC STBY ATN 85 WHY TO TB4-2		_	0 2-10 🕏		# N-CS	€ 12-28 ← E43 ← P4-L3 €	
DC RTN 26 BLK TO E30		11 V/2-COOLEA V B (V2)	+6 V DC (EU) 81 WHIT AI +6 V DC (EU)	THE TOTAL OF	لہ	€ TO TR5-2 -18 V day	<u> </u>	A 12-43 A	P1-102 📆	P1-∀2 ∰	
4 WH1 7 WH1 4 475 V DC	+46 V HTN	H1 1 T BLK T1 08 V/2-COOLER NEUT (+1)  E3	46 V DC (EU) 71 P WHT A3 46 V DC (EU)	+34 V DC OPR B3 TO Tige_3		70 TB5-3 - WHT E4 +10 V SW	0 n-n #	₩ 17-01	P1-104	£4 P4-L4 <b>Q</b>	
TOE 30 - BLK LE DO NTN	الوسنا	H7 T4 1 V/2 FAN PRR 41 (42)	46 V OC (EU) 71 85 V RTN (EU) 73 8LK A4 65 V RTN (EU)	+24 Y DC OPH RIN   95   WHT TO TB4-7 🛞			0 - n - n ⊕	22-19 - 12-35	P1-108	N1-V3 ₩	
#P WHT PP K1 +10 V DC		ILD RTN DA TO ESS TO ESS THE FAN FARTH	% V KIN (EU) 73	24 V OF 97 WHT TO TIM- 8 @		€ TO TRS10 V SW	0 n n m	⊕ 11-03 <del>+ 1</del> + <del>1</del> * ⊕	P1-10 (1)	₹45 77-32 <b>14-15</b>	
20 BLK DC RTN		ILD RTN   OR   T   IT   IT   IT   IT   IT   IT   IT	+5 V OC (EU) 75 P WHT P AS +5 V OC (EU)	907		70 T05-6 - WHT F2 +6 V 6W	j -   + 12-41 ∰		P1-H2	E45	
46 V DC (ICU) 14 WHT TO BIS	WE   FAN FA	A (ATN) ES BLK TO EM &	-5 V RTN (EU) 77 BLK AS +5 V RTN (EU)	24 V CP RTN 98 TO TR4-8			\$\frac{1}{2} + 12 + 10 \hfrac{1}{4}		P1-110 (F)	N-K1	
OC RTN 24 8LK TO E24 77 VOC 12 WHIT 10 E27	K14-X2 G2 X1 X2 FAN 6	68 (02) NB WHT TO E38 €	1, 1,	COOLER PWR #1 (#A)  COOLER PWR #2 (#B)  COOLER PWR #2 (#B)  COOLER PWR #1 (NEUT)  TO E80  TO E82	_	TO TISS-6 WHIT FA -EV SW TO TISS-7 WHIT FS -15 V RTN	8		P1-112 (A)	8 12-44 - E48 - P1-V6	
ORTH TO BLK TO BEE	K18-X2 G7 X4 FAN NEU	SUT (+1) E2 TO ESS	+5 V DC (EU) 79 WHY A7 +5 V DC (EU)	COOLER PWR #2(#8) 1 RED 11 TO ES1	<b>3</b>	A STATE OF THE STA	6		€ P1-L4 ← E24 → 4-24 ∰		
DC RTN 28 SLK V TO 884 A1 OV INT 1 (FVE)	TIS DC HTN   M2   25   J	TO E35, (5) (8)	45 V RTN (EU) 81 T BLK T AE 45 V RTN (EU)			<b>~~~</b>			is:	€ 22-42	
المتا المتا	الما الما	TO E35, (5) (8) (8) (8) (8) (8) (8) (8) (8) (8) (8	381-14F-32-18	5) TO W14—E80,	E&1, E&2 SHLO		<del></del>				Aññ82~24545
										FO-13. Interr	nal PCU Interconnect Harness W15 Wiring

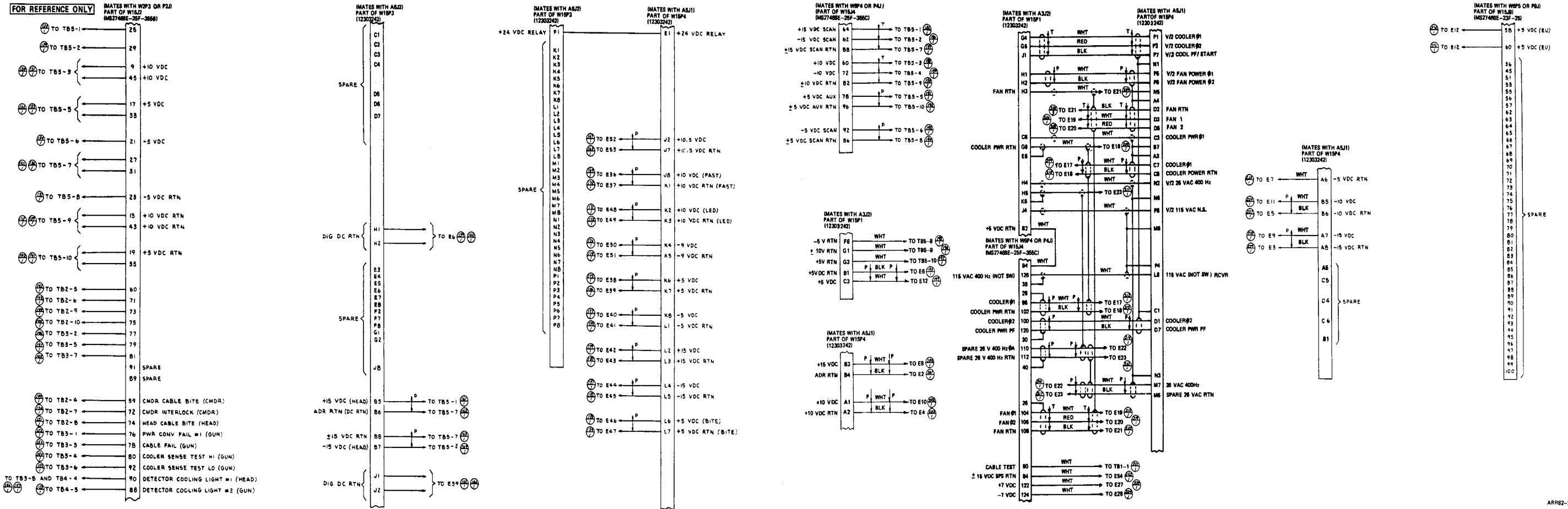
FO-13. Internal PCU Interconnect Harness W15 Wiring Diagram (Sheet 1 of 3)

FP-55/(FP-56 blank)

TM 9-4931-381-14&P-3 FOR REFERENCE ONLY PART OF WISPI (12309344) PART OF WISU4 MS274682-25F+355C) PART OF WISJ4 (MS2746BE-25F-355C) PART OF WISJ2 (MS2746BE-25F-355B) PART OF WISP2 (12305242) PART OF W15J2 (M527468E-25F-355B) PART OF WISU4 (MS 27468E - 25F - 355C) PART OF WISJ4 (MS 2746BE - 25F - 355C) PART OF WI5P2 (12303242) PART OF W15P3 (12303242) PART OF WISPI PART OF W15J2 (MS 2746B E - 25F - 355B) (12305544) - E6 1-10 VDC AUX ---- 57 24 VDC PRIME ----- N6 +24VDC PRIME ---- D2 +10 VDC L6 24 VDC PRIME +24 VDC OP YI GZ +10 VDC AUX RTN ---- 65 24 VDC PRIME RTN NI + Z4 VDC RTN PRIME --- D3 -10 VDC M7 +24 VDC PRIME M2 24 VDC PRIME RTN +24 VDC OP RTN YZ --- C3 +5 VDC E4 ±10 VDC RTN - L7 24 VDC PRIME NZ + Z4 VDC RTN PRIME BI +5 VOC RTN PZ +15 VDC 5R5 RTN FV5 ---- 69 24 VDC PRIME MB + 24 VDC PRIME +10 VDC LED #2 TTS Y3 - M3 24 VDC PRIME RTN - 63 24 VDC PRIME RTN N3 + 24 VOC RTN PRIME +10 VDC LED #2 TTS RTN | Y4 --- N7 -7 VDC FV5 L8 24 VDC PRIME AZ +16 V BIAS 73 P P D4 -IO VDC AUX B2 +5 VDC RTN M4 24 VDC PRIME RTN 67 24 VDC PRIME ES 10 VDC AUX RTN 61 24 VDC PRIME RTN AI +8.8 V BIAS DZ INV ON CMD +5 VDC TTS BITE Y4 •P P• CZ PCU FAIL D6 +5 VDC AUX D3 RCVR ON CMD PART OF WISJ9 (MS 27468E - 23F - 3558) +5 VDC TTS BITE RTN Y5 C3 DC OVERCURRENT E6 15 VOC AUX RTN D4 TOW ON 7 P P A3 ADIC RTN BI DB -5 VDC SCAN D5 +15 VDC SPARE B3 +15 VDC +5 VDC TT5 Z1 P ES ± 5 VDC SCAN RTN D6 NVS ON 19 P P A4 ±15 VOC RTN +5 VDC TTS RTN E2 P3 +5 VDC L5M SPARE 35 P4 SPARE EI 24 VDC SW B4 - 15 VDC - EI CABLE TEST A5 +10 VDC RTN FI +5 VDC SCAN - LZ CABLE TEST - PI TRACER ON FVS +5 VDC TT5 23 P F3 +5 VDC LSM --- L3 OC FAULT A5 - 35 + 10 VDC - NB IN TEST FVS A6 -10 VDC RTN HE OC FAULT AS - L4 O V FAULT A5 +5 VDC TTS RTN 24 GB COOLER PWR PF J3 TRACKER ON - L5 O C FAULT A4 H6 SPARE -G7 DC FAULT AS P BI +5 VDC RTN -- JZ IN TEST - M5 +24 VDC OUT RTN D7 115 V 400 HE (NOT SWITCHED) FVS --- 88 + 5 VDC -DS + 5 VDC SCAN --- MI +24 VDC OUT BZ -5 VDC RTN --- CI |-5 VDC PART OF WISPE (12905242) SPARE 47 A2 +16 V BIA5 SPARE A7 +5 VDC RTN PART OF WISJE (MS27468E-23F-3558) PART OF WISPS (12305242) AS +5 VDC RTN -4 VDC AUX CS 87 +5 VDC ---- HI |+45 VDC --- C4 INV ON CARD -9 VDC AUX RTN C6 20 TO E3 (4) - C5 RCVR ON CARD PART OF WISPI (12505344) P . --- H2 +15 VDC (HI-I) - C6 TOW ON FVS +10.5 VDC AUX C7 P P P 37 +10.5 VDC 46 - TO E9(47) - N5 24 VDC SW FVS +10.5 VDC AUX RTN C8 49 +10.5 VDC RTN •P P• N4 NV5 ON FVS X3 TIS PCU PLUG I TEST A , 22 P TO E4 - C7 +15 VDC SPARE --- X4 TIS PCU PLUG I TEST & --- KE DC RTN +24 VDC STBY (PRIME) DI şP Pş --- X5 TIS POU PLUG I TEST ATN 44 - TO EIO (#4) +24 VDC STBY RTN (PRIME) D2 - DI -15 VDC SCAN CB +15 VDC SCAN 24 TO ES (2) EZ ± 15 VDC SCAN RTN +24 VDC OPER (CMDR)(PRIME) D3 12 TO EII (2) - KS D C RTN +24 VDC OPER RTN (CMDR)(PRIME) D4 P 8 ---- TO EI (11) E9 COOLER 42 30 TO E6 (4) FI COOLER PWR RTN 148 TO E14 (4) 38 TO E12 (4) ON CMD E2 STBY CMD | E | ---- #7 | FAN 42 1 32 P TO E7 (7) 50 TO E15 (1) FB FAN RTN | P | P | | Ki | -15 VDC (HI-I) . IS TO E2 36 TO E13 (2) INV ON TTS | G7 | TO TB2-3 (4) --- GI | SPARE 26 V 400 H2 44 FV5 - GZ SPARE ZEV 400 HE RTN FV5 RCVR ON TTS GB TO TBI-7

FO-13. Internal PCU Interconnect Harness W15 Wiring Diagram (Sheet 2 of 3)

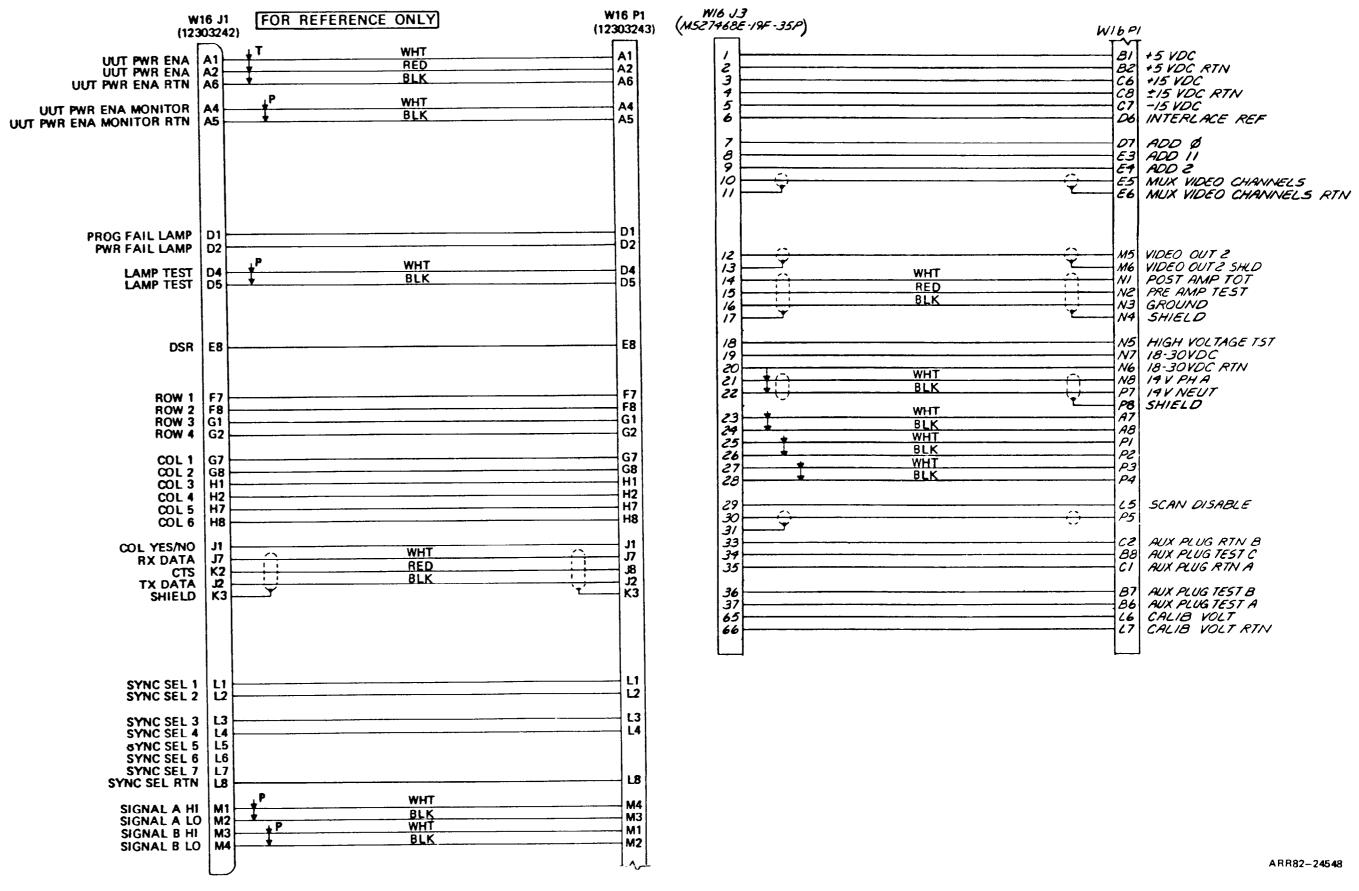
FP-57/(FP-58 blank)



FO-13. Internal PCU Interconnect Harness W15 Wiring Diagram (Sheet 3 of 3)

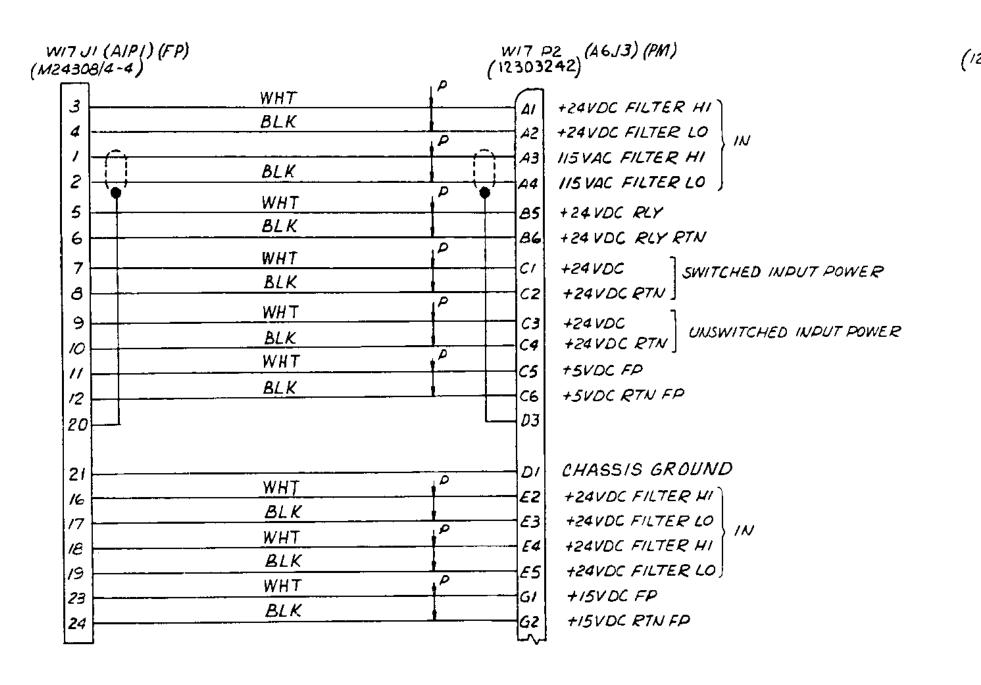
FP-59/(FP-60 blank)

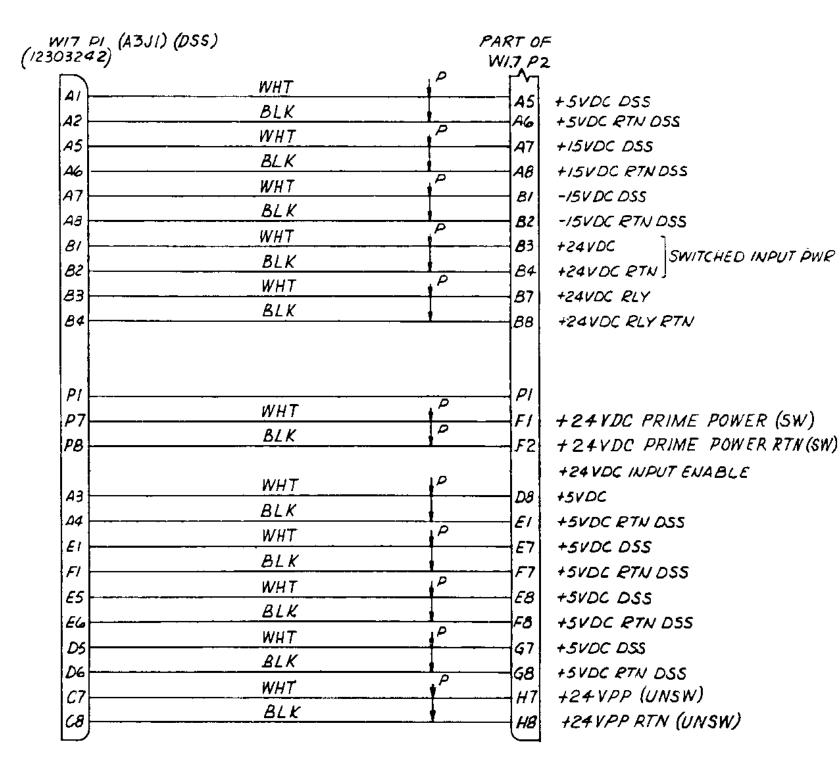
N A	0 4024	204 440 D 2
IVI	9-4931-	-381-14&P-3



FO-14. Internal Panel Interconnect Harness W16 Wiring Diagram

FP-61/(FP-62 blank)





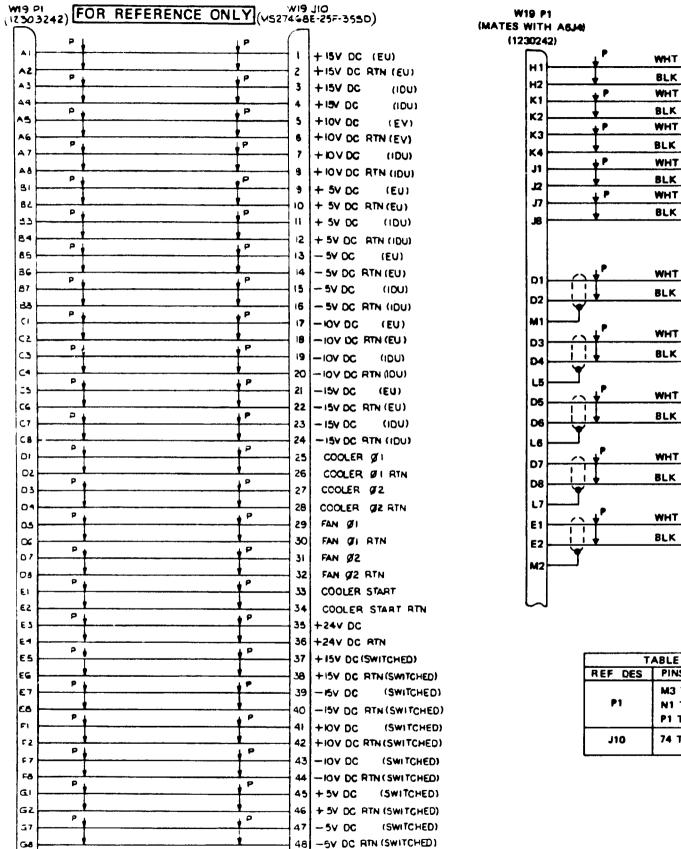
ARR82-2454

FO-15. Internal Power Distribution Harness W17 Wiring Diagram

FP-63/(FP-64 blank)

TM 9-4931-381-148P-3

TM 9-4931-381-14&P-3



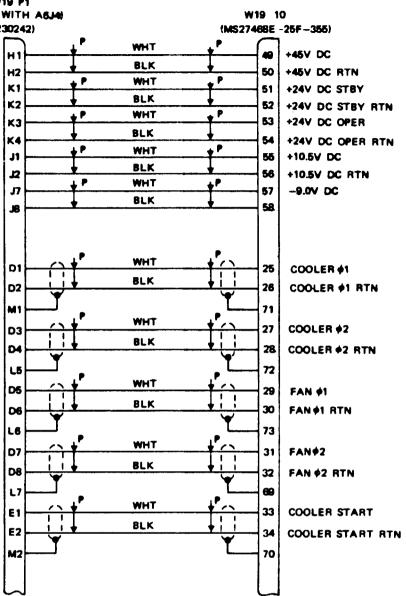


TABLE					
REF DES	PINS NOT USED				
P1	M3 THRU M8 N1 THRU N8 P1 THRU P8				
J10	74 THRU 128				

ARR82-24550

FO-16. Internal TIS Interconnect Harness W19 Wiring Diagram

FP-65/(FP-66 blank)

FROM CONTACT	TO CONTACT		
P1A -1	P1A -2		
-3	4		
<del>-9</del> 7	<del>-9</del> 6		
-99	-98		
-11	-10		
-5	-12		
-17	<b>-19</b>		
-29	-20		
-23	-22		
-15	-24		
-27	-26		
-39	-28		
-21	-30		
-33	-32		
-45	-34		
~35	-36		
-37	-38		
-31	-40		
-43	-42		
-53	-44		
-57	-46		
-49	-48		
-41	-60		
51	52		
-65	-54		
<b>-6</b> 5	-66		
-47	-58		
-89	-90		
-91	-92		
P1A -93 P1A -100			
CONTACTS 16, 18, 25, 59, THRU 64, 67 THRU 88, 94, 95, NOT USED			

FROM CONTACT	TO CONTACT
P2A -1	P2A -2
-3	1-4
-5	-6
-9	-8
-11	-10
-13	-12
7	14
-16	-16
-17	-18
-19	-20
-21	-22
-23	-24
-25	-26
-27	-28
-29	-30
-31	-32
-33	-34
-37	-36
-39	-38
-41	-40
43	-42
-45	-44
-35	-46
-49	-48
-65	-66
P2A -67	P2A -68

ROM	TO CONTACT	FROM CONTACT	TO CONTAC
P2A83	P2A -82	PIA -1	P4A-2
-85	-84		1 -4
-87	-86	-5	-6
-89	-88	-9	
-91	<b>9</b> 0 ¯	-11	1
-81	-92	-13	-1
<del>-9</del> 5	94	-7	-1
-87	<del>-9</del> 6	-15	-1
<del>-0</del> 9	-96	-17	-1
-71	-72_	-19	-2
-73	-74	-21	-2
-79	80	-23	-2
-113	-114	-25	-2
-75	-76	-27	-2
-77	-78	-29	-3
-111	-112	-31	-3:
<b>–67</b>	-56	-33	-3
-69	-58	-37	-3(
<b>–6</b> 3	-64		3(
-61	-62		-44
P2A <del>-59</del>	P2A -80	-43	-4;
	50 THRU 55, 70,	<b>-45</b>	-44
I, 190 THRU 18 NOT USED	110, 115 THRU	-35	_4
		-49	44
		-51	-50
		-53	<u>–5</u> 2
		<b>-55</b>	-6
		<b>–57</b>	-50
		-69	-5
			<b>1</b> -8
		MA -61	P4A-62

		ı L	CONTACT	CONTA		
FROM CONTACT	TO CONTACT		P5A1	P5A -:		
MA -63	P4A -64		-3	4 -4		
-65	-66		5	-6		
-67	-68		-0	-8		
-71	-72		-11	-10		
-73	-74		-13	-1:		
-75	-76		-7	-1-		
-77	-78		-15	-10		
-79	-80		-17	-1		
-83	-82		-19	-2		
-85	-84		-21	-2		
-87	-86		-23	-2		
-86	-88		-25	<del>                                     </del>		
-91	-90	\ <u> </u>	-27	-2		
-81	<del>-9</del> 2		-29	-3		
-95	-94		-31	-3		
<b>-9</b> 7	- <del>9</del> 6		-33	-3		
-99	-98	<b> </b>	-37	-3		
-101	-100	-	-39	<del>                                     </del>		
-103	-102	-	<del>-4</del> 1	╁		
-106	-104	-	<del></del>	<del></del>		
-107	-106	-	-43	-4		
-109	-108	-	-45	-		
-111	-110	<u> </u>	-35	<del>  -4</del>		
-513	-112	<u> </u>	-49	-4		
-121	-114		-51	-6		
-115	-116		-53	-6		
-117	-118		-55	-6		
-119	-120	_	-67	-5		
-125	-124		-69	-5		
-123	-122		-59	-6		
P4A -127	P4A -126_		-61	_6		
P4A -70	P4A -128		-63	-6		
CONTACTS 47, 93 NOT USED			-65	-6		
			<b>-6</b> 7	-6		
			<u>-71</u>	-7.		
			-73	-7		
			-76	/ - X		
			PSA77	P6A -7		

PSA - 1	FROM CONTACT	TO CONTACT				
-5	P5A -1	P5A -2				
-9 -8 -11 -10 -10 -13 -12 -7 -14 -15 -16 -16 -17 -18 -19 -20 -21 -22 -85 -84 -101 -100 -100 -25 -27 -28 -29 -30 -31 -32 -31 -32 -31 -32 -37 -36 -39 -38 -103 -103 -103 -103 -105 -104 -105 -105 -106 -105 -106 -105 -106 -107 -106 -107 -107 -108 -108 -109 -108 -109 -100 -100 -100 -100 -100 -100 -100	-3	1 -4				
-11	5	-6				
-13	-0	-8				
-7 -14   -15   -16   -16   -16   -17   -18   -18   -19   -20   -20   -21   -22   -85   -84   -101   -100   -26   -27   -28   -29   -30   -87   -96   -91   -90   -98   -31   -32   -95   -94   -33   -34   -97   -96   -96   -37   -36   -99   -98   -103   -107   -104   -105   -107   -1	-11	-10				
-15	-13	-12				
-15	-7	-14	_		T -	
-19	-15	-16				-
-19	-17	-18	<u> </u>		PS	A -80
-21       -22         -23       -24         -25       -26         -27       -28         -29       -30         -31       -32         -33       -34         -37       -36         -39       -38         -39       -38         -41       -40         -43       -42         -45       -44         -35       -46         -49       -48         -51       -50         -53       -52         -55       -54         -67       -56         -60       -62         -61       -62         -63       -64         -66       -66         -67       -68         -71       -72         -73       -74	-19	-20	<u> </u>		1	
-25	-21	-22	H		<del>                                     </del>	-84
-25       -26         -27       -28         -29       -30         -31       -32         -33       -34         -37       -36         -39       -38         -41       -40         -43       -42         -45       -44         -35       -46         -49       -48         -51       -80         -53       -52         -55       -54         -67       -56         -69       -58         -59       -80         -81       -92         -70       -93         -70       -93         -70       -93         -70       -93         -70       -93         -70       -93         -70       -93         -70       -93         -70       -93         -70       -93         -70       -94         -70       -93         -70       -94         -70       -95         -70       -95         -70       -95         -70	-23	-24			††	-100
-29	-25	-26		-91	1 1	-90
-31	-27	-28	H	-89	++	-88
-33	-29	-30		-87	11	-86
-37	-31	-32		-95	11	-94
-39 -38 -103 -10: -41 -40 -40 -105 -10 -43 -42 -107 -100 -45 -44 -109 -100 -35 -46 -111 -110 -49 -48 -113 -11: -51 -60 -81 -92 -55 -64 -67 -68 -66 -67 -68 -71 -72 -73 -74	-33	-34	$\vdash$	-97	11	~96
-41	-37	-36	H	-99	11	-98
-43	-39	-38	H	-103	11	-10:
-45	<b>-41</b>	-40	$\Box$	-105	1-1-	-10
-35	-43	-42		-107	11	-10
-49 -48 -113 -113 -113 -113 -113 -113 -113 -11	<b>−45</b>	-44	1	-109	11	-10
-51 -60 -81 -92 -93 -55 -64 -67 -68 -68 -67 -68 -71 -72 -73 -74	-35	-46		-111	11	-110
-63 -62 -70 -83 -55 -56 -64 -65 -66 -67 -73 -74 -74 -75 -72 -73 -74	-49	-48		-113	11	-11
-63	-51	50		-81	11	-92
-55 -54 -115 -117 -57 -56 -56 -58 -58 -59 -60 -61 -62 -63 -64 -65 -66 -67 -68 -71 -72 -73 -74	53	-62	<b> </b>		11	-83
-67 -56 -58 -58 -60 -61 -62 -63 -66 -66 -67 -68 -71 -72 -73 -74	55	-64			1	-117
-69 -58 -58 -60 -59 -60 -61 -62 -63 -64 -65 -66 -67 -68 -71 -72 -73 -74	-67	-56	<del>                                   </del>		P5	A -114
-59 -60 NOT USED  -61 -62 -63 -64 -66 -67 -68 -71 -72 -73 -74	-69	-58		·		
-63     -64       -65     -66       -67     -68       -71     -72       -23     -74	-59	-60	NC	T USED		
-65 -66 -67 -68 -71 -72 -73 -74	-61	-62	_			
-67     -68       -71     -72       -23     -74	-63	-64				
-71 -72 -73 -74	-65	-66				
-73 -74	<b>-6</b> 7	-68				
	-71	-72				
	-73	-74				

A - 1  PSA - 2  P7A - 1  P    -3	TO CONTACT
-3	P7A -2
-9 -8 -9 -9 -11 -98 -11 -13 -12 -13 -15 -16 -15 -16 -15 -16 -17 -18 -19 -20 -19 -21 -22 -21 -22 -21 -22 -21 -22 -23 -23 -23 -25 -26 -24 -23 -31 -33 -32 -35 -34 -33 -32 -37 -38 -39 -40 -41 -43 -42 -45 -45 -46 -67 -68 -66 -68 -63 -64 -55 -56 -56 -56 -56 -56 -56 -56 -56 -56	-4
-9 -8 -8 -9 -11 -98 -11 -13 -12 -13 -12 -13 -15 -16 -15 -16 -15 -17 -18 -17 -19 -20 -19 -21 -22 -21 -21 -22 -21 -27 -25 -25 -26 -26 -66 -66 -66 -66 -66 -66 -66 -66	-6
-41	-8
-13	-10
-7	-12
-15	-14
-17	-16
-19	-18
-21	-20
-79	-22
-75	-24
-74	-26
-31	-28
-33	-30
-35	-32
-73	-34
-37	-36
-39	-38
-43 -42 -43 -45 -45 -45 -45 -45 -45 -45 -45 -45 -45	-40
-45 -44 -45 -45 -45 -45 -45 -47 -46 -45 -45 -49 -49 -49 -49 -51 -53 -55 -54 -57 -56 -57 -56 -57 -66 -57 -60 -60 -59 -60 -59 -60 -59 -61 -61 -63 -63 -63 -63 -65 -67 -65 -67 -65 -67 -65 -65 -67	
	-42
-67 -68 -49 -49 -65 -65 -65 -51 -51 -53 -55 -55 -55 -55 -55 -56 -57 -66 -57 -66 -57 -60 -60 -61 -61 -61 -61 -61 -61 -61 -61 -61 -61	-44
-65 -68 -51 -51 -53 -55 -55 -55 -55 -55 -55 -55 -55 -55	-46
-63 -64 -55 -56 -56 -57 -56 -57 -66 -57 -66 -57 -69 -60 A -61 P6A -62 -61 -63 -63 -63 -63 -63 -63 -63 -65 -67 -65 -67	-48
-55 -55 -55 -55 -55 -57 -56 -57 -58 -59 -60 -60 -59 -59 -60 -59 -59 -59 -59 -59 -59 -59 -51 -51 -51 -51 -51 -51 -51 -51 -51 -51	-50
-67 -66 -57 -58 -59 -60 A -61	-52
-51 -56 -60 -60 -69 -59 -59 -59 -59 -51 -59 -51 -59 -61 -61 -61 -61 -63 -63 -65 -65 -67	-54
-58	-56
75A -61	58
/TACTS 10, 11, 23 THRU 29, 48 THRU 53, 69, 70, 71, 80, 1HRU 97, 99 THRU 128 7 USED —65	-60
HRU 97, 99 THRU 128 -65 -67	-62
-85 -67 -67	-64
<del></del>	-66
P6A     _71	-68
<del> </del>	-72
-73	-74
-75	-76
<u> </u>	-80

FROM CONTACT	TO CONTACT	
P7A -1	P7A -2	
-3	4 -4	ſ
5	-6	
-0	-8	ŀ
-11	-10	ł
-13	-12	ŀ
7	-14	}
-15	-16	ŀ
-17	-18	ŀ
-19	-20	}
-21	-22	}
-23	-24	<b> </b>
-25	-26	1
-27	-28	
-29	-30	
-31	-32	-
-33	-34	
-37	-36	
-39	-38	
-41	-40	
-43	-42	
-45	-44	1
-35	-46	
-49	-48	i
-51	-50	
-53	<b>−52</b>	•
-55	~54	
-57	56	
-49	58	
-59	-60	
<b>~61</b>	-62	
<b>−63</b>	-64	
<b>-6</b> 5	-66	
-67	-68	
-71	-72	
-73	-74	
-75	-76	
-79	<b>V</b> 80	
F7A -83	P7A -62	

ACT	TO CONTACT	
1	P7A -2	
3	4 -	
5	-6	FROM CONTACT
9	-8	P7A -85
11	-10	A -87
13	-12	-89
7	-14	-91
15	-16	-81
17	-18	-103
19	-20	-105
21	-22	-77
23	-24	<del>      -   -    </del>
25	-26	-95
27	-28	-97
29	-30	<u> </u>
31	-32	-101
3	-34	-107
17	-36	-109
9	-38	-112
11	-40	-119
13	-42	-121
15	-44	-123
15	-46	P7A -125
9	-48	CONTACTS 47, 70
<u>-</u> i1	-50	114, 115, 117, 126 NOT USED
<del>'</del>	-52	<u> </u>
<del>5</del> 5	-54	
7	-56	
<u></u> B	-58	
<u>-</u> :0	-60	ł
<u> </u>	-62	
<u>''</u>	-64	
<u> </u>	-66	<b>\</b>
<del></del> 7	-68	
<u>''</u>	-72	<b>\</b>
3	-74	1

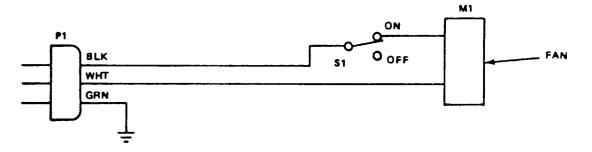
		PE	A -1	P8	A -2					
TO CONTAC	.		-5		-4					
			-7		<b>-</b> \$					
P7A -84	<b></b>   i		-3		-8					
-86			-0		-16					
-88			-13		-12					
-90			-15		-14					
-92	<del>.  </del>		-33		<b>-42</b>					
-102			-17		-18					
-104	<u>'</u>		-19		-20					
-78 -94			-21	Ι	-22					
-96			-23	<del>                                     </del>	-24					
-98		_	-25	<del>                                     </del>	-26					
-100	<del></del>	$\vdash$	27	$\vdash$	-28					
-10			-29	<del>                                     </del>	-30					
-100	<del></del>	<u> </u>	-31		-32					
-110		$\vdash$	-35	<del> </del>	-34					
-118	<del></del>	$\vdash$	-37		-36					
-12	<del> </del>	⊢	-39	<del>                                     </del>	-38					
-12		┝┈	-41		-40					
P7A -12		$\vdash$	-43	<del> </del>	-44					
	<del></del>	<u> </u>	-45	<del> </del>	-46					
), 93, 111, 113, 5, 127, 128		$\vdash$	-47	<del>                                     </del>	-48					
		$\vdash$	-49	<del> </del>	50					
	<del></del>	├	5i	-	-52					
		-	-63	-	-54					
		<u> </u>	ļ	├—	-56	I				
		$\vdash$	55	├	<b></b>					
		-	57	├—	-62					
		$\vdash$	-61	$\vdash$	-60					
		<u> </u>	<b>♦ -59 • -58</b>							
		co		11, 63		CONTACTS 10, 11, 63, 66, 67 THRU 100 NOT USED				

FROM CONTACT	TO CONTACT	FROM
P9A -1	F9A -2	P11A -
-3	4-4	<u> </u>
-5	-6_	
-7	-14	
-9	-8	<u> </u>
-13	-12	
-15	-16	
-17	-18	<u>                                   </u>
-11	-10	
-19	-20	-
-23	-24	-
-25	-26	
-27	-28	
-29	-30	PI1A-
-31	-32	CONTA 33 THE
-33	-34	33 177
-35	-36	]
-37	-38	
39	-40	}
-41	-42	]
-43	44	
-21	-22	
-47	-46	]
-49	7	]
P9A -50	P9A -54	
CONTACTS 45, THRU 85 NOT	51, 52, 53, 55 USED	]

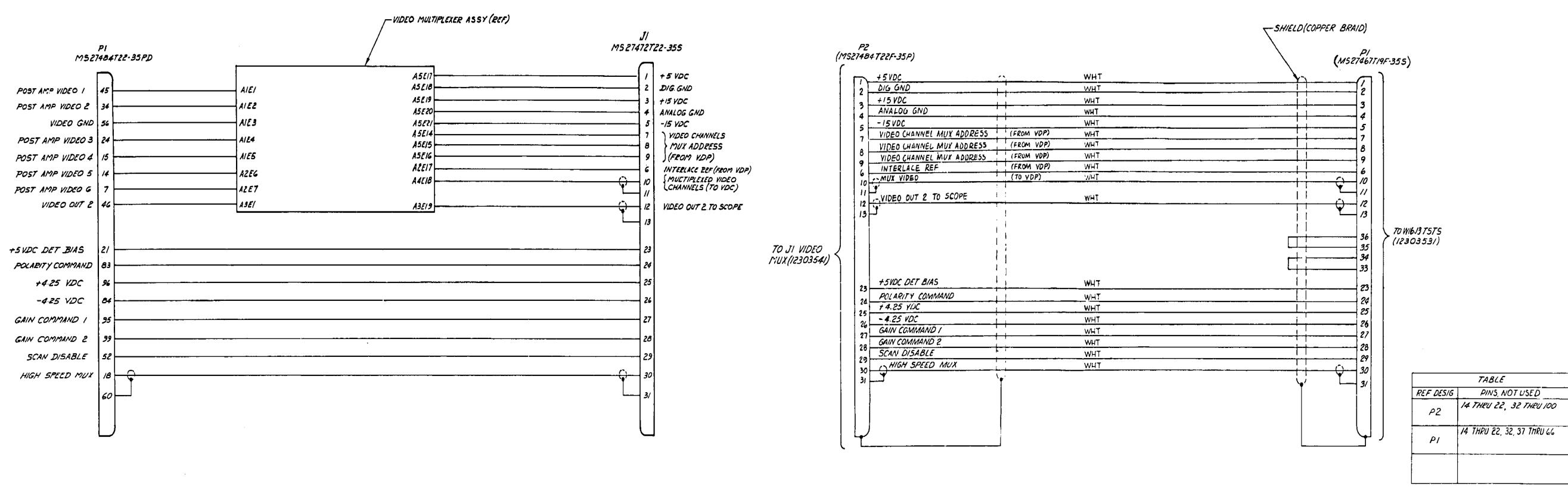
FROM CONTACT	TO CONTACT	
P11A -3	P11A +2	
-5	4-4	
-7	-6	
-0	-8	
-11	-10	
-13	-12	
-15	14	
-23	-16	
-17	-18_	
-19	-20	
-21	-22	
-27	-32	
-25	-26	
P11A -64	P11A -66	
CONTACTS 1, 33 THRU 63, 6	24, 28 THRU 31, 5 NOT USED	
	111A	

	-13		-14	
	-25		-16	
	-19		-18	
	-21		-20	
	-23		-22	
	-15		-24	
	-27		-26	
	-29		-28	
	<b>–63</b>		-64	
	<b>-6</b> 5		-66	
	-67		-68	
	-89		-70	
	<b>-45</b>		-44	
	-47		-46	
	-49		-48	
	-51		-50	
	-53		52	
Γ	-55		-54	
	-57		-56	
	-59		-58	
	-81		-60	
	-71		-72	
	-73		-74	
	-86		<b>-8</b> 7	
	-89		-80	
P12A -98 P12A -100				
CONTACTS 7, 30 THRU 43, 62, 75, 85, 88, 91 THRU 100 NOT USED				

FO-17. Shorting Plug Connectors Wiring Lists



FO-18. PCU Heatsink Holding Fixture Schematic Diagram



ARR82-24553

FO-19. Cable Assembly W9/Video Multiplexer Assembly Schematic Diagram

#### THE METRIC SYSTEM AND EQUIVALENTS

### LINEAR MEASURE

- 1 Centimeter = 10 Millimeters = 0.01 Meters = 0.3937 Inches
- 1 Meter= 100 Centimeters = 1000 Millimeters = 39.37 Inches
- 1 Kilometer = 1000 Meters = 0.621 Miles

#### WEIGHTS

- 1 Gram = 0.001 Kilograms = 1000 Milligrams = 0.035 Ounces
- 1 Kilogram =1000 Grams =2.2 Lb
- 1 Metric Ton =1000 Kilograms =1 Megagram =1.1 Short Tons

### LIQUID MEASURE

1 Milliliter = 0.001 Liters = 0.0338 Fluid Ounces 1 Liter = 1000 Milliliters = 33.82 Fluid Ounces

#### SQUARE MEASURE

- 1 Sq Centimeter = 100 Sq Millimeters = 0.155 Sq Inches 1 Sq Meter = 10,000 Sq Centimeters = 10.76 Sq Feet 1 Sq Kilometer = 1,000,000 Sq Meters = 0.386 Sq Miles

#### CUBIC MEASURE

- 1 Cu Centimeter = 1000 Cu M Himeters = 0.06 Cu Inches
- 1 Cu Meter = 1,000,000 Cu Centimeters = 35.31 Cu Feet

#### **TEMPERATURE**

5/9 ( $^{0}F - 32$ ) = $^{0}C$ 212 $^{0}$  Formenheit is equivalent to 100 $^{0}$  Celsius 90 $^{0}$  Fahrenheit is equivalent to 32.2 $^{0}$  Celsius 32 $^{0}$  Fahrenheit is equivalent to 0 $^{0}$  Celsius 9/5  $C^{0} + 32 = F^{0}$ 

### APPROXIMATE CONVERSION FACTORS

TO CHANGE			<u>TO</u>	MULTIPLY BY
Inches			Centimeters	2.540
			Meters	
Yards		0 0	Meters	0.914
Miles			Kilometers	1.609
			Square Centimeters	
			Square Meters	
			Square Meters	
			Square Kilometers.	
			Square Hectometers	
			Cubic Meters	
			Cubic Meters	
Fluid Ounces	0 6	е о	Milliliters	
			Liters	
			Liters	
			Liters	
			Grams	
			Kilograms	
			Metric Tons	
			Newton-Meters	
			Kilopascals	
			Kilometers per Lite	
Miles per Hour	0 0		Kilometers per Hour	1.609

TO CHANGE		TO	MULTIPLY BY
Centimeters		Inches	
Meters			
Meters		Yards	1.094
Kilometers		Miles	0.621
Square Centimeters.		Square Inches	0.155
Square Meters			
Square Meters		Square Yards	1.196
Square Kilometers .			
Square Hectometers.	0 • •	Acres	2.471
Cubic Meters			
Cubic Meters			
Milliliters			
Liters			
Liters			
Liters		Gallons	0.264
Grams		Ounces	
Kilograms		Pounds	2.205
Metric Tons			
Newton-Meters			
Kilopascals		Pounds per Square I	nch . 0.145
Kilometers per Liter		Miles per Gallon .	2.354
Kilometers per Hour		Miles per Hour	0.621



TA089991

PIN: 061519-000

# This fine document...

Was brought to you by me:



## <u>Liberated Manuals -- free army and government manuals</u>

Why do I do it? I am tired of sleazy CD-ROM sellers, who take publicly available information, slap "watermarks" and other junk on it, and sell it. Those masters of search engine manipulation make sure that their sites that sell free information, come up first in search engines. They did not create it... They did not even scan it... Why should they get your money? Why are not letting you give those free manuals to your friends?

I am setting this document FREE. This document was made by the US Government and is NOT protected by Copyright. Feel free to share, republish, sell and so on.

I am not asking you for donations, fees or handouts. If you can, please provide a link to liberatedmanuals.com, so that free manuals come up first in search engines:

<A HREF=http://www.liberatedmanuals.com/>Free Military and Government Manuals</A>

- SincerelyIgor Chudovhttp://igor.chudov.com/
- Chicago Machinery Movers