HF-8014A Exciter (622-3473-211) and HF-8054A Receiver (622-3475-210)

Rockwell International

supplement

Collins Defense Communications Division

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GENERAL

This supplement, when used in conjunction with the HF-80 Exciter, Receivers, and Controls Depot Maintenance Instruction Book (Rockwell-Collins part number 523-0772963), will provide complete depot maintenance coverage of the circuit cards in the HF-8014A Exciter (622-3473-211) and HF-8054A Receiver (622-3475-210). These equipments differ from previous configurations in that they contain a direct digital synthesizer (DDS) and parallel data input for control of the frequency synthesizer.

Circuit cards/modules in HF-8014A Exciter (622-3473-211) and HF-8054A Receiver (622-3475-210) are either new, modified versions of those used in non-DDS configurations, or the same as those used in non-DDS configurations. Also, some circuit cards/modules used in non-DDS configurations are not used in the two DDS configurations described in this supplement.

VOLUME 1 CHANGES

FRONT MATTER

In the list of instruction books on the title page, change entry entitled Control (638-6622-001) 523-0770731 to read:

Control (638-6622-001, -002, -003, -004)	523-0770731

INTRODUCTION

TEST EQUIPMENT AND TOOLS

Change the entries listed in the table titled "Test Equipment Usage Chart" as shown.

Test Equipment Usage Chart (Cont).

TEST EQUIPMENT / CIRCUIT CARD/MODULE	Audio Oscillator	Audio Voltmeter	Frequency Counter	RF Voltmeter	Digital Multimeter	Signal Generator	6-dB Pad	EXTENDERS						Oscilloscope	Switching Device	Variable Attenuator	Pulse Generator	Hybrid Transformer	Line Matching Transformer	Spectrum Analyzer	Distortion Analyzer	40-dB Impedance Matching Pad (638-6476-001, -003)
								(1) 635-0913-001	(1) 635-0915-001	(1) 635-0915-002	(1) 637-2843-001	(7) 635-9686-001	(1) 635-9686-002									
Control (638-6622-001, -002, -003, -004)					X			X						X			X					
Parallel Input (642-3135-001, -002)					X			X						X								
Parallel Output (642-3137-001, -002)					X			X														

Add the following entries to the end of the table titled "Test Equipment Usage Chart."

Test Equipment Usage Chart (Cont).

TEST EQUIPMENT / CIRCUIT CARD/MODULE	Audio Oscillator	Audio Voltmeter	Frequency Counter	RF Voltmeter	Digital Multimeter	Signal Generator	6-dB Pad	EXTENDERS						Oscilloscope	Switching Device	Variable Attenuator	Pulse Generator	Hybrid Transformer	Line Matching Transformer	Spectrum Analyzer	Distortion Analyzer	40-dB Impedance Matching Pad (638-6476-001, -003)
								(1) 635-0913-001	(1) 635-0915-001	(1) 635-0915-002	(1) 637-2843-001	(7) 635-9686-001	(1) 635-9686-002									
Volume 3																						
Parallel Interface (646-6329-001)					X									X								
Frequency Standard/Power Supply (646-5930-001)			X		X		X													X		
DDS Control Interface (646-5905-001)					X									X								
VFO/VCO Module (652-1015-001)			X				X													X		
Injection Blanker Assembly (652-6861-001)	X													X			X					

EQUIPMENT USED IN

Change the entries listed in the table titled "HF-80 Exciters, Receivers, and Controls Circuit Card Usage Table" as shown.

HF-80 Exciters, Receivers, and Controls Circuit Card Usage Table (Cont).

EQUIPMENT / CIRCUIT CARD/MODULE	HF-8010 622-3389-( )	HF-8010A 622-3395-( )	HF-8014 622-3472-( )	HF-8014A 622-3473-( )	HF-8050 622-3385-( )	HF-8050A 622-3393-( )	HF-8054 622-3474-( )	HF-8054A 622-3475-( )	HF-8070 622-3387-( )	HF-8070A 622-3394-( )	HF-8090 622-3390-( )	HF-8091 622-3391-( )	HF-8092 622-3392-( )	HF-8093 622-3476-( )	HF-8094 622-3477-( )
Control (638-6622-001, -002, -003, -004)			X	X											
Parallel Input (642-3135-001, -002)		X		X		X		X		X	X	X	X	X	X
Parallel Output (642-3137-001, -002)		X		X		X		X		X	X	X	X	X	X

Add the following entries to the end of the table titled "HF-80 Exciter, Receivers, and Controls Circuit Card Usage Table."

HF-80 Exciters, Receivers, and Controls Circuit Card Usage Table (Cont).

EQUIPMENT / CIRCUIT CARD/MODULE	HF-8010 622-3389-( )	HF-8010A 622-3395-( )	HF-8014 622-3472-( )	HF-8014A 622-3473-( )	HF-8050 622-3385-( )	HF-8050A 622-3393-( )	HF-8054 622-3474-( )	HF-8054A 622-3475-( )	HF-8070 622-3387-( )	HF-8070A 622-3394-( )	HF-8090 622-3390-( )	HF-8091 622-3391-( )	HF-8092 622-3392-( )	HF-8093 622-3476-( )	HF-8094 622-3477-( )
Volume 3															
Parallel Interface (646-6329-001)				X											
Frequency Standard/Power Supply (646-5930-001)				X				X							
DDS Control Interface (646-5905-001)				X				X							
VFO/VCO Module (652-1015-001)				X				X							
Injection Blanker Assembly (652-6861-001)															

CONTROL (638-6622-001, -002, -003, -004) (523-0770731-101211)

Change the heading of the instructions section as shown above.

2.1 General

Step f is not applicable to -004 status.

In figure 2, for -004 status, delete U27D and term FREQ CHG. U29A output is left unterminated. Paragraph 2.4 and figure 3 are not applicable for -004 status.

2.7 ALC/TGC

For -004 status, change the first sentence of the second paragraph to read: The TGC amplifier and control circuit (refer to figure 4) receives reference TGC and produces an output TGC control voltage that is referenced to exciter tune, TGC reset, and rf transmit signals.

In figure 5, for -004 status, delete U27D. Connect U9A bottom lead to an added term at the left entitled "TGC Reset." Terminate U29A output as an open wire. Delete lead from U13E input to "TO TUNE START CIRCUIT." Delete bracket and phrase "TO TUNE START CIRCUIT."

In table 2 (Control, Testing and Troubleshooting Procedures), test 3.g, IF INDICATION IS ABNORMAL column: U27 references are not applicable to -004 status. Test 24, Tune Start, is not applicable for -004 status. This test can be performed, but the tune start signal is actually developed by the parallel interface (646-6329-001). Every place in this test where reference is made to U27, disregard the reference because U27 is not used in -004 status.

5. REPAIR

Substitute the following paragraph for the existing one.

Repair of the control card is accomplished using the procedures in Circuit Card Repair instructions (523-0772831) contained elsewhere within this manual.

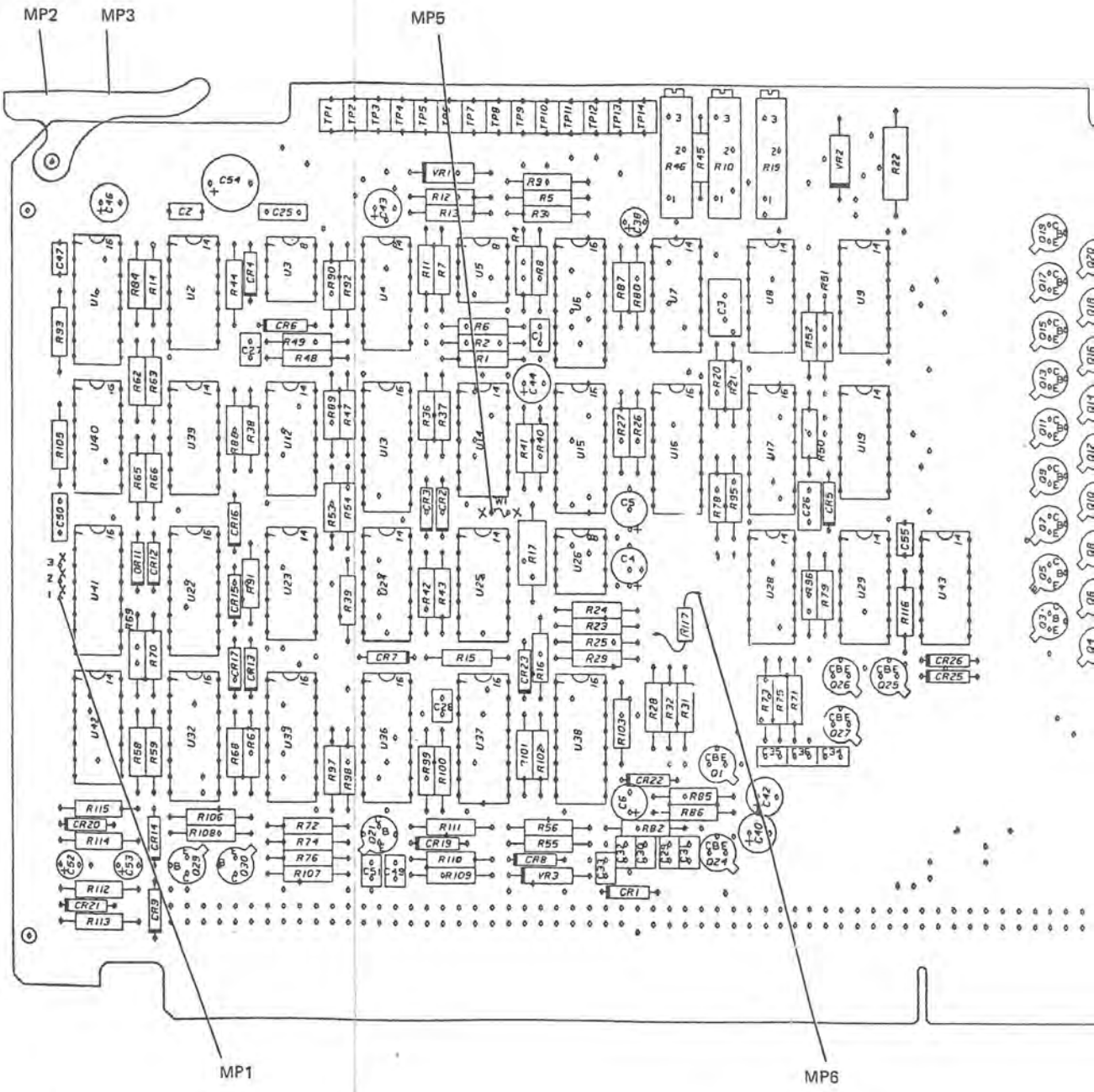
6. PARTS LIST/DIAGRAMS

6.3 Equipment Covered

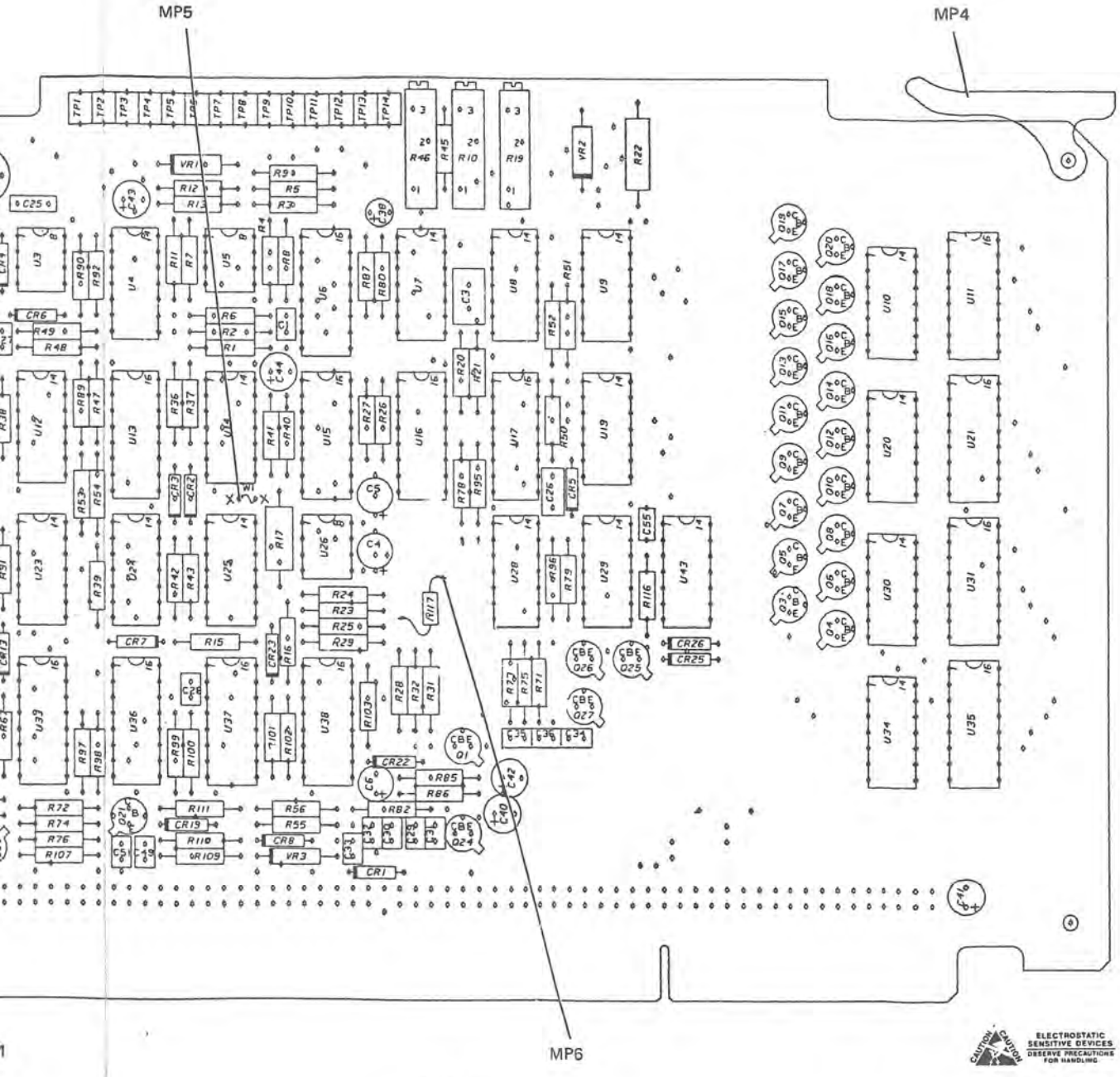
Add the following entry to the list:

CIRCUIT CARD/ SUBASSEMBLY	COLLINS PART NUMBER	LATEST EFFECTIVITY
Control	638-6622-004	REV N

Add figures 11 and 12 following figure 10.



Control (62
Locat
Figure 1



Control (638-6622-004), Parts Location Diagram
Figure 11 (Sheet 1 of 2)

The parts list for Control (638-6622-004) is the same as that for Control (638-6622-003), except for the following differences.

The listed components are NOT USED on 638-6622-004.

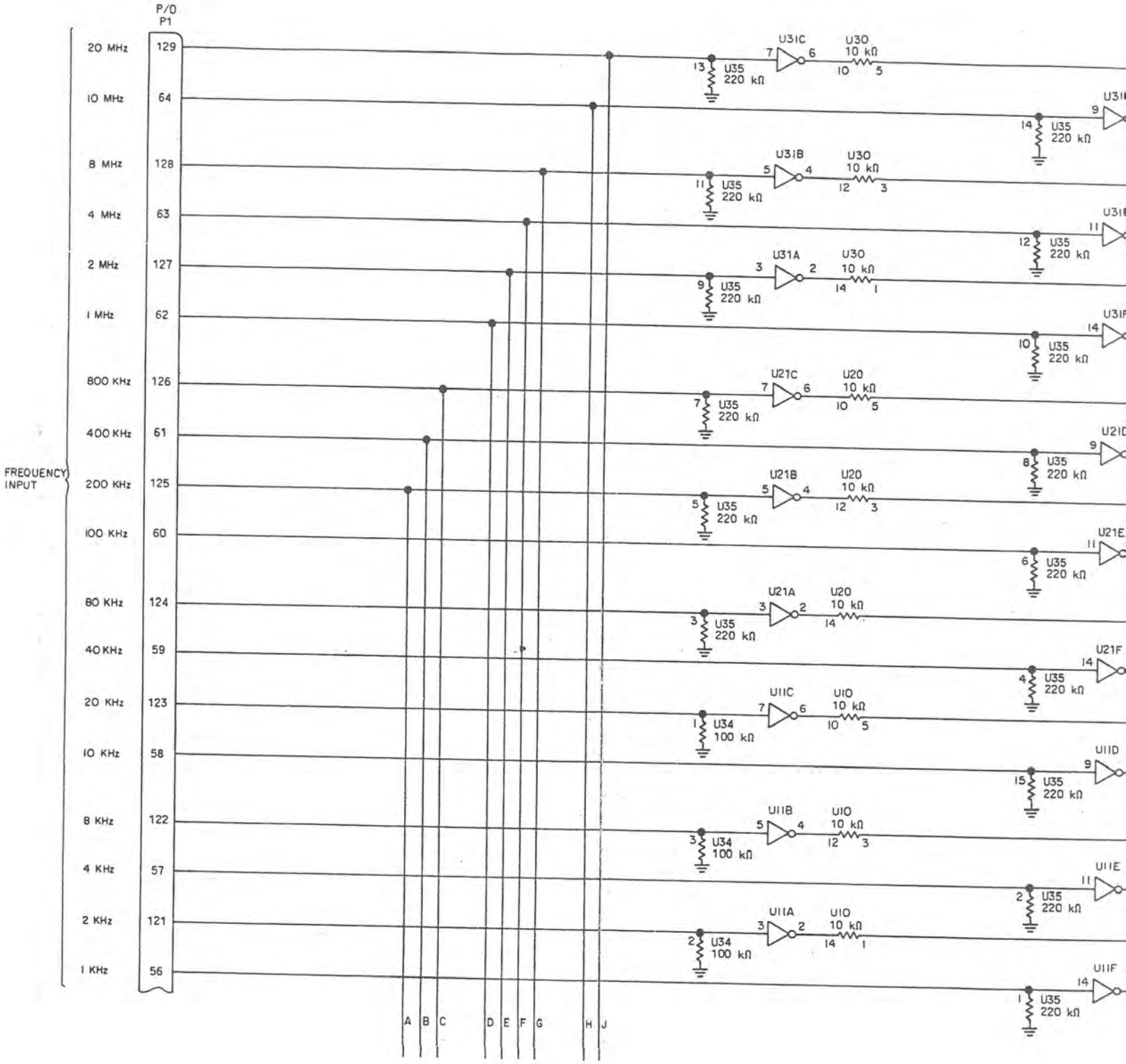
C37
C39
C45
Q28
R77
R81
R83
U27

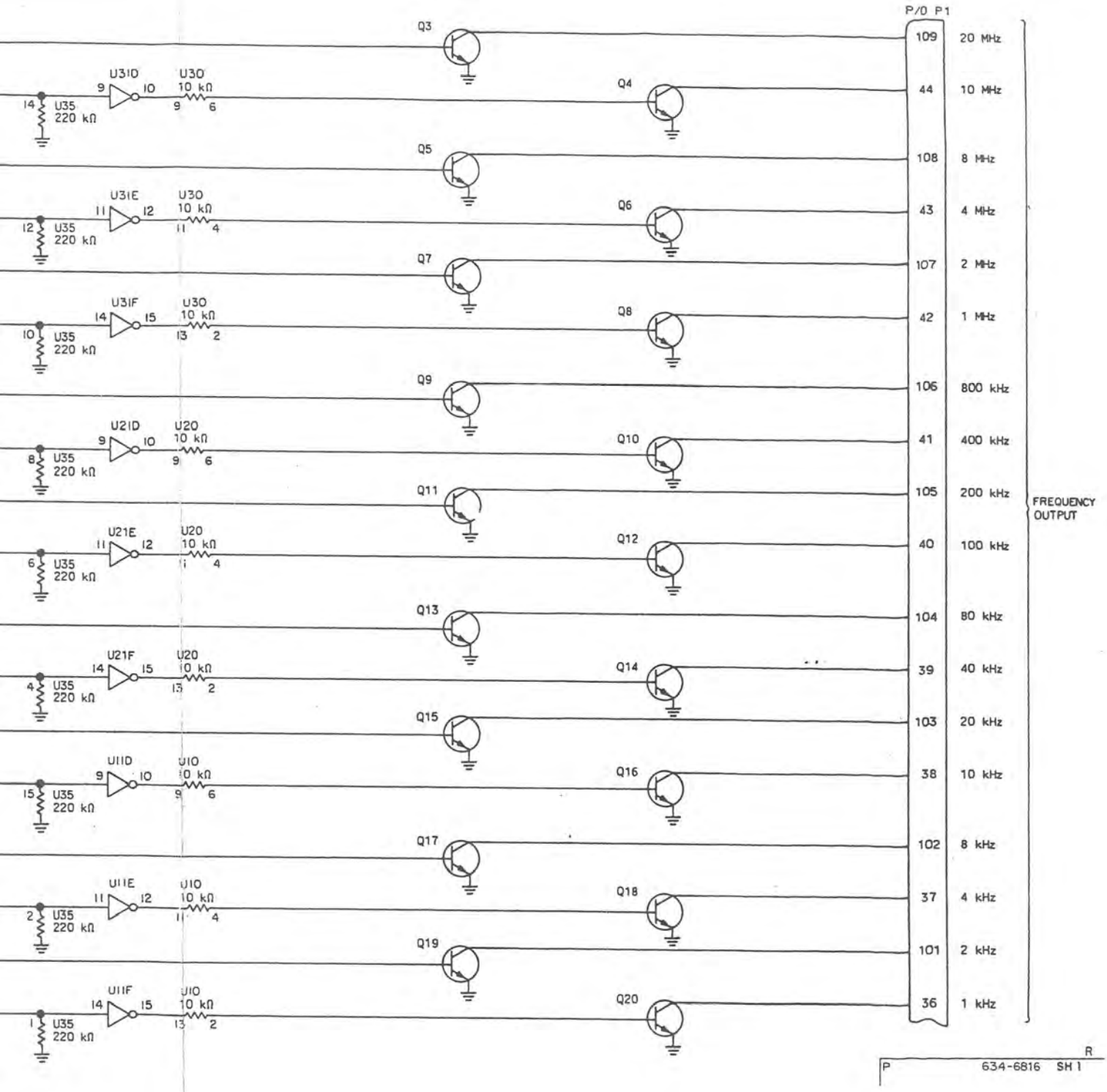
The following components are added to 638-6622-004:

MP6	CONTACT, ELECTRICAL (QTY 1)	372-2601-030
R117	RESISTOR, FIXED CMPSN, 1 MEGO, 10%, 1/4W	745-0857-000

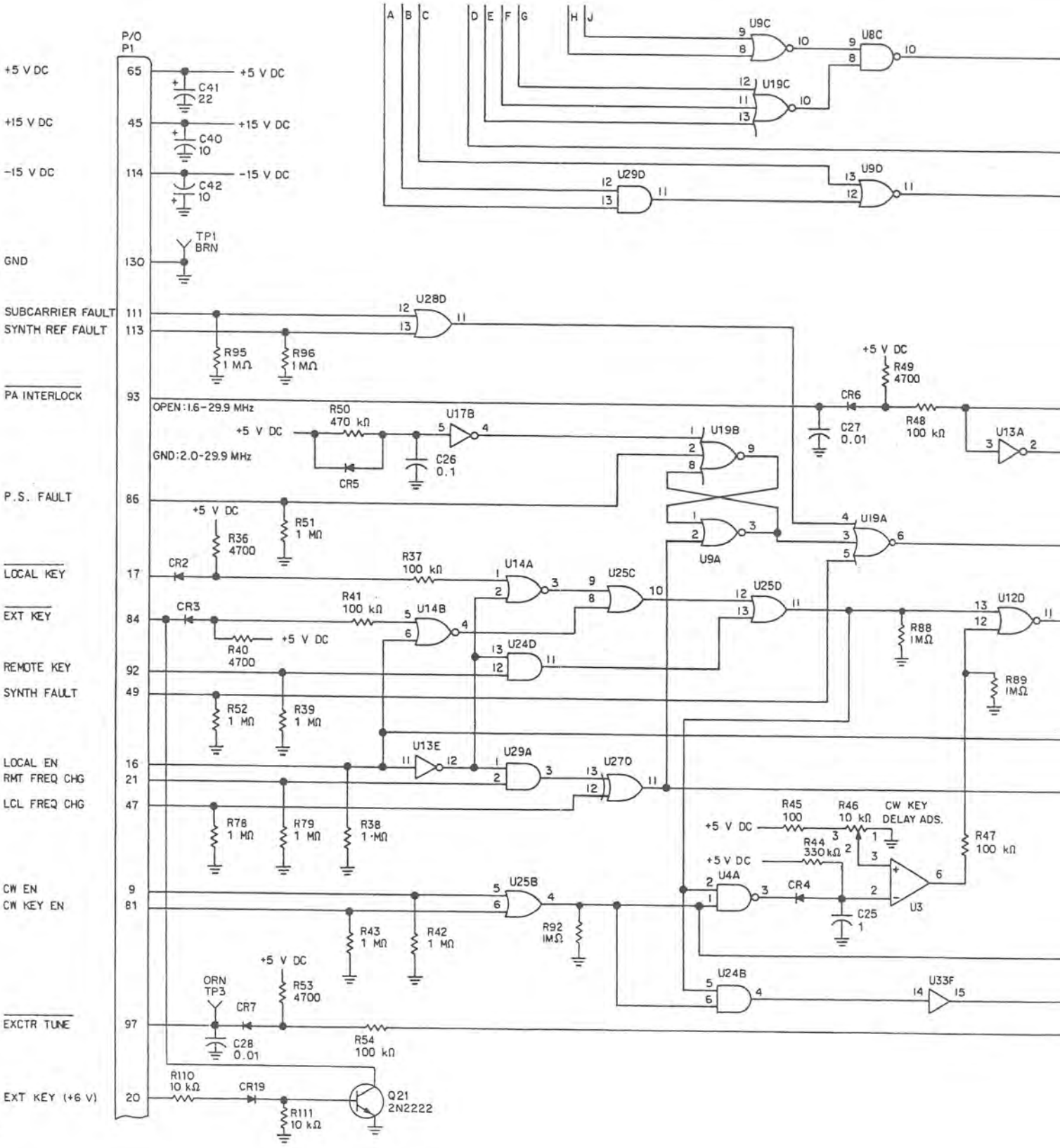
The following components should be changed on both 638-6622-003 and 638-6622-004:

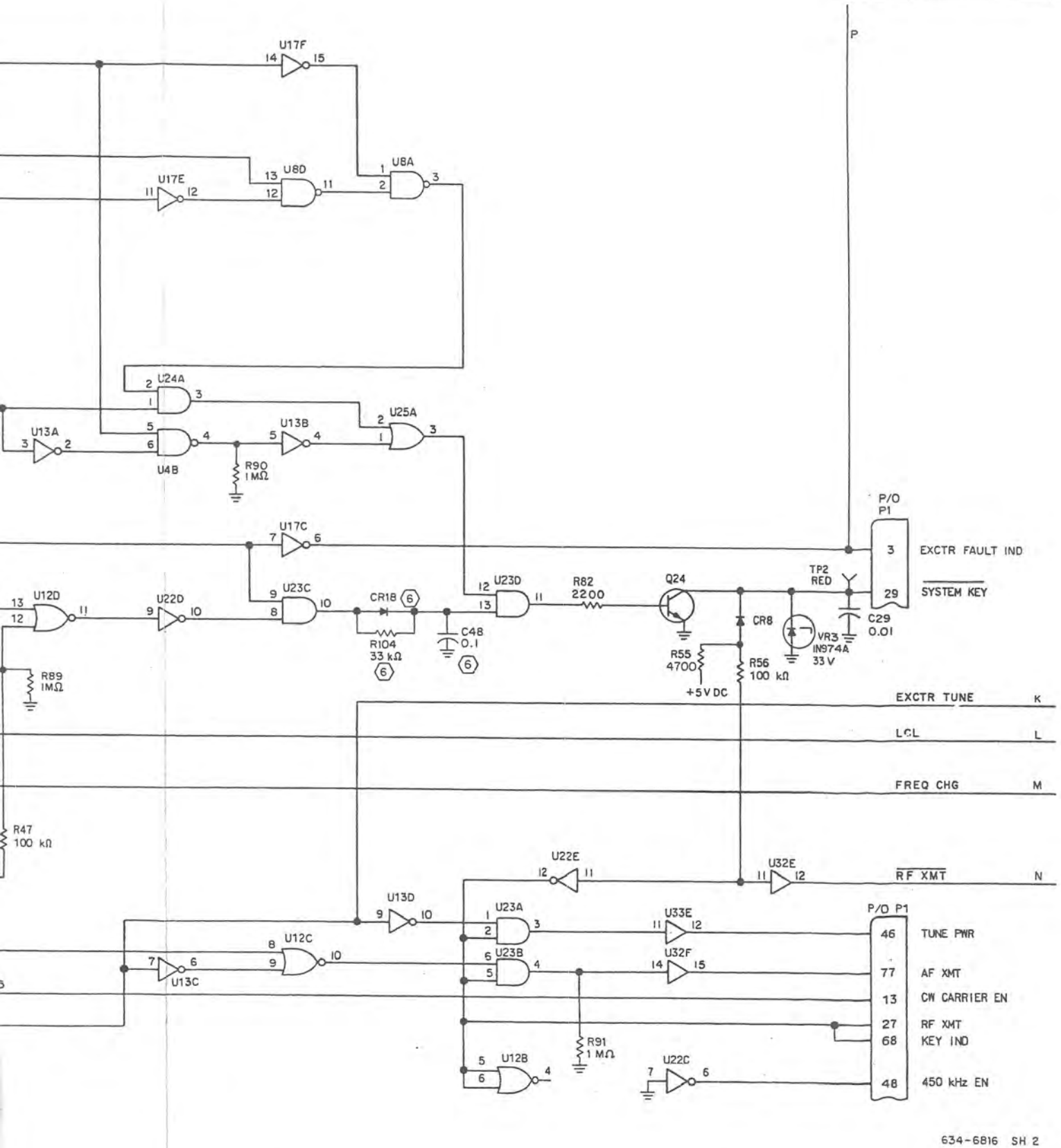
R28	RESISTOR, FIXED CMPSN, 0.18 MEGO, 5%, 1/4W	745-0829-000


P/O P1
FREQUENCY INPUT
20 MHz
10 MHz
8 MHz
4 MHz
2 MHz
1 MHz
800 KHz
400 KHz
200 KHz
100 KHz
80 KHz
40 KHz
20 KHz
10 KHz
8 KHz
4 KHz
2 KHz
1 KHz
129
64
128
63
127
62
126
61
125
60
124
59
123
58
122
57
121
56
A
B
C
D
E
F
G
H
J
U31C
U31B
U31A
U21C
U21B
U21A
U11C
U11B
U11A
U30
U20
U10
10 kΩ
U35
220 kΩ
U34
100 kΩ

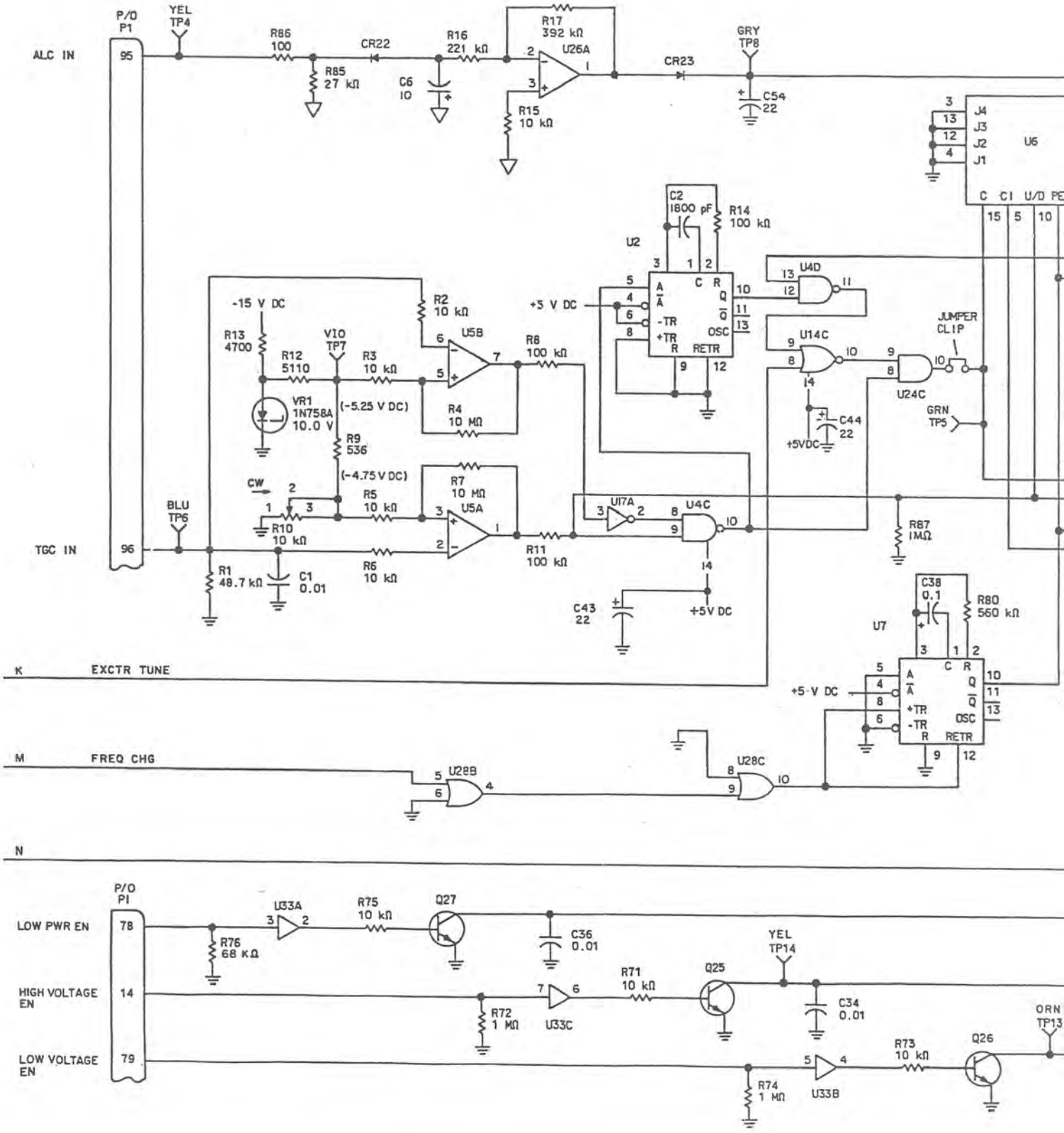


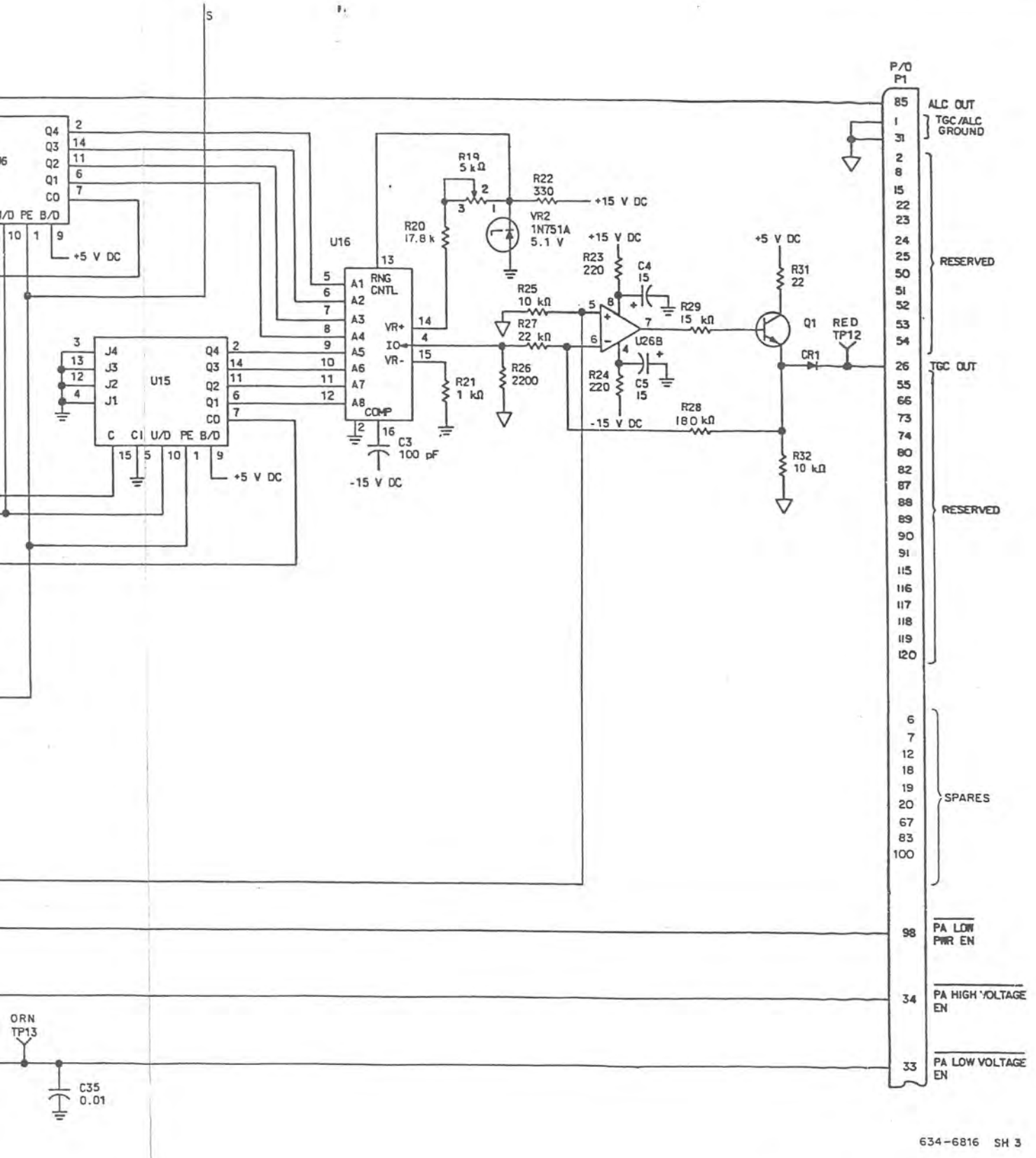
Control (638-6622-004),
Schematic Diagram
Figure 12 (Sheet 1 of 4)


P/O P1
+5 V DC
65
C41 22
+15 V DC
45
C40 10
-15 V DC
114
C42 10
GND
130
TP1 BRN
SUBCARRIER FAULT
111
SYNTH REF FAULT
113
R95 1 MΩ
R96 1 MΩ
PA INTERLOCK
93
OPEN: 1.6-29.9 MHz
GND: 2.0-29.9 MHz
R50 470 kΩ
CR5
C26 0.1
C27 0.01
R48 100 kΩ
R49 4700
CR6
P.S. FAULT
86
R36 4700
R51 1 MΩ
LOCAL KEY
17
CR2
R37 100 kΩ
EXT KEY
84
CR3
R40 4700
R41 100 kΩ
REMOTE KEY
92
SYNTH FAULT
49
R52 1 MΩ
R39 1 MΩ
LOCAL EN
16
RMT FREQ CHG
21
LCL FREQ CHG
47
R78 1 MΩ
R79 1 MΩ
R38 1 MΩ
CW EN
9
CW KEY EN
81
R43 1 MΩ
R42 1 MΩ
R92 1MΩ
R88 1MΩ
R89 1MΩ
R45 100
R46 10 kΩ
CW KEY DELAY ADS.
R44 330 kΩ
R47 100 kΩ
C25 1
CR4
ORN TP3
CR7
R53 4700
C28 0.01
R54 100 kΩ
EXCTR TUNE
97
EXT KEY (+6 V)
20
R110 10 kΩ
CR19
R111 10 kΩ
Q21 2N2222
U9C
U8C
U19C
U29D
U9D
U28D
U17B
U19B
U13A
U9A
U19A
U14A
U25C
U14B
U25D
U12D
U24D
U13E
U29A
U27D
U4A
U3
U25B
U24B
U33F



Control (638-6622-004),
Schematic Diagram
Figure 12 (Sheet 2)


ALC IN
P/O P1
95
YEL TP4
R86 100
CR22
R85 27 kΩ
C6 10
R16 221 kΩ
R17 392 kΩ
U26A
R15 10 kΩ
CR23
GRY TP8
C54 22
J4
J3
J2
J1
U6
C2 1800 pF
R14 100 kΩ
U2
U4D
U14C
JUMPER CLIP
U24C
GRN TP5
C44 22
+5VDC
+5 V DC
-15 V DC
R13 4700
R12 5110
VIO TP7
R3 10 kΩ
R2 10 kΩ
U5B
R8 100 kΩ
VR1 1N758A 10.0 V
(-5.25 V DC)
R4 10 MΩ
R9 536
(-4.75 V DC)
CW
R10 10 kΩ
R5 10 kΩ
R7 10 MΩ
U5A
U17A
U4C
R87 1MΩ
BLU TP6
TGC IN
96
R1 48.7 kΩ
C1 0.01
R6 10 kΩ
R11 100 kΩ
C43 22
+5V DC
C38 0.1
R80 560 kΩ
U7
+5-V DC
K
EXCTR TUNE
M
FREQ CHG
U28B
U28C
N
P/O P1
LOW PWR EN
78
U33A
R75 10 kΩ
Q27
R76 68 KΩ
C36 0.01
YEL TP14
HIGH VOLTAGE EN
14
R71 10 kΩ
Q25
R72 1 MΩ
U33C
C34 0.01
ORN TP13
LOW VOLTAGE EN
79
R73 10 kΩ
Q26
R74 1 MΩ
U33B



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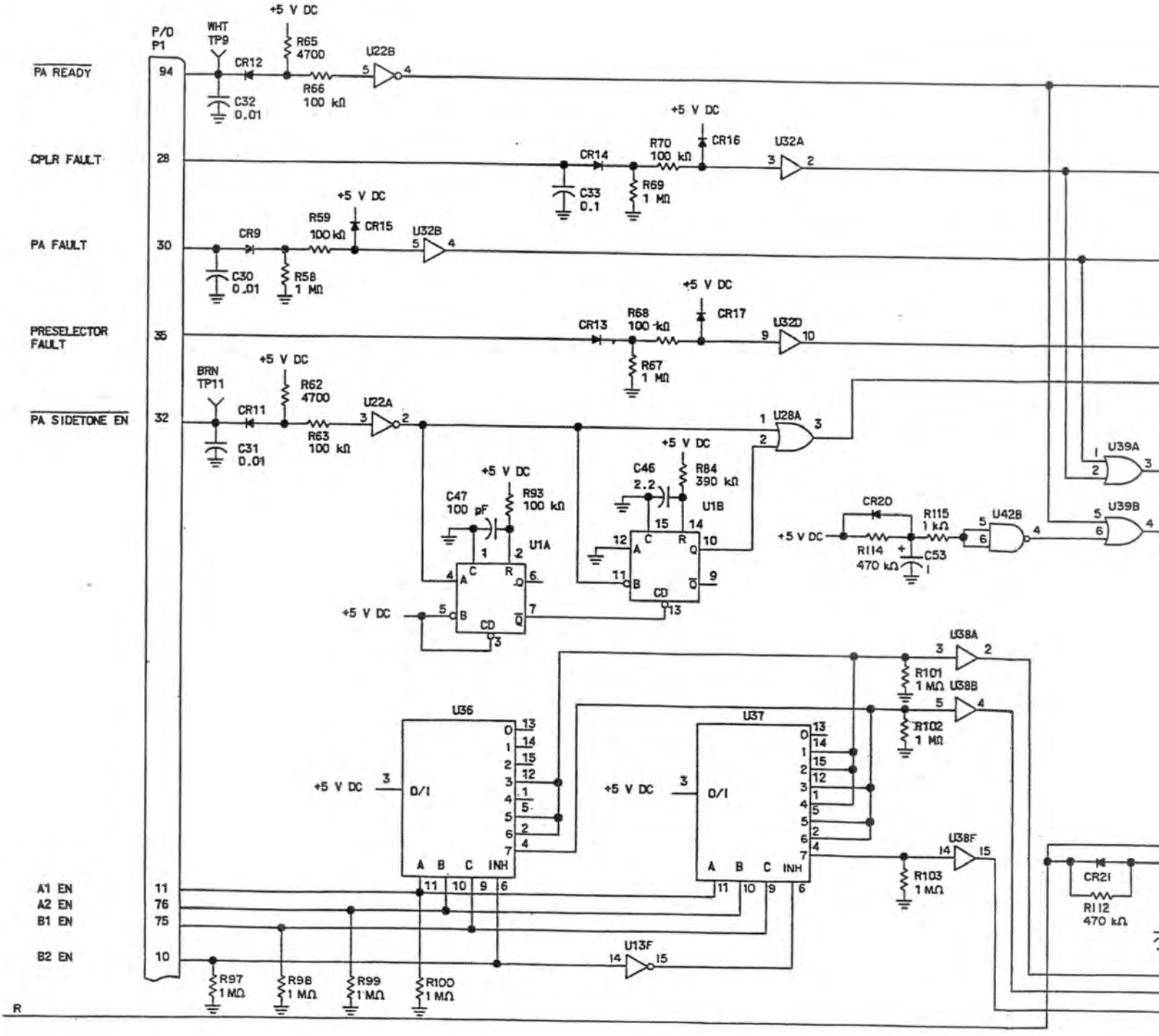
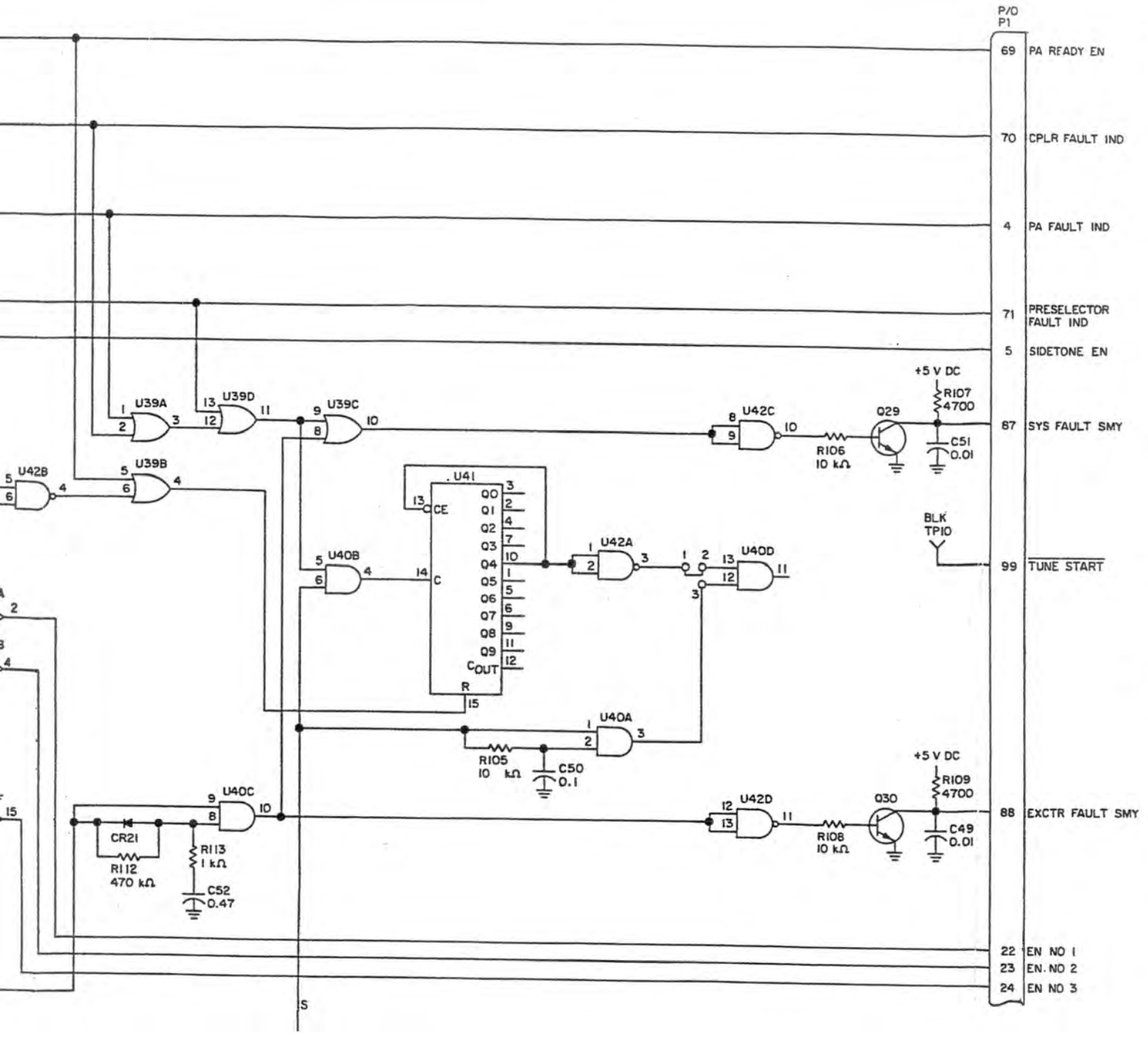
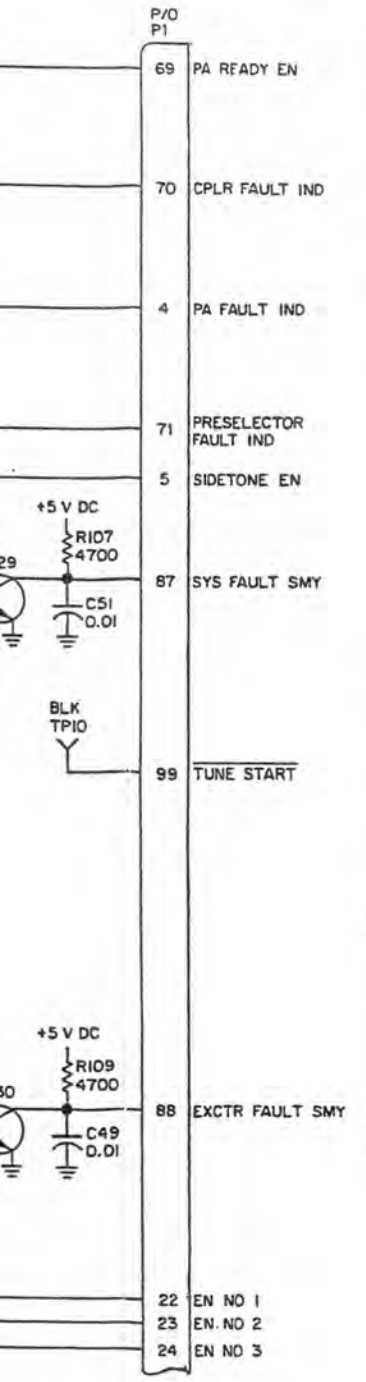
Control (638-6622-004),
Schematic Diagram
Figure 12 (Sheet 3)

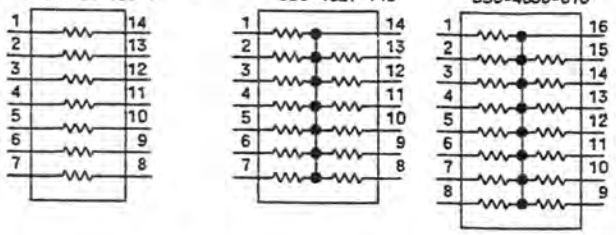

P/O P1
PA READY
94
WHT TP9
CR12
+5 V DC
R65 4700
R66 100 kΩ
C32 0.01
U22B
CPLR FAULT
28
CR14
R70 100 kΩ
CR16
U32A
C33 0.1
R69 1 MΩ
PA FAULT
30
CR9
R59 100 kΩ
CR15
U32B
C30 0.01
R58 1 MΩ
PRESELECTOR FAULT
35
CR13
R68 100 kΩ
CR17
U32D
R67 1 MΩ
PA SIDETONE EN
32
BRN TP11
CR11
R62 4700
R63 100 kΩ
C31 0.01
U22A
U28A
U39A
U39B
C47 100 pF
R93 100 kΩ
U1A
C46 2.2
R84 390 kΩ
U1B
CR20
R115 1 kΩ
R114 470 kΩ
C53
U42B
U38A
R101 1 MΩ
U38B
R102 1 MΩ
U36
U37
U38F
R103 1 MΩ
CR21
R112 470 kΩ
A1 EN
11
A2 EN
76
B1 EN
75
B2 EN
10
U13F
R97 1 MΩ
R98 1 MΩ
R99 1 MΩ
R100 1 MΩ
R


P/O P1
69 PA READY EN
70 CPLR FAULT IND
4 PA FAULT IND
71 PRESELECTOR FAULT IND
5 SIDETONE EN
87 SYS FAULT SMY
99 TUNE START
88 EXCTR FAULT SMY
22 EN NO 1
23 EN. NO 2
24 EN NO 3
NOTE
U39A
U39B
U39C
U39D
U40A
U40B
U40C
U40D
U41
U42A
U42B
U42C
U42D
+5 V DC
R107 4700
R106 10 kΩ
Q29
C51 0.01
BLK TP10
R105 10 kΩ
C50 0.1
R109 4700
R108 10 kΩ
Q30
C49 0.01
CR21
R112 470 kΩ
R113 1 kΩ
C52 0.47



NOTES:

1. UNLESS OTHERWISE SPECIFIED: RESISTANCE VALUES ARE IN OHMS, CAPACITANCE VALUES ARE IN MICROFARADS, DIODES ARE TYPE 1N4454 AND TRANSISTORS ARE TYPE 2N2222A.
2. PARTIAL REFERENCE DESIGNATIONS ARE SHOWN; FOR COMPLETE DESIGNATION, PREFIX WITH UNIT AND/OR ASSEMBLY DESIGNATION.
3. TYPE DESIGNATIONS SHOWN MAY BE GENERIC IN FORM AND ARE FOR REFERENCE ONLY. SEE APPLICABLE PARTS LIST FOR REPLACEMENT PARTS.
4. THIS EQUIPMENT CONTAINS ELECTROSTATIC DISCHARGE SENSITIVE (ESDS) DEVICES, SPECIAL HANDLING METHODS AND MATERIALS MUST BE USED TO PREVENT EQUIPMENT DAMAGE.
5. RESISTOR ARRAYS:
   U10, U20, U30-10 kΩ 350-4027-090
   U34-100 kΩ 350-4027-140
   U35-220 kΩ 350-4030-010



MICROCIRCUIT INFORMATION

REF DES	COMMON DEVICE	PWR (V DC) +15	-15	+5	GND	SPARE SECTIONS
U1	4528B			16	8	
U2	CD4047B			14	7	
U3	UA1741TC		4	7		
U4	MC14011B			14	7	
U5	MC1458P1	8	4			
U6	F4029B			16	8	
U7	CD4047B			14	7	
U8	MC14011B			14	7	B
U9	MC14001B			14	7	B
(5) U10						
U11	CD4049B			1	8	
U12	MC14001B			14	7	A
U13	F4049B			1	8	
U14	MC14001B			14	7	D
U15	F4029B			16	8	
U16	MC1408L-8		3		2	
U17	F4049B			1	8	D
U18	NOT USED					
U19	MC14025B			14	7	
(5) U20						
U21	F4049B			1	8	

REF DES	COMMON DEVICE	PWR (V DC) +15	-15	+5	GND	SPARE SECTIONS
U22	F4049B			1	8	F
U23	MC14081B			14	7	
U24	MC14081B			14	7	
U25	MC14071B			14	7	
U26	MC1458P1					
U27	NOT USED					
U28	MC14071B			14	7	
U29	MC14081B			14	7	B,C
(5) U30						
U31	F4049B			1	8	
U32	F4050B			1	8	C
U33	F4050B			1	8	D
(5) U34				14		
(5) U35				16		
U36	CD4051B			16	7,8	
U37	CD4051B			16	7,8	
U38	F4050B			1	8	C,D,E
U39	MC14071B			14	7	
U40	MC14081B			14	7	
U41	MC14017B			16	8	
U42	MC14011B			14	7	
U43	CD4047B			14	7	

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Control (638-6622-004), Schematic Diagram Figure 12 (Sheet 4)

VOLUME 2 CHANGES

FRONT MATTER

Add the following entry to the end of the list on the right-hand side:

Injection Blanker Assembly (652-6861-001) 523-0773489

Add the above-mentioned section to the manual following RF Translator (637-1768-( )) 523-0767960-203211.

VOLUME 3 CHANGES

FRONT MATTER

In the list of instructions books on the title page, change:

Parallel Input (642-3135-001) 523-0770711
to
Parallel Input (642-3135-001, -002) 523-0770711

and change:

Parallel Output (642-3137-001) 523-0770712
to
Parallel Output (642-3137-001, -002) 523-0770712

Add the following entries after the last entry on the right-hand side:

Frequency Standard/Power Supply (646-5930-001) 523-0773484

DDS Control Interface (646-5905-003) 523-0773485

VFO/VCO Module (652-1015-002) 523-0773487

Parallel Interface (646-6329-001) 523-0773488

Add these sections to the manual in the order listed above after section entitled Frequency Standard Switch (646-6558-001) 523-0770716.

Parallel Input (642-3135-001, -002) (523-0770711-001211)

Change title as shown above.

1. DESCRIPTION

Add -002 right after part number 642-3135-001 in the first line of the first paragraph.

VOLUME 2 CHANGES

FRONT MATTER

Add the following entry to the end of the list on the right-hand side:

Injection Blanker Assembly (652-6861-001) 523-0773489

Add the above-mentioned section to the manual following RF Translator (637-1768-( )) 523-0767960-203211.

VOLUME 3 CHANGES

FRONT MATTER

In the list of instructions books on the title page, change:

Parallel Input (642-3135-001) 523-0770711
to
Parallel Input (642-3135-001, -002) 523-0770711

and change:

Parallel Output (642-3137-001) 523-0770712
to
Parallel Output (642-3137-001, -002) 523-0770712

Add the following entries after the last entry on the right-hand side:

Frequency Standard/Power Supply (646-5930-001) 523-0773484

DDS Control Interface (646-5905-003) 523-0773485

VFO/VCO Module (652-1015-002) 523-0773487

Parallel Interface (646-6329-001) 523-0773488

Add these sections to the manual in the order listed above after section entitled Frequency Standard Switch (646-6558-001) 523-0770716.

Parallel Input (642-3135-001, -002) (523-0770711-001211)

Change title as shown above.

1. DESCRIPTION

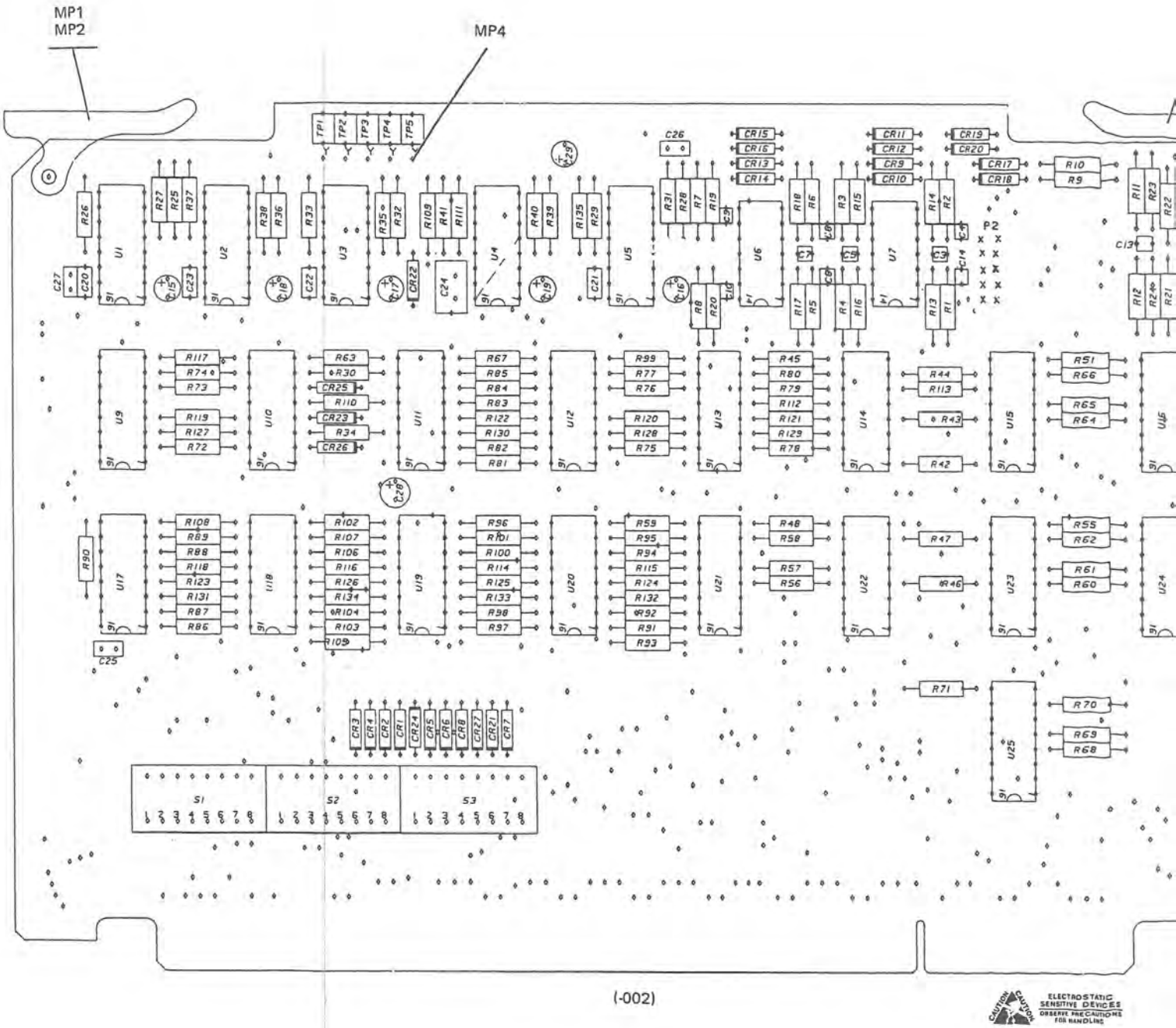
Add -002 right after part number 642-3135-001 in the first line of the first paragraph.

5.3 Equipment Covered

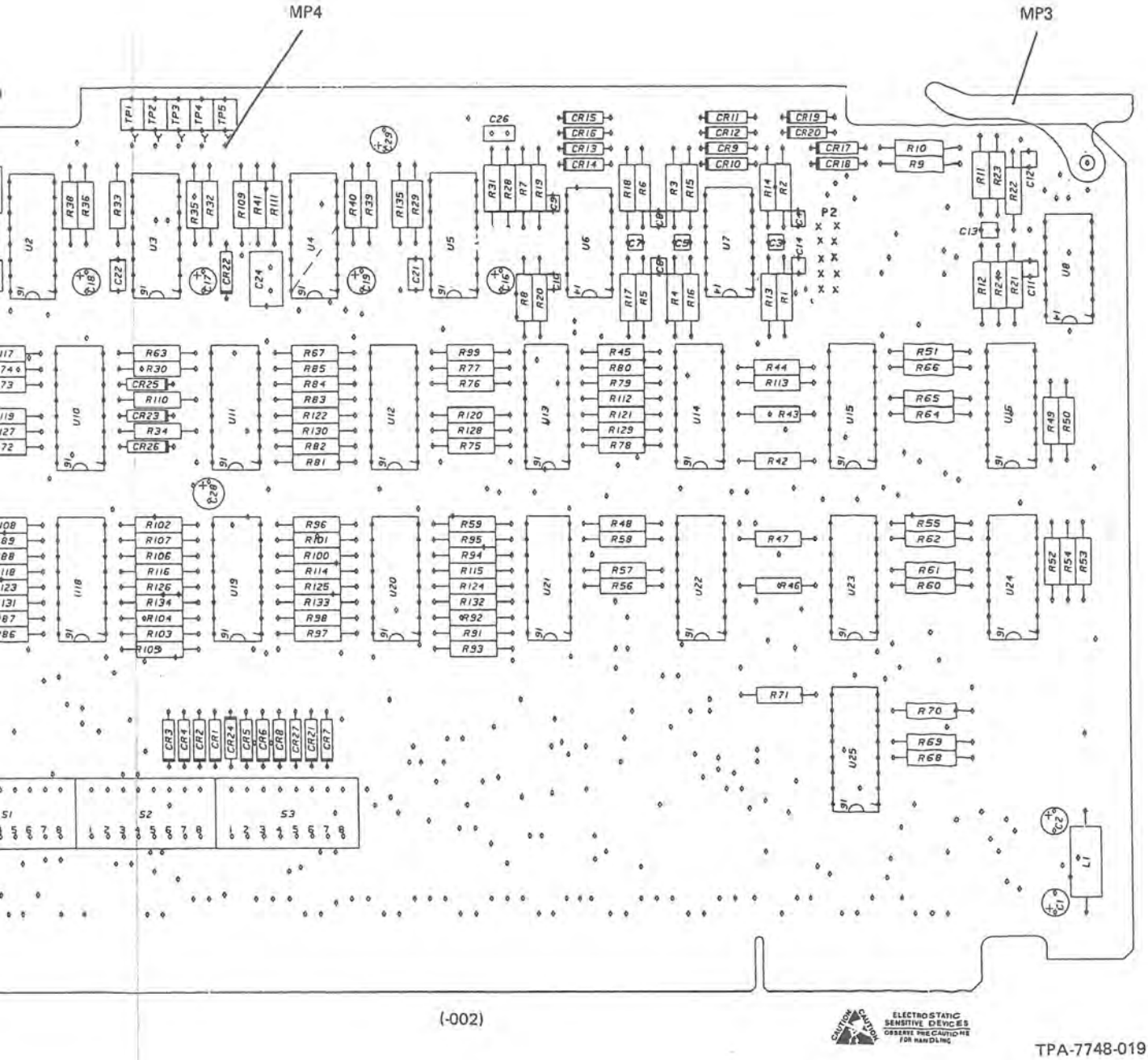
Add the following to the list:

CIRCUIT CARD/ SUBASSEMBLY	COLLINS PART NUMBER	LATEST EFFECTIVITY
Parallel Input	642-3135-002	REV H

In figure 3, Parallel Input, Schematic Diagram (Sheet 1 of 6), change the title to read sheet 1 of 9. Add sheets 2A and 2B behind sheet 2 and sheet 7 behind sheet 6.



Parallel Input, Schematic Diagra
Figure 3 (Sheet 2A)



Parallel Input, Schematic Diagram
Figure 3 (Sheet 2A)

The parts list for Parallel Input (642-3135-002) is the same as that for Parallel Input (642-3135-001), except for the following differences.

For 642-3135-002 only, add:

P2	CONTACTS (QTY 10)	372-2601-045

For both 642-3135-001 and 642-3135-002, add:

MP1	LABEL, WARNING	280-2745-040
MP2	EXTRACTOR, SCREENED (QTY 1)	637-2987-001
MP3	EXTRACTOR, SCREENED (QTY 1)	635-0883-001
MP4	CONTACT, ELECTRICAL (QTY 5)	372-2601-037

CONTROL / STATUS BIT WORD FORMAT

EQUIPMENT TYPE

HF-80 8-BIT			ASCII 7-BIT			HF-80XX 2-CHANNEL RADIOS AND HF-80XX 2-CHANNEL CONTROLS			851S-1/2, HF-8095			4-CHANNEL EXCITER, AND 4-CHANNEL EXCITER CONTROL			4-CHANNEL RECEIVER, AND 4-CHANNEL RECEIVER CONTROL		
WORD NO.	CHARACTER NO.	BIT NO.	WORD NO.	CHARACTER NO.	BIT WT.	PARALLEL OUTPUT PIN NO.	PARALLEL INPUT PIN NO.	FUNCTION	PARALLEL OUTPUT PIN NO.	PARALLEL INPUT PIN NO.	FUNCTION	PARALLEL OUTPUT PIN NO.	PARALLEL INPUT PIN NO.	FUNCTION	PARALLEL OUTPUT PIN NO.	PARALLEL INPUT PIN NO.	FUNCTION
1	2	8	1	6	8		103	$\overline{\text{COMMAND}}$ ($\overline{\text{C}}$)		103	$\overline{\text{COMMAND}}$ ($\overline{\text{C}}$)			NOT USED			NOT USED
1	2	7	1	6	4		38	$\overline{\text{STATUS REQUEST}}$ ($\overline{\text{S}}$)		38	$\overline{\text{STATUS REQUEST}}$ ($\overline{\text{S}}$)			NOT USED			NOT USED
1	2	6	1	6	2	129	129	FREQ 10 MHz (2)	129	129	FREQ 10 MHz (2)	129	129	FREQ 10 MHz (2)	129	129	FREQ 10 MHz (2)
1	2	5	1	6	1	64	64	FREQ 10 MHz (1)	64	64	FREQ 10 MHz (1)	64	64	FREQ.10 MHz (1)	64	64	FREQ 10 MHz (1)
1	2	4	1	7	8	128	128	FREQ 1 MHz (8)	128	128	FREQ 1 MHz (8)	128	128	FREQ 1 MHz (8)	128	128	FREQ 1 MHz (8)
1	2	3	1	7	4	63	63	(4)	63	63	(4)	63	63	(4)	63	63	(4)
1	2	2	1	7	2	127	127	(2)	127	127	(2)	127	127	(2)	127	127	(2)
1	2	1	1	7	1	62	62	(1)	62	62	(1)	62	62	(1)	62	62	(1)
1	3	8	1	8	8	126	126	FREQ 100 kHz (8)	126	126	FREQ 100 kHz (8)	126	126	FREQ 100 kHz (8)	126	126	FREQ 100 kHz (8)
1	3	7	1	8	4	61	61	(4)	61	61	(4)	61	61	(4)	61	61	(4)
1	3	6	1	8	2	125	125	(2)	125	125	(2)	125	125	(2)	125	125	(2)
1	3	5	1	8	1	60	60	(1)	60	60	(1)	60	60	(1)	60	60	(1)
1	3	4	1	9	8	124	124	FREQ 10 kHz (8)	124	124	FREQ 10 kHz (8)	124	124	FREQ 10 kHz (8)	124	124	FREQ 10 kHz (8)
1	3	3	1	9	4	59	59	(4)	59	59	(4)	59	59	(4)	59	59	(4)
1	3	2	1	9	2	123	123	(2)	123	123	(2)	123	123	(2)	123	123	(2)
1	3	1	1	9	1	58	58	(1)	58	58	(1)	58	58	(1)	58	58	(1)
1	4	8	1	10	8	122	122	FREQ 1 kHz (8)	122	122	FREQ 1 kHz (8)	122	122	FREQ 1 kHz (8)	122	122	FREQ 1 kHz (8)
1	4	7	1	10	4	57	57	(4)	57	57	(4)	57	57	(4)	57	57	(4)
1	4	6	1	10	2	121	121	(2)	121	121	(2)	121	121	(2)	121	121	(2)
1	4	5	1	10	1	56	56	(1)	56	56	(1)	56	56	(1)	56	56	(1)
1	4	4	1	11	8	120	120	FREQ 100 Hz (8)	120	120	FREQ 100 Hz (8)	120	120	FREQ 100 Hz (8)	120	120	FREQ 100 Hz (8)
1	4	3	1	11	4	55	55	(4)	55	55	(4)	55	55	(4)	55	55	(4)
1	4	2	1	11	2	119	119	(2)	119	119	(2)	119	119	(2)	119	119	(2)
1	4	1	1	11	1	54	54	(1)	54	54	(1)	54	54	(1)	54	54	(1)
1	5	8	1	12	8	118	118	FREQ 10 Hz (8)	118	118	FREQ 10 Hz (8)	118	118	FREQ 10 Hz (8)	118	118	FREQ 10 Hz (8)
1	5	7	1	12	4	53	53	(4)	53	53	(4)	53	53	(4)	53	53	(4)
1	5	6	1	12	2	117	117	(2)	117	117	(2)	117	117	(2)	117	117	(2)
1	5	5	1	12	1	52	52	(1)	52	52	(1)	52	52	(1)	52	52	(1)
1	5	4	1	13	8	116	116	FREQ 1 Hz (8)	116	116	FREQ 1 Hz (8)	116	116	FREQ 1 Hz (8)	116	116	FREQ 1 Hz (8)
1	5	3	1	13	4	51	51	(4)	51	51	(4)	51	51	(4)	51	51	(4)
1	5	2	1	13	2	115	115	(2)	115	115	(2)	115	115	(2)	115	115	(2)
1	5	1	1	13	1	50	50	(1)	50	50	(1)	50	50	(1)	50	50	(1)
2	2	8	2	6	8		103	$\overline{\text{COMMAND}}$ ($\overline{\text{C}}$)		103	$\overline{\text{COMMAND}}$ ($\overline{\text{C}}$)			NOT USED			NOT USED
2	2	7	2	6	4		38	$\overline{\text{STATUS REQUEST}}$ ($\overline{\text{S}}$)		38	$\overline{\text{STATUS REQUEST}}$ ($\overline{\text{S}}$)						NOT USED
2	2	6	2	6	2			NOT USED			NOT USED						NOT USED
2	2	5	2	6	1	76	76	RF GAIN (16)	76	76	RF GAIN (16)	76	76		76	76	RF GAIN (16)
2	2	4	2	7	8	11	11	(8)	11	11	(8)	11	11		11	11	(8)
2	2	3	2	7	4	75	75	(4)	75	75	(4)	75	75		75	75	(4)
2	2	2	2	7	2	10	10	(2)	10	10	(2)	10	10		10	10	(2)
2	2	1	2	7	1	22	87	(1)	22	87	(1)	22	87		22	87	(1)
2	3	8	2	8	8	3		NOT USED	3		NOT USED	3	12	NOT USED	3	12	FL7 (E) ENBL
2	3	7	2	8	4	41	41	VBFO ENBL	41	41	VBFO ENBL	41	41		41	41	FL6 (D) ENBL
2	3	6	2	8	2	106	106	AFC ENBL	106	106	RESERVED	106	106		106	106	FL5 (C) ENBL
2	3	5	2	8	1	37	37	AGC CROWBAR ENBL	37	37	AGC CROWBAR ENBL	37	37		37	37	FL4 (B) ENBL
2	3	4	2	9	8	84	84	USB AGC OFF	84	84	USB AGC OFF	84	84		84	84	B2 AGC (2)
2	3	3	2	9	4	85	85	USB AGC FAST	85	85	USB AGC FAST	85	85		85	85	B2 AGC (1)
2	3	2	2	9	2	19	19	LSB AGC OFF	19	19	LSB AGC OFF	19	19		19	19	A2 AGC (2)
2	3	1	2	9	1	20	20	LSB AGC FAST	20	20	LSB AGC FAST	20	20		20	20	A2 AGC (1)
2	4	8	2	10	8	100	100	FL8 ENBL	100	100	FL8 ENBL	100	100	NOT USED	100	100	FL3 (A) ENBL
2	4	7	2	10	4	99	99	FL7 ENBL	99	99	FL7 ENBL	99	99		99	99	FL1 (16 kHz) ENBL
2	4	6	2	10	2	35	35	FL6 ENBL	35	35	FL6 ENBL	35	35		35	35	VBFO ENBL
2	4	5	2	10	1	34	34	FL5 ENBL	34	34	FL5 ENBL	34	34		34	34	AFC ENBL
2	4	4	2	11	8	98	98	FL4 ENBL	98	98	FL4 ENBL	98	98		98	98	B1 AGC (2)
2	4	3	2	11	4	33	33	FL3 ENBL	33	33	FL3 ENBL	33	33		33	33	B1 AGC (1)
2	4	2	2	11	2	97	97	FL2 ENBL	97	97	FL2 ENBL	97	97		97	97	A1 AGC (2)
2	4	1	2	11	1	32	32	FL1 ENBL	32	32	FL1 ENBL	32	32	PEAK CLIPPER ENBL	32	32	A1 AGC (1)
2	5	8	2	12	8	73	73	FM ENBL	73	73	FM ENBL	73	73	NOT USED	73	73	DATA NET ENBL
2	5	7	2	12	4	8	8	AM ENBL	8	8	AM ENBL	8	8	AM ENBL	8	8	AM ENBL
2	5	6	2	12	2	72	72	SSB ENBL	72	72	SSB ENBL	72	72	CW ENBL	72	72	CW ENBL
2	5	5	2	12	1	9	9	CW ENBL	9	9	CW ENBL	9	9	ISB ENBL	9	9	ISB ENBL
2	5	4	2	13	8	74	74	ISB ENBL	74	74	ISB ENBL	74	74	B2 ENBL	74	74	B2 ENBL
2	5	3	2	13	4	6	92	RESERVED	6	92	RESERVED	6	92	B1 ENBL	6	92	B1 ENBL
2	5	2	2	13	2	26	91	RESERVED	26	91	RESERVED	26	91	A1 ENBL	26	91	A1 ENBL
2	5	1	2	13	1	17	21	RESERVED	17	21	RESERVED	17	21	A2 ENBL	17	21	A2 ENBL

CTION (SIGNAL NAME) TABLE

CONTROL / STATUS BIT WORD FORMAT: HF-80 8-BIT			ASCII 7-BIT			EQUIPMENT TYPE: HF-80XX 2-CHANNEL RADIOS, AND HF-80XX 2-CHANNEL CONTROLS			851S-1/2, HF-8095			4-CHANNEL EXCITER, AND 4-CHANNEL EXCITER, CONTROL			4-CHANNEL RECEIVER, AND 4-CHANNEL RECEIVER CONTROL		
WORD NO.	CHARACTER NO.	BIT NO.	WORD NO.	CHARACTER NO.	BIT WT.	PARALLEL OUTPUT PIN NO.	PARALLEL INPUT PIN NO.	FUNCTION	PARALLEL OUTPUT PIN NO.	PARALLEL INPUT PIN NO.	FUNCTION	PARALLEL OUTPUT PIN NO.	PARALLEL INPUT PIN NO.	FUNCTION	PARALLEL OUTPUT PIN NO.	PARALLEL INPUT PIN NO.	FUNCTION
3	2	8	3	6	8		103	$\overline{\text{COMMAND}}$ ($\overline{C}$)		103	$\overline{\text{COMMAND}}$ ($\overline{C}$)			NOT USED			NOT USED
3	2	7	3	6	4		38	$\overline{\text{STATUS}}$ $\overline{\text{REQUEST}}$ ($\overline{S}$)		38	$\overline{\text{STATUS}}$ $\overline{\text{REQUEST}}$ ($\overline{S}$)			↓			NOT USED
3	2	6	3	6	2			NOT USED			NOT USED			↓			NOT USED
3	2	5	3	6	1	107	107	VBFO SIGN	107	107	VBFO SIGN	107	107	↓	107	107	VBFO SIGN
3	2	4	3	7	8	48	48	VBFO FREQ 1 kHz (8)	48	48	VBFO FREQ 1 kHz (8)	48	48	↓	48	48	VBFO FREQ 1 kHz (8)
3	2	3	3	7	4	113	113	↓ (4)	113	113	↓ (4)	113	113	↓	113	113	↓ (4)
3	2	2	3	7	2	47	47	↓ (2)	47	47	↓ (2)	47	47	↓	47	47	↓ (2)
3	2	1	3	7	1	112	112	↓ (1)	112	112	↓ (1)	112	112	↓	112	112	↓ (1)
3	3	8	3	8	8	46	46	VBFO FREQ 100 Hz (8)	46	46	VBFO FREQ 100 Hz (8)			NOT USED	46	46	VBFO FREQ 100 Hz (8)
3	3	7	3	8	4	111	111	↓ (4)	111	111	↓ (4)			↓	111	111	↓ (4)
3	3	6	3	8	2	110	110	↓ (2)	110	110	↓ (2)			↓	110	110	↓ (2)
3	3	5	3	8	1	44	44	↓ (1)	44	44	↓ (1)			↓	44	44	↓ (1)
3	3	4	3	9	8	109	109	VBFO FREQ 10 Hz (8)	109	109	VBFO FREQ 10 Hz (8)			↓	109	109	VBFO FREQ 10 Hz (8)
3	3	3	3	9	4	43	43	↓ (4)	43	43	↓ (4)			↓	43	43	↓ (4)
3	3	2	3	9	2	108	108	↓ (2)	108	108	↓ (2)			↓	108	108	↓ (2)
3	3	1	3	9	1	42	42	↓ (1)	42	42	↓ (1)			↓	42	42	↓ (1)
3	4	8	3	10	8	7	7	NOT USED	7	7	NOT USED	7	7	GPI-1 (11)	7	7	GPI-1 (11)
3	4	7	3	10	4	8	8	↓	8	8	↓	8	8	GPI-2	8	8	GPI-2
3	4	6	3	10	2	10	10	↓	10	10	↓	10	10	GPI-3	10	10	GPI-3
3	4	5	3	10	1	9	9	↓	9	9	↓	9	9	GPO-1	9	9	GPO-1
3	4	4	3	11	8	3	3	↓	3	3	↓	3	3	GPO-2	3	3	GPO-2
3	4	3	3	11	4	5	5	↓	5	5	↓	5	5	$\overline{\text{SER TS OVRD}}$	5	5	$\overline{\text{SER TS OVRD}}$
3	4	2	3	11	2	6	6	↓	6	6	↓	6	6	PAR BCD ENBL	6	6	SER BCD ENBL
3	4	1	3	11	1	4	4	↓	4	4	↓	4	4	PAR RF GAIN ENBL	4	4	SER RF GAIN ENBL
3	5	8	3	12	8			NOT USED			NOT USED			NOT USED			NOT USED
3	5	7	3	12	4			↓			↓			↓			↓
3	5	6	3	12	2			↓			↓			↓			↓
3	5	5	3	12	1	18	81	↓	18	81	↓	18	81	↓	18	81	↓
3	5	4	3	13	8	82	82	PILOT CARRIER ENBL	82	82	VBFO TUNE	82	82	PILOT CARRIER ENBL	82	82	B2 AGC BUS
3	5	3	3	13	4	78	78	PA L PWR ENBL	78	78	VBFO PARALLEL ENBL	78	78	PA LO PWR ENBL	78	78	B1 AGC BUS
3	5	2	3	13	2	14	14	PA HV ENBL	14	14	FINE TUNE	14	14	PA HV ENBL	14	14	AI AGC BUS
3	5	1	3	13	1	79	79	PA LV ENBL	79	79	RESERVED	79	79	PA LV ENBL	79	79	A2 AGC BUS
4	2	8	4	6	8		103	$\overline{\text{COMMAND}}$ ($\overline{C}$)		103	$\overline{\text{COMMAND}}$ ($\overline{C}$)			$\overline{C}$			$\overline{C}$
4	2	7	4	6	4		38	$\overline{\text{STATUS}}$ $\overline{\text{REQUEST}}$ ($\overline{S}$)		38	$\overline{\text{STATUS}}$ $\overline{\text{REQUEST}}$ ($\overline{S}$)			$\overline{S}$			$\overline{S}$
4	2	6	4	6	2			NOT USED	27	105	UP/$\overline{\text{DOWN}}$	(12)	13	EXCTR FLT	(12)	13	RCV FLT
4	2	5	4	6	1	92 (68)	68	REMOTE KEY (MON)	92	68	TUNE RATE (16)	92 (68)	68	SYSTEM KEY	92 (68)	68	RF OVLD FLT
4	2	4	4	7	8			NOT USED	28	4	↓ (8)		88	B2 AF MON		88	B2 AF MON
4	2	3	4	7	4			↓	29	39	↓ (4)		23	B1 AF MON		23	B1 AF MON
4	2	2	4	7	2			↓	95	5	↓ (2)		22	AI AF MON		22	AI AF MON
4	2	1	4	7	1			↓	30	70	↓ (1)		24	A2 AF MON		24	A2 AF MON
4	3	8	4	8	8	(2)	2	AFC LOCK	(2)	2	NOT USED	(2)	2	NOT USED	(2)	2	NOT USED
4	3	7	4	8	4	(40)	40	EXCTR RF MON	(40)	40	NOT USED	(40)	40	NOT USED	(40)	40	NOT USED
4	3	6	4	8	2		105	CHAN A XMT AF MON		105	NOT USED		105	NOT USED		105	NOT USED
4	3	5	4	8	1		36	CHAN A RCV AF MON		36	CHAN A AF MON		36	NOT USED		36	NOT USED
4	3	4	4	9	8		83	CHAN A AGC MON		83	CHAN A AGC MON		83	NOT USED		83	NOT USED
4	3	3	4	9	4		39	CHAN B XMT MON		39	NOT USED		39	CONT INTFC FLT (DDS)		39	CONT INTFC FLT (DDS)
4	3	2	4	9	2		101	CHAN B RCV MON		101	CHAN B AF MON		101	VFO FAULT (DDS)		101	VFO FAULT (DDS)
4	3	1	4	9	1		18	CHAN B AGC MON		18	CHAN B AGC MON		18	$\overline{\text{RF FAULT}}$ (DDS)		18	$\overline{\text{RF FAULT}}$ (DDS)
4	4	8	4	10	8	(69)	69	PA RDY	(69)	69	NOT USED	(69)	69	NOT USED	(69)	69	NOT USED
4	4	7	4	10	4	(77)	4	PA FLT	(77)	4	↓	(77)	4	SUBCARRIER LOCK FLT	(77)	4	SUBCARRIER LOCK FLT
4	4	6	4	10	2	(5)	5	PA RF MON	(5)	5	↓	(5)	5	EXCTR RF MON	(5)	5	VBFO SYNTH FLT
4	4	5	4	10	1	(13)	70	CPLR FLT	(13)	70	↓	(13)	70	EXCTR PS FLT	(13)	70	RCVR PS FLT
4	4	4	4	11	8	(67)	67	RF OVLD FLT	(67)	67	RF OVLD FLT	(67)	67	NOT USED	(67)	67	B2 AGC MON
4	4	3	4	11	4		49	SYNTH FLT		49	SYNTH		49	EXT STANDARD		49	B1 AGC MON
4	4	2	4	11	2		86	PS FLT		86	PS FLT		86	A1 IF MON		86	A1 AGC MON
4	4	1	4	11	1	(12)	3	RCVR/EXCTR FLT	(12)	3	RCVR FLT	(105)	3	NOT USED	(105)	3	A2 AGC MON
4	5	8	4	12	8	(70)		NOT USED	(70)		NOT USED	(70)	77	PA READY	(70)	77	NOT USED
4	5	7	4	12	4	(104)		NOT USED	(104)		NOT USED	(104)	102	PA FLT	(104)	102	EXT STANDARD
4	5	6	4	12	2	(27)	7	VBFO SYNTH FLT	(27)	7	VBFO SYNTH FLT	(27)	7	PA RF MON	(27)	7	AFC LOCK MON
4	5	5	4	12	1	(92)		NOT USED	(92)		NOT USED	(92)	89	CPLR FLT	(92)	89	RF PERF MON
4	5	4	4	13	8	(28)	71	PRESEL FLT	(28)	71	PRESEL FLT	(28)	71	PRESEL FLT	(28)	71	PRESEL FLT
4	5	3	4	13	4	(29)	95	DATA ERROR	(29)	95	DATA ERROR	(29)	95	DATA ERROR	(29)	95	DATA ERROR
4	5	2	4	13	2	(95)	16	LOCAL CONTROL	(95)	16	LOCAL CONTROL	(95)	16	LOCAL CONTROL	(95)	16	LOCAL CONTROL
4	5	1	4	13	1	(30	80	MONITOR	(30)	80	MONITOR	(30)	80	MONITOR	(30)	80	MONITOR

Parallel Input, Schematic Diag
Figure 3 (Sheet 7)

Parallel Output (642-3137-001, -002) (523-0770712-001211)

Change title as shown above.

1. DESCRIPTION

Add -002 behind part number 642-3137-001 in the first line of the first paragraph.

2.3 Serial-to-Parallel Shift Registers

Add the following sentence to the end of the first paragraph: For part number 642-3137-002, refer to the table on the schematic diagram (figure 4).

3.2 Testing

Add the following steps to table 2, test 4.

Table 2. Parallel Output, Testing and Troubleshooting Procedures (Cont).

TEST	PROCEDURE	NORMAL INDICATION	IF INDICATION IS ABNORMAL
4. (Cont)	**Note** Steps l and m are applicable only to 642-3137-002 circuit boards. l. Connect a processor to the local unit. m. Address word 3, character 4, and type all ones. Monitor the pins of P2 for the following indications.		

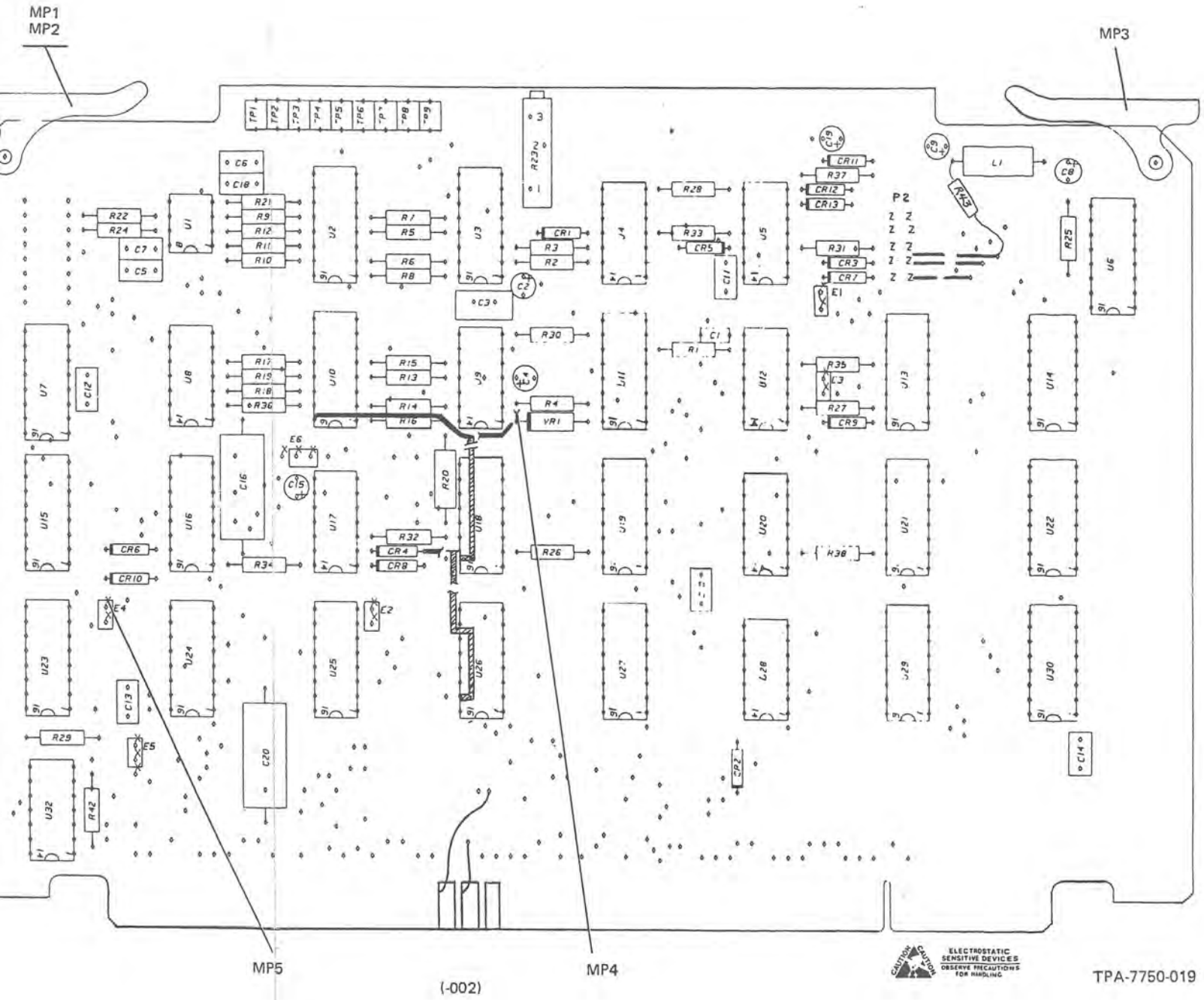
PARALLEL P2 PIN NO	LOGIC PRESENT	IF ABNORMAL, CHECK
3	1	U13
4	1	
5	1	
6	1	
7	1	
8	1	
9	1	
10	1	

6.3 Equipment Covered

Add the following entry to the equipment list:

CIRCUIT CARD/ SUBASSEMBLY	COLLINS PART NUMBER	LATEST EFFECTIVITY
Parallel Output	642-3137-002	REV L

Add figure 4 behind figure 3.



Parallel Output (642-3137-002),
Schematic Diagram
Figure 4 (Sheet 1 of 6)

The parts list for Parallel Output (642-3137-002) is the same as that for Parallel Output (642-3137-001), except for the following differences.

For 642-3137-002 only, add:

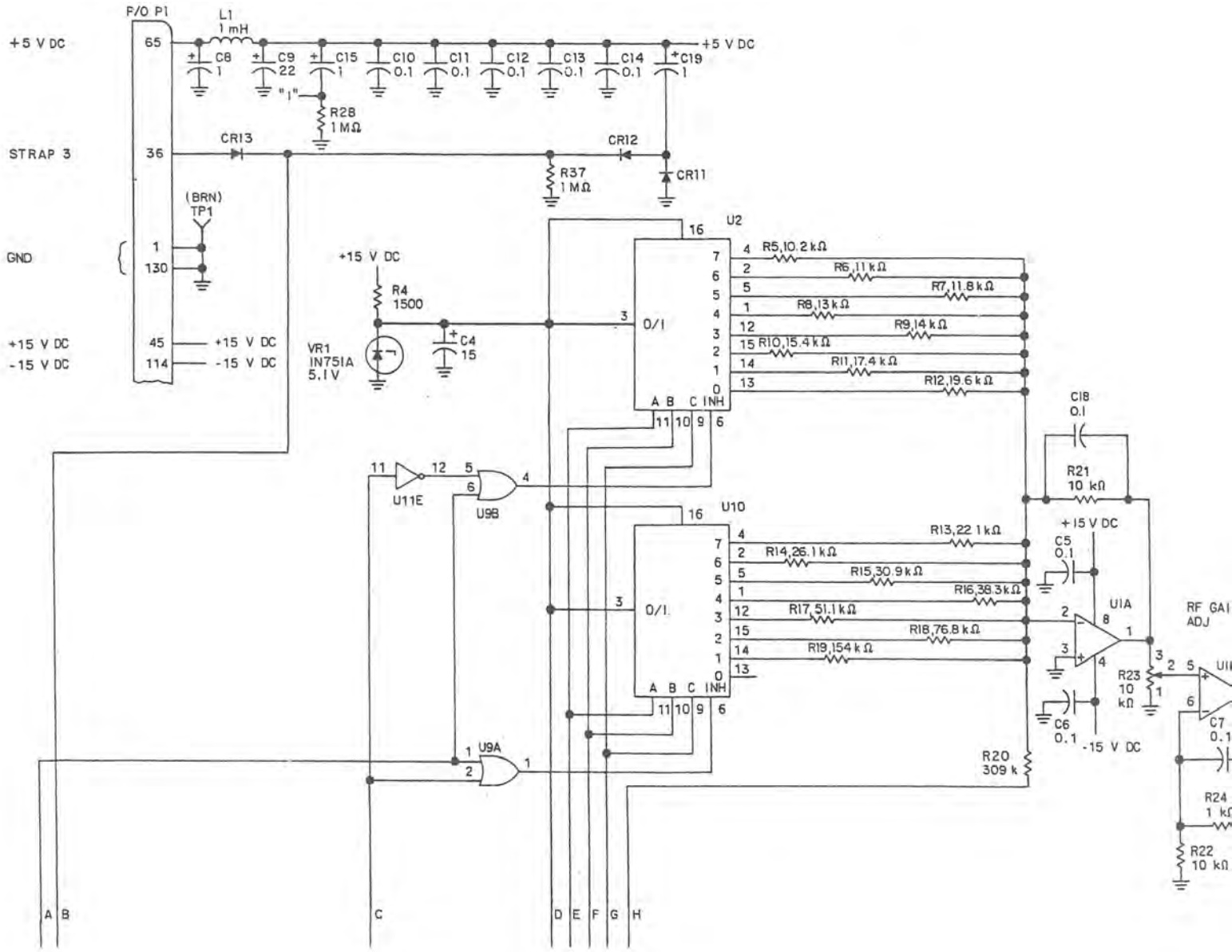
E1	NOT USED	
E2-E6	CONNECTOR, JMPR SYS	372-0046-010
P2	CONTACT, ELECTRICAL (QTY 10)	372-2601-045
R43	RESISTOR, FIXED CMPSN, 1 MEGO, 10%, 1/4 W	745-0857-000

For both 642-3137-001 and 642-3137-002, add:

MP1	LABEL, WARNING (QTY 1)	280-2745-040
MP2	EXTRACTOR, SCREENED (QTY 1)	637-2988-001
MP3	EXTRACTOR, SCREENED (QTY 1)	635-0884-001
MP4	CONTACT, ELECTRICAL (QTY 3)	372-2601-030
MP5	CONTACT, ELECTRICAL (QTY 15)	372-2601-037

NOTES:

1. UNLESS OTHERWISE SPECIFIED, RESISTANCE VALUES ARE IN OHMS AND CAPACITANCE VALUES ARE IN MICROFARADS.
2. PARTIAL REFERENCE DESIGNATIONS ARE SHOWN; FOR COMPLETE DESIGNATION, PREFIX WITH UNIT AND/OR ASSEMBLY DESIGNATION.
3. TYPE DESIGNATION SHOWN MAY BE GENERIC IN FORM AND ARE FOR REFERENCE ONLY. SEE APPLICABLE PARTS LIST FOR REPLACEMENT PARTS.
4. UNLESS OTHERWISE SPECIFIED, DIODES ARE TYPE IN4454.
5. P2 IS A CABLE CONNECTOR FIELD. THIS CABLE CONNECTOR (372-0043-010) IS NOT IN 642-3137-001 CONFIGURATION.
6. THE FOLLOWING PARTS PROVIDE FOR REMOTE CONTROL OF LOCAL/REMOTE IN A RADIO AND ARE NOT IN 642-3137-001 CONFIGURATION: R39, R40, R41, Q1, Q2, AND U31.
7. SIGNAL NAMES ARE NOT SHOWN FOR P1 AND P2 PINS THAT ARE ASSOCIAT CONTROL/STATUS BITS. THESE PINS HAVE DIFFERENT SIGNAL NAMES DE THE EQUIPMENT THIS CARD IS USED IN. REFER TO TABLE FOR PIN FUN NAMES). ALL PIN NUMBERS IN TABLE ARE ON P1, EXCEPT WORD 3, CHA WHICH ARE ON P2
8. NONSTANDARD ABBREVIATION; FLT = FAULT
9. PIN NUMBERS IN PARENTHESIS IN TABLE ARE STATUS OUTPUTS IN CO
10. THIS EQUIPMENT CONTAINS ELECTROSTATIC DISCHARGE SENSITIVE (ES SPECIAL HANDLING METHODS AND MATERIALS MUST BE USED TO PREVE DAMAGE.



E ASSOCIATED WITH
L NAMES DEPENDING ON
OR PIN FUNCTIONS (SIGNAL
ORD 3. CHARACTER 4

UTS IN CONTROL UNITS ONLY.

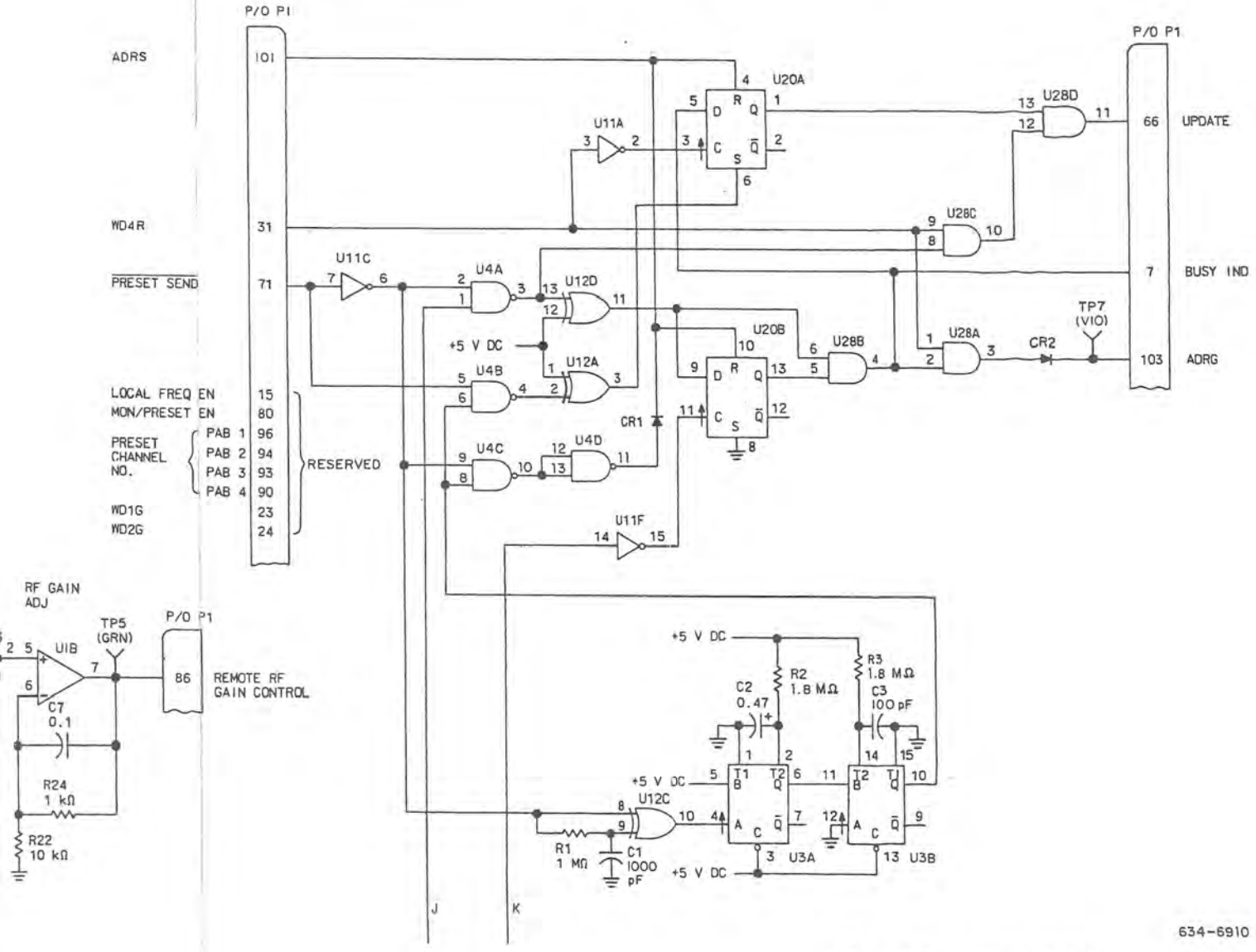
NSITIVE (ESDS) DEVICES.
O TO PREVENT EQUIPMENT

MICROCIRCUIT INFORMATION

REF DES	COMMON DEVICE OR COLLINS PN	PWR (V DC)	
		+5	GND
U1	MC1458P1		
U2	F4051PC	16	8,7
U3	MC14538BCP	16	8
U4	MC14011CP	14	7
U5	F4013BPC	14	7
U6	CD4094BE	16	8
U7	F4051PC	16	8,7
U8	CD4047AE	14	7
U9	MC14071BCP	14	7
U10	F4051PC	16	8,7
U11	F4049BPC	1	8
U12	MC14070BCP	14	7
U13	CD4094BE	16	8
U14	CD4094BE	16	8
U15	CD4094BE	16	8
U16	CD4094BE	16	8

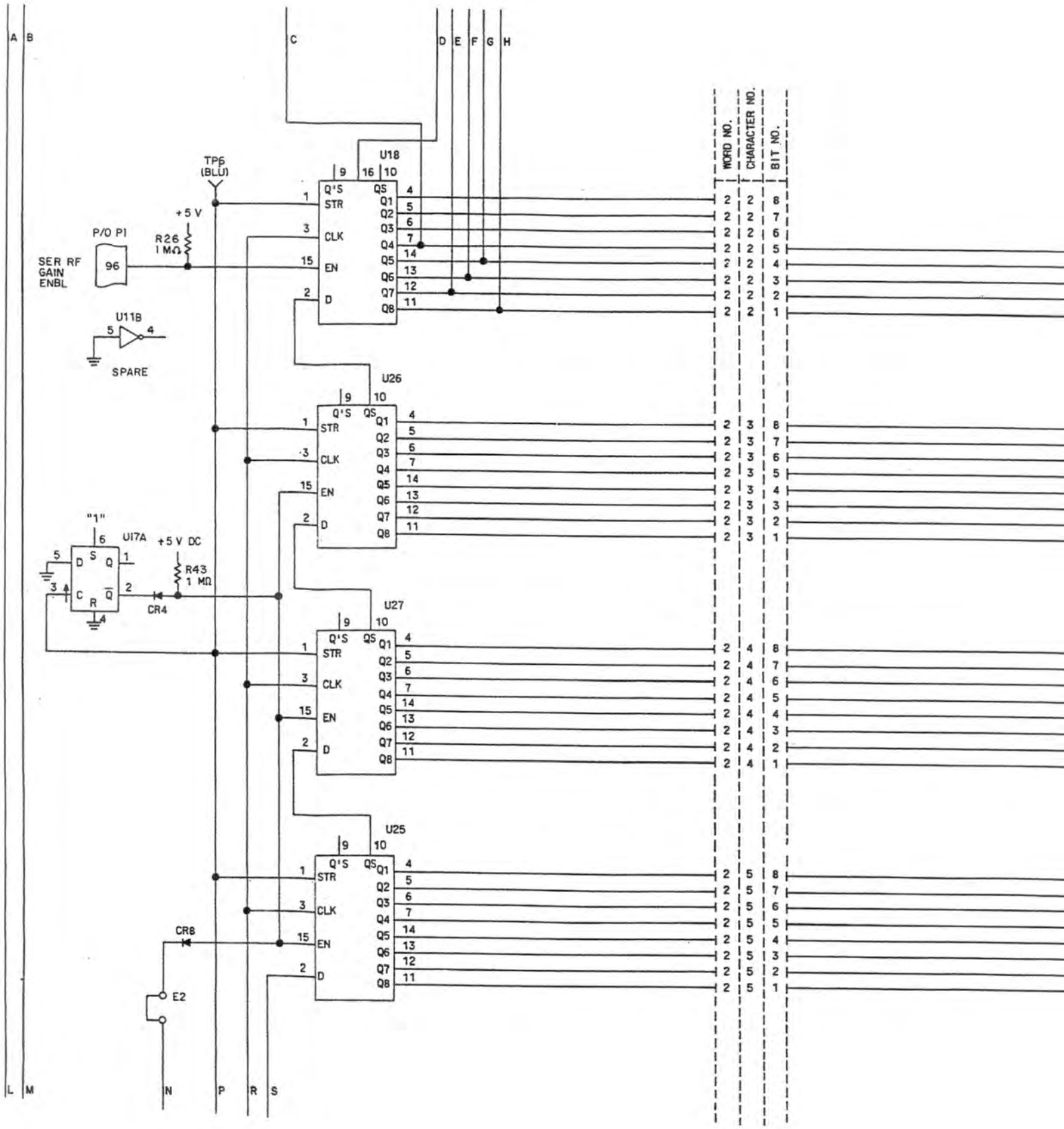
MICROCIRCUIT INFORMATION

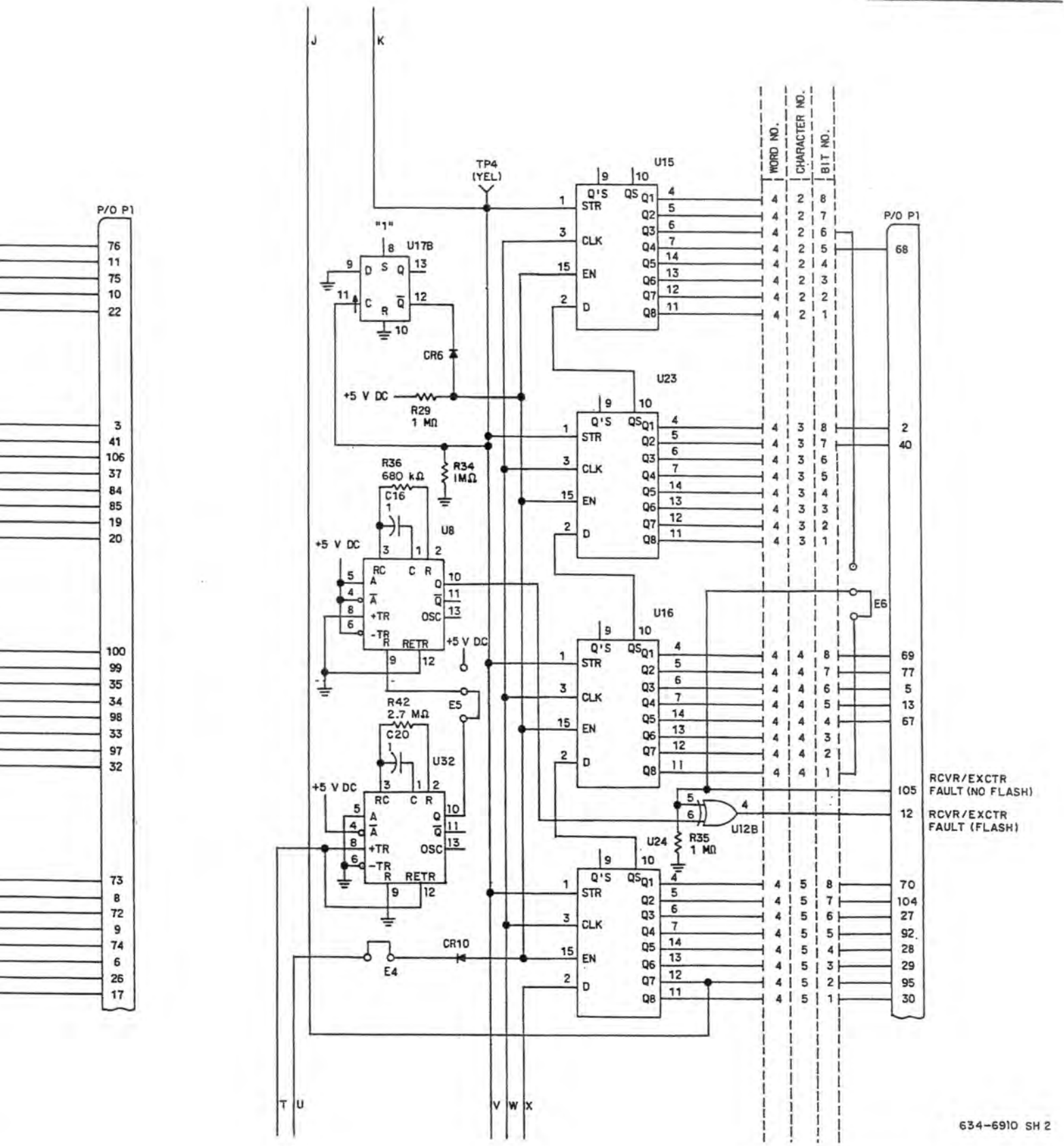
REF DES	COMMON DEVICE OR COLLINS PN	PWR (V DC)	
		+5	GND
U17	F4013BPC	14	7
U18	CD4094BE	16	8
U19	CD4094BE	16	8
U20	F4013BPC	14	7
U21	CD4094BE	16	8
U22	CD4094BE	16	8
U23	CD4094BE	16	8
U24	CD4094BE	16	8
U25	CD4094BE	16	8
U26	CD4094BE	16	8
U27	CD4094BE	16	8
U28	MC14081BCP	14	7
U29	CD4094BE	16	8
U30	CD4094BE	16	8
U31	CD4094BE	16	8
U32	CD4047AE	14	7



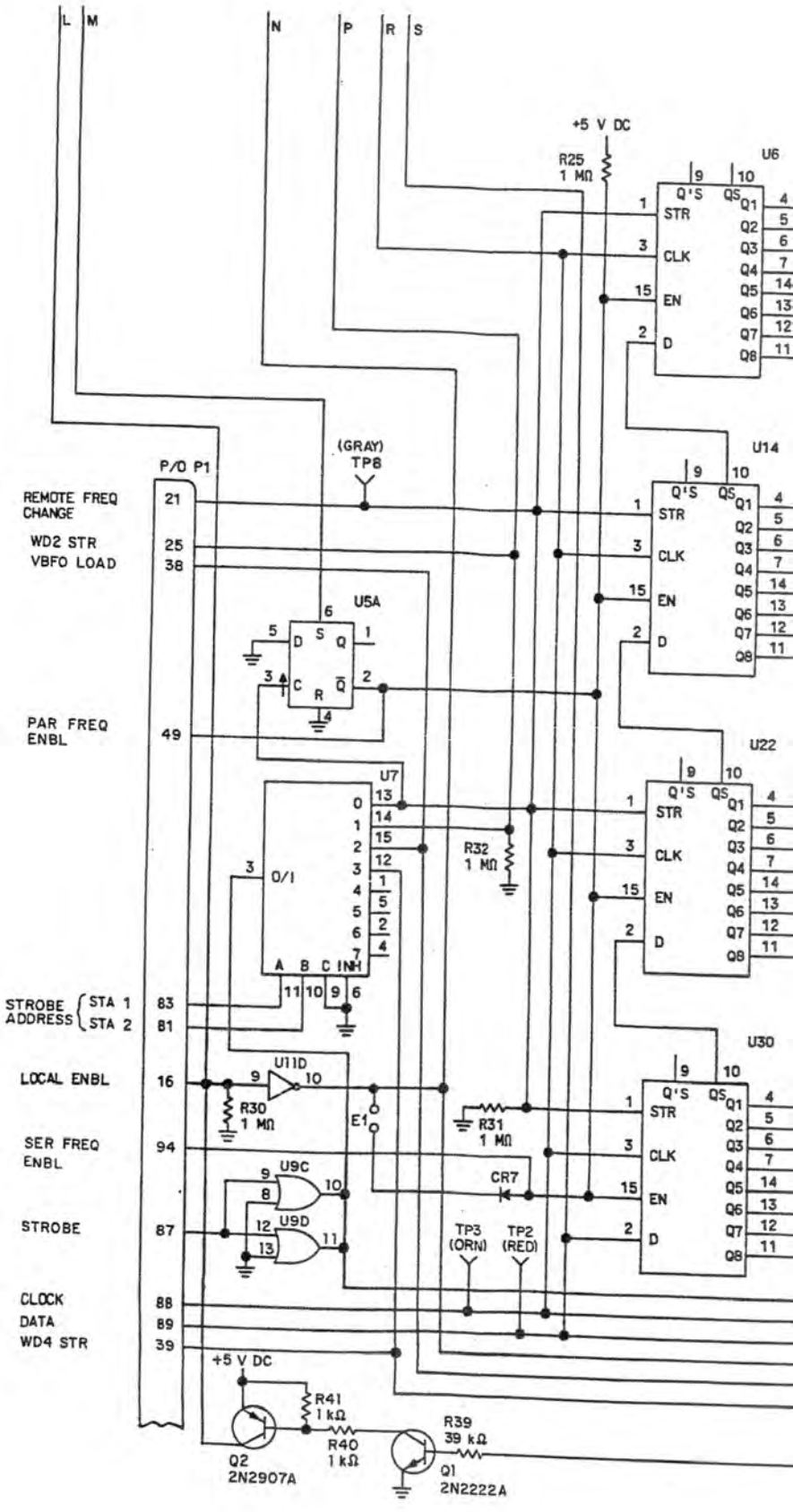
634-6910

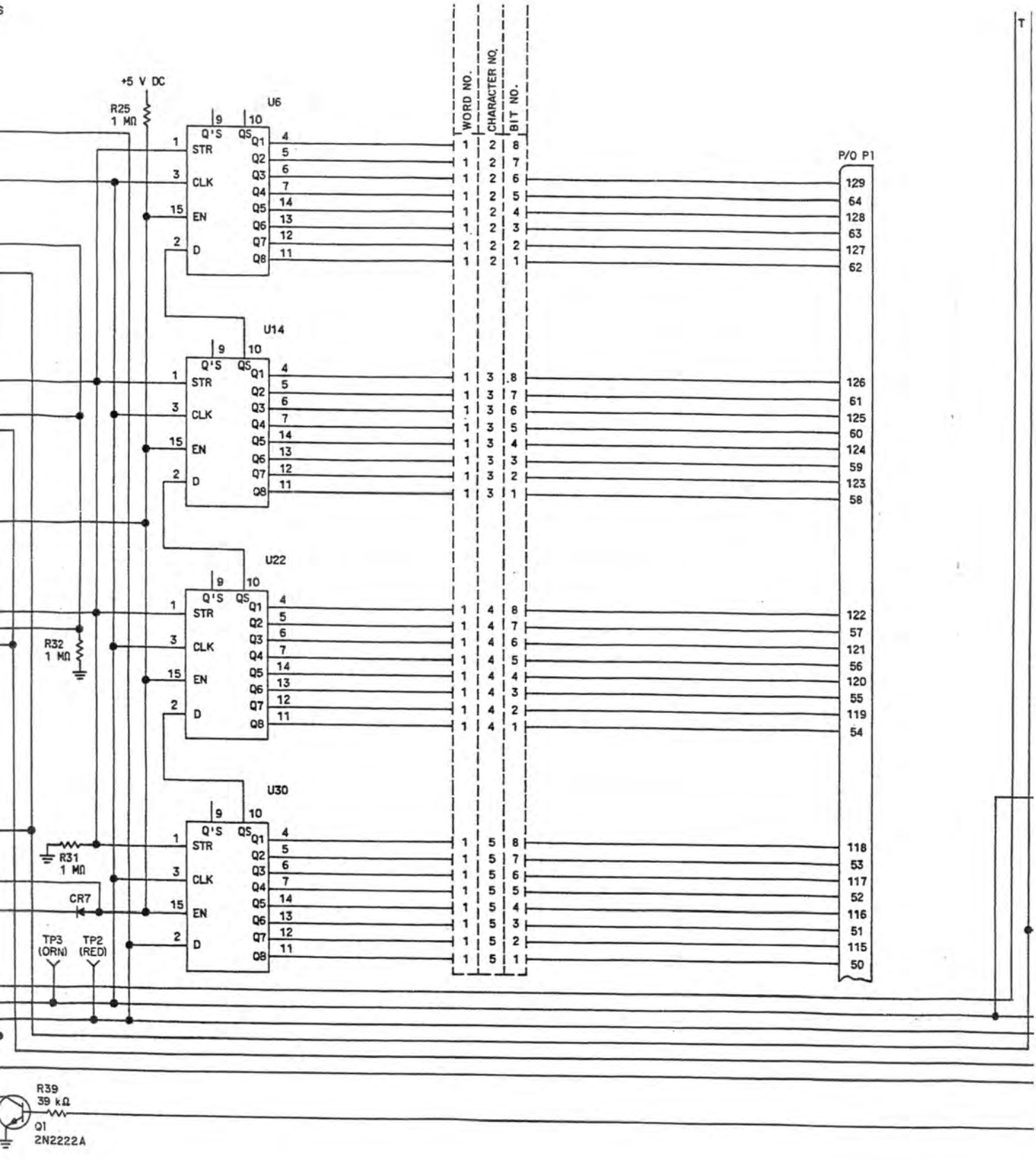
Parallel Output (642-3137-002), Schematic Diagram
Figure 4 (Sheet 3)

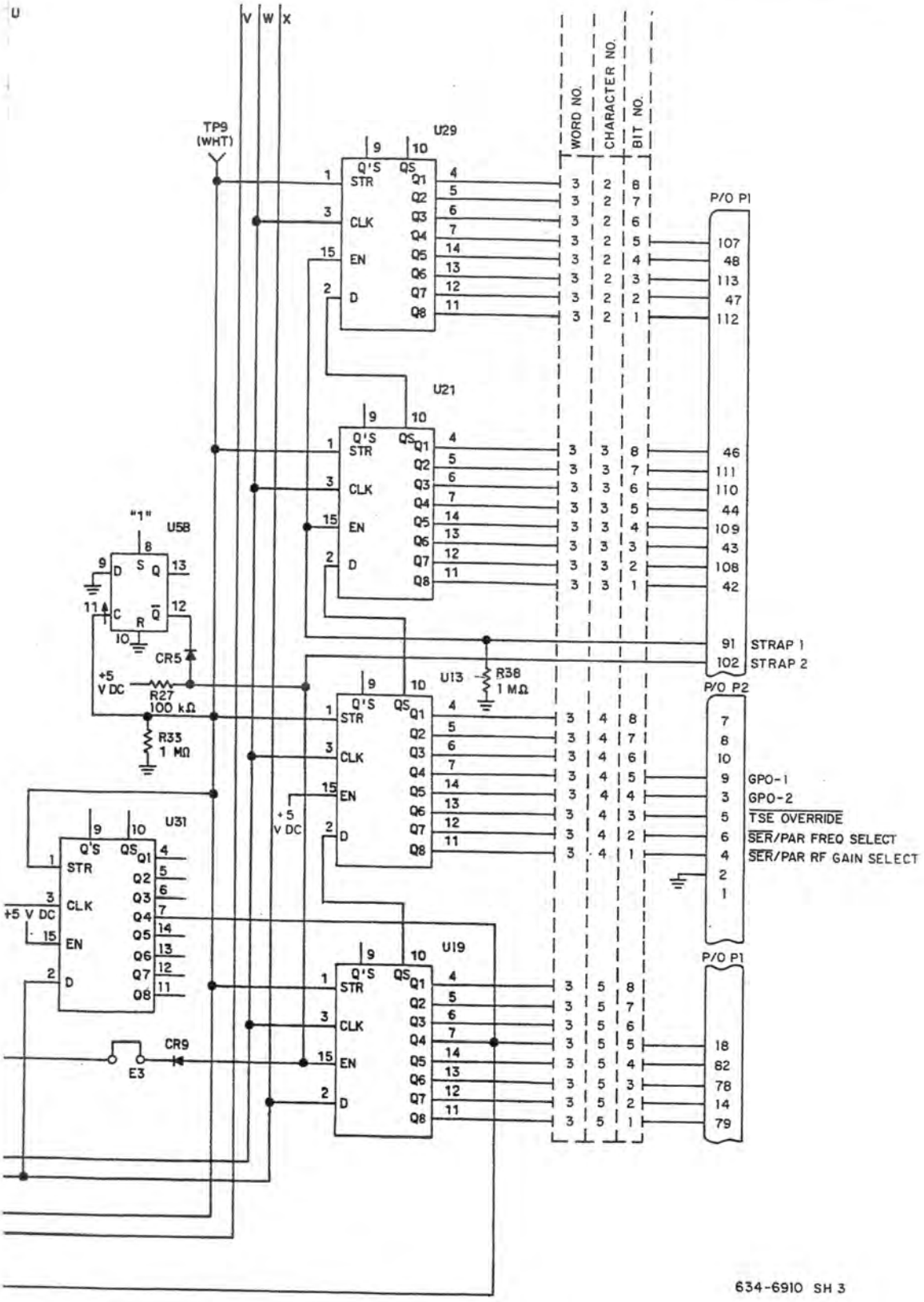

A
B
C
D
E
F
G
H
WORD NO.
CHARACTER NO.
BIT NO.
TP6 (BLU)
+5 V
P/O P1
R26 1 MΩ
SER RF GAIN ENBL
96
U18
U26
U27
U25
U11B
SPARE
"1"
U17A
+5 V DC
R43 1 MΩ
CR4
CR8
E2
STR
CLK
EN
D
Q'S
QS
Q1
Q2
Q3
Q4
Q5
Q6
Q7
Q8
L
M
N
P
R
S



Parallel Output (642-3137-002), Schematic Diagram
Figure 4 (Sheet 4)


L
M
N
P
R
S
+5 V DC
R25
1 MΩ
U6
U14
U22
U30
Q'S
QS
Q1
Q2
Q3
Q4
Q5
Q6
Q7
Q8
STR
CLK
EN
D
P/O P1
(GRAY)
TP8
REMOTE FREQ CHANGE
21
WD2 STR
25
VBFO LOAD
38
U5A
D
S
C
R
PAR FREQ ENBL
49
U7
O/I
A
B
C
INH
R32
1 MΩ
STROBE ADDRESS
STA 1
STA 2
83
81
LOCAL ENBL
16
U11D
R30
1 MΩ
E1
R31
1 MΩ
SER FREQ ENBL
94
U9C
U9D
CR7
STROBE
87
TP3
(ORN)
TP2
(RED)
CLOCK
88
DATA
89
WD4 STR
39
+5 V DC
R41
1 kΩ
R40
1 kΩ
R39
39 kΩ
Q2
2N2907A
Q1
2N2222A


+5 V DC
R25
1 MΩ
U6
U14
U22
U30
Q'S
QS
STR
CLK
EN
D
Q1
Q2
Q3
Q4
Q5
Q6
Q7
Q8
WORD NO.
CHARACTER NO.
BIT NO.
P/O P1
R32
1 MΩ
R31
1 MΩ
CR7
TP3
(ORN)
TP2
(RED)
R39
39 kΩ
Q1
2N2222A



Parallel Output (642-3137-002), Schematic Diagram
Figure 4 (Sheet 5)

CONTROL / STATUS BIT WORD FORMAT								EQUIPMENT TYPE											
HF-80 8-BIT					ASCII 7-BIT			HF-80XX 2-CHANNEL RADIOS AND HF-80XX 2-CHANNEL CONTROLS				851S-1/2, HF-8095				4-CHANNEL EXCITER, AND 4-CHANNEL EXCITER CONTR			
WORD NO.	CHARACTER NO.	BIT NO.		WORD NO.	CHARACTER NO.	BIT WT.		PARALLEL OUTPUT PIN NO.	PARALLEL INPUT PIN NO.	FUNCTION		PARALLEL OUTPUT PIN NO.	PARALLEL INPUT PIN NO.	FUNCTION		PARALLEL OUTPUT PIN NO.	PARALLEL INPUT PIN NO.	FUNCTION	
1	2	8		1	6	8			103	COMMAND	(C)		103	COMMAND	(C)			NOT USED	
1	2	7		1	6	4			38	STATUS REQUEST	(S)		38	STATUS REQUEST	(S)			NOT USED	
1	2	6		1	6	2		129	129	FREQ 10 MHz	(2)	129	129	FREQ 10 MHz	(2)	129	129	FREQ 10 MHz	(
1	2	5		1	6	1		64	64	FREQ 10 MHz	(1)	64	64	FREQ 10 MHz	(1)	64	64	FREQ 10 MHz	(
1	2	4		1	7	8		128	128	FREQ 1 MHz	(8)	128	128	FREQ 1 MHz	(8)	128	128	FREQ 1 MHz	(
1	2	3		1	7	4		63	63		(4)	63	63		(4)	63	63		(
1	2	2		1	7	2		127	127		(2)	127	127		(2)	127	127		(
1	2	1		1	7	1		62	62		(1)	62	62		(1)	62	62		(
1	3	8		1	8	8		126	126	FREQ 100 kHz	(8)	126	126	FREQ 100 kHz	(8)	126	126	FREQ 100 kHz	(
1	3	7		1	8	4		61	61		(4)	61	61		(4)	61	61		(
1	3	6		1	8	2		125	125		(2)	125	125		(2)	125	125		(
1	3	5		1	8	1		60	60		(1)	60	60		(1)	60	60		(
1	3	4		1	9	8		124	124	FREQ 10 kHz	(8)	124	124	FREQ 10 kHz	(8)	124	124	FREQ 10 kHz	(
1	3	3		1	9	4		59	59		(4)	59	59		(4)	59	59		(
1	3	2		1	9	2		123	123		(2)	123	123		(2)	123	123		(
1	3	1		1	9	1		58	58		(1)	58	58		(1)	58	58		(
1	4	8		1	10	8		122	122	FREQ 1 kHz	(8)	122	122	FREQ 1 kHz	(8)	122	122	FREQ 1 kHz	(
1	4	7		1	10	4		57	57		(4)	57	57		(4)	57	57		(
1	4	6		1	10	2		121	121		(2)	121	121		(2)	121	121		(
1	4	5		1	10	1		56	56		(1)	56	56		(1)	56	56		(
1	4	4		1	11	8		120	120	FREQ 100 Hz	(8)	120	120	FREQ 100 Hz	(8)	120	120	FREQ 100 Hz	(
1	4	3		1	11	4		55	55		(4)	55	55		(4)	55	55		(
1	4	2		1	11	2		119	119		(2)	119	119		(2)	119	119		(
1	4	1		1	11	1		54	54		(1)	54	54		(1)	54	54		(
1	5	8		1	12	8		118	118	FREQ 10 Hz	(8)	118	118	FREQ 10 Hz	(8)	118	118	FREQ 10 Hz	(
1	5	7		1	12	4		53	53		(4)	53	53		(4)	53	53		(
1	5	6		1	12	2		117	117		(2)	117	117		(2)	117	117		(
1	5	5		1	12	1		52	52		(1)	52	52		(1)	52	52		(
1	5	4		1	13	8		116	116	FREQ 1 Hz	(8)	116	116	FREQ 1 Hz	(8)	116	116	FREQ 1 Hz	(
1	5	3		1	13	4		51	51		(4)	51	51		(4)	51	51		(
1	5	2		1	13	2		115	115		(2)	115	115		(2)	115	115		(
1	5	1		1	13	1		50	50		(1)	50	50		(1)	50	50		(
2	2	8		2	6	8			103	COMMAND	(C)		103	COMMAND	(C)			NOT USED	
2	2	7		2	6	4			38	STATUS REQUEST	(S)		38	STATUS REQUEST	(S)				
2	2	6		2	6	2				NOT USED				NOT USED					
2	2	5		2	6	1		76	76	RF GAIN	(16)	76	76	RF GAIN	(16)	76	76		
2	2	4		2	7	8		11	11		(8)	11	11		(8)	11	11		
2	2	3		2	7	4		75	75		(4)	75	75		(4)	75	75		
2	2	2		2	7	2		10	10		(2)	10	10		(2)	10	10		
2	2	1		2	7	1		22	87		(1)	22	87		(1)	22	87		
2	3	8		2	8	8		3		NOT USED		3		NOT USED		3	12	NOT USED	
2	3	7		2	8	4		41	41	VBFO ENBL		41	41	VBFO ENBL		41	41		
2	3	6		2	8	2		106	106	AFC ENBL		106	106	RESERVED		106	106		
2	3	5		2	8	1		37	37	AGC CROWBAR ENBL		37	37	AGC CROWBAR ENBL		37	37		
2	3	4		2	9	8		84	84	USB AGC OFF		84	84	USB AGC OFF		84	84		
2	3	3		2	9	4		85	85	USB AGC FAST		85	85	USB AGC FAST		85	85		
2	3	2		2	9	2		19	19	LSB AGC OFF		19	19	LSB AGC OFF		19	19		
2	3	1		2	9	1		20	20	LSB AGC FAST		20	20	LSB AGC FAST		20	20		
2	4	8		2	10	8		100	100	FL8 ENBL		100	100	FL8 ENBL		100	100	NOT USED	
2	4	7		2	10	4		99	99	FL7 ENBL		99	99	FL7 ENBL		99	99		
2	4	6		2	10	2		35	35	FL6 ENBL		35	35	FL6 ENBL		35	35		
2	4	5		2	10	1		34	34	FL5 ENBL		34	34	FL5 ENBL		34	34		
2	4	4		2	11	8		98	98	FL4 ENBL		98	98	FL4 ENBL		98	98		
2	4	3		2	11	4		33	33	FL3 ENBL		33	33	FL3 ENBL		33	33		
2	4	2		2	11	2		97	97	FL2 ENBL		97	97	FL2 ENBL		97	97		
2	4	1		2	11	1		32	32	FL1 ENBL		32	32	FL1 ENBL		32	32	PEAK CLIPPER ENB	
2	5	8		2	12	8		73	73	FM ENBL		73	73	FM ENBL		73	73	NOT USED	
2	5	7		2	12	4		8	8	AM ENBL		8	8	AM ENBL		8	8	AM ENBL	
2	5	6		2	12	2		72	72	SSB ENBL		72	72	SSB ENBL		72	72	CW ENBL	
2	5	5		2	12	1		9	9	CW ENBL		9	9	CW ENBL		9	9	ISB ENBL	
2	5	4		2	13	8		74	74	ISB ENBL		74	74	ISB ENBL		74	74	B2 ENBL	
2	5	3		2	13	4		6	92	RESERVED		6	92	RESERVED		6	92	B1 ENBL	
2	5	2		2	13	2		26	91	RESERVED		26	91	RESERVED		26	91	A1 ENBL	
2	5	1		2	13	1		17	21	RESERVED		17	21	RESERVED		17	21	A2 ENBL	

PIN FUNCTION (SIGNAL NAME) TABLE

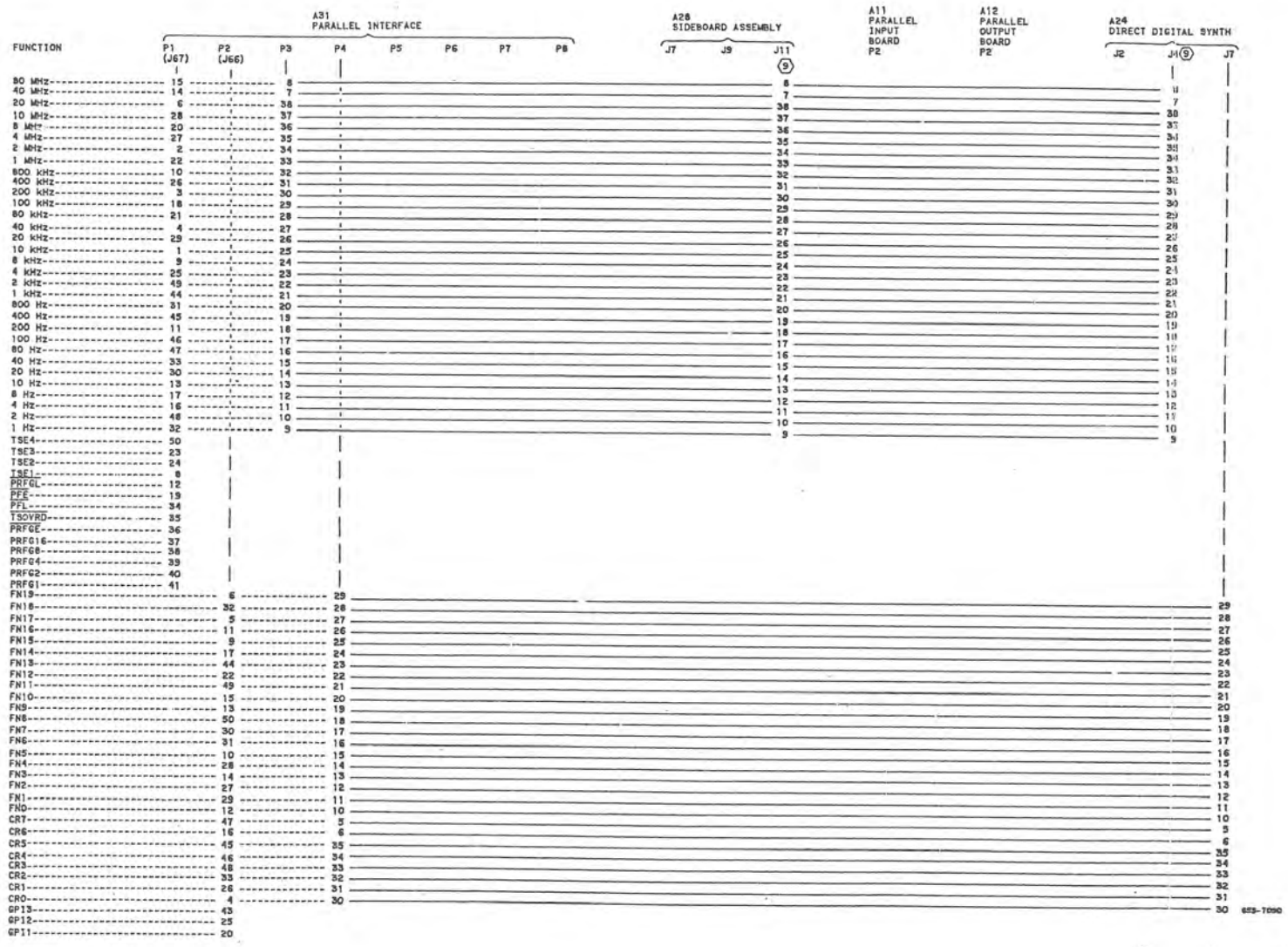
IPMENT TYPE					4-CHANNEL EXCITER, AND 4-CHANNEL EXCITER CONTROL			4-CHANNEL RECEIVER, AND 4-CHANNEL RECEIVER CONTROL			CONTROL / STATUS BIT WORD FORMAT						HF-80XX 2-CHANNEL RADIOS, AND HF-80XX 2-CHANNEL CONTROLS			EQ		
											HF-80 8-BIT			ASCII 7-BIT						851S-1/2, HF-8095		
					PARALLEL OUTPUT PIN NO.	PARALLEL INPUT PIN NO.	FUNCTION	PARALLEL OUTPUT PIN NO.	PARALLEL INPUT PIN NO.	FUNCTION	WORD NO.	CHARACTER NO.	BIT NO.	WORD NO.	CHARACTER NO.	BIT WT.	PARALLEL OUTPUT PIN NO.	PARALLEL INPUT PIN NO.	FUNCTION	PARALLEL OUTPUT PIN NO.	PARALLEL INPUT PIN NO.	FUNCTION
							NOT USED			NOT USED	3	2	8	3	6	8		103	COMMAND (C)		103	COMMAND
							NOT USED			NOT USED	3	2	7	3	6	4		38	STATUS REQUEST (S)		38	STATUS REQUES
											3	2	6	3	6	2			NOT USED			NOT USED
											3	2	5	3	6	1	107	107	VBFO SIGN	107	107	VBFO SIGN
											3	2	4	3	7	8	48	48	VBFO FREQ 1 kHz (8)	48	48	VBFO FREQ 1 k
											3	2	3	3	7	4	113	113	(4)	113	113	
											3	2	2	3	7	2	47	47	(2)	47	47	
											3	2	1	3	7	1	112	112	(1)	112	112	
											3	3	8	3	8	8	46	46	VBFO FREQ 100 Hz (8)	46	46	VBFO FREQ 100
											3	3	7	3	8	4	111	111	(4)	111	111	
											3	3	6	3	8	2	110	110	(2)	110	110	
											3	3	5	3	8	1	44	44	(1)	44	44	
											3	3	4	3	9	8	109	109	VBFO FREQ 10 Hz (8)	109	109	VBFO FREQ 10
											3	3	3	3	9	4	43	43	(4)	43	43	
											3	3	2	3	9	2	108	108	(2)	108	108	
											3	3	1	3	9	1	42	42	(1)	42	42	
											3	4	8	3	10	8	7	7	NOT USED	7	7	NOT USED
											3	4	7	3	10	4	8	8		8	8	
											3	4	6	3	10	2	10	10		10	10	
											3	4	5	3	10	1	9	9		9	9	
											3	4	4	3	11	8	3	3		3	3	
											3	4	3	3	11	4	5	5		5	5	
											3	4	2	3	11	2	6	6		6	6	
											3	4	1	3	11	1	4	4		4	4	
											3	5	8	3	12	8			NOT USED			NOT USED
											3	5	7	3	12	4						
											3	5	6	3	12	2						
											3	5	5	3	12	1	18	81		18	81	
											3	5	4	3	13	8	82	82	PILOT CARRIER ENBL	82	82	VBFO TUNE
											3	5	3	3	13	4	78	78	PA L PWR ENBL	78	78	VBFO PARALLEL
											3	5	2	3	13	2	14	14	PA HV ENBL	14	14	FINE TUNE
											3	5	1	3	13	1	79	79	PA LV ENBL	79	79	RESERVED
											4	2	8	4	6	8		103	COMMAND (C)		103	COMMAND
											4	2	7	4	6	4		38	STATUS REQUEST (S)		38	STATUS REQUES
											4	2	6	4	6	2			NOT USED	27	105	UP/DOWN
											4	2	5	4	6	1	92 (68)	68	REMOTE KEY (MON)	92	68	TUNE RATE
											4	2	4	4	7	8			NOT USED	28	4	
											4	2	3	4	7	4				29	39	
											4	2	2	4	7	2				95	5	
											4	2	1	4	7	1				30	70	
											4	3	8	4	8	8	(2)	2	AFC LOCK	(2)	2	NOT USED
											4	3	7	4	8	4	(40)	40	EXCTR RF MON	(40)	40	NOT USED
											4	3	6	4	8	2		105	CHAN A XMT AF MON		105	NOT USED
											4	3	5	4	8	1		36	CHAN A RCV AF MON		36	CHAN A AF MO
											4	3	4	4	9	8		83	CHAN A AGC MON		83	CHAN A AGC M
											4	3	3	4	9	4		39	CHAN B XMT MON		39	NOT USED
											4	3	2	4	9	2		101	CHAN B RCV MON		101	CHAN B AF MO
											4	3	1	4	9	1		18	CHAN B AGC MON		18	CHAN B AGC M
											4	4	8	4	10	8	(69)	69	PA RDY	(69)	69	NOT USED
											4	4	7	4	10	4	(77)	4	PA FLT	(77)	4	
											4	4	6	4	10	2	(5)	5	PA RF MON	(5)	5	
											4	4	5	4	10	1	(13)	70	CPLR FLT	(13)	70	
											4	4	4	4	11	8	(67)	67	RF OVLD FLT	(67)	67	RF OVLD FLT
											4	4	3	4	11	4		49	SYNTH FLT		49	SYNTH
											4	4	2	4	11	2		86	PS FLT		86	PS FLT
											4	4	1	4	11	1	(12)	3	RCVR/EXCTR FLT	(12)	3	RCVR FLT
											4	5	8	4	12	8	(70)		NOT USED	(70)		NOT USED
											4	5	7	4	12	4	(104)		NOT USED	(104)		NOT USED
											4	5	6	4	12	2	(27)	7	VBFO SYNTH FLT	(27)	7	VBFO SYNTH FL
											4	5	5	4	12	1	(92)		NOT USED	(92)		NOT USED
											4	5	4	4	13	8	(28)	71	PRESEL FLT	(28)	71	PRESEL FLT
											4	5	3	4	13	4	(29)	95	DATA ERROR	(29)	95	DATA ERROR
											4	5	2	4	13	2	(95)	16	LOCAL CONTROL	(95)	16	LOCAL CONTROL
											4	5	1	4	13	1	(30	80	MONITOR	(30	80	MONITOR
		(C)					NOT USED			NOT USED												
		(S)								NOT USED												
		(16)	76	76				76	76	RF GAIN (16)												
		(8)	11	11				11	11	(8)												
		(4)	75	75				75	75	(4)												
		(2)	10	10				10	10	(2)												
		(1)	22	87				22	87	(1)												
			3	12			NOT USED	3	12	FL7 (E) ENBL												
			41	41				41	41	FL6 (D) ENBL												
			106	106				106	106	FL5 (C) ENBL												
			37	37				37	37	FL4 (B) ENBL												
			84	84				84	84	B2 AGC (2)												
			85	85				85	85	B2 AGC (1)												
			19	19				19	19	A2 AGC (2)												
			20	20				20	20	A2 AGC (1)												
			100	100			NOT USED	100	100	FL3 (A) ENBL												
			99	99				99	99	FL1 (16 kHz) ENBL												
			35	35				35	35	VBFO ENBL												
			34	34				34	34	AFC ENBL												
			98	98				98	98	B1 AGC (2)												
			33	33				33	33	B1 AGC (1)												
			97	97				97	97	A1 AGC (2)												
			32	32			PEAK CLIPPER ENBL	32	32	A1 AGC (1)												
			73	73			NOT USED	73	73	DATA NET ENBL												
			8	8			AM ENBL	8	8	AM ENBL												
			72	72			CW ENBL	72	72	CW ENBL												
			9	9			ISB ENBL	9	9	ISB ENBL												
			74	74			B2 ENBL	74	74	B2 ENBL												
			6	92			B1 ENBL	6	92	B1 ENBL												
			26	91			A1 ENBL	26	91	A1 ENBL												
			17	21			A2 ENBL	17	21	A2 ENBL												

EQUIPMENT TYPE

XX 2-CHANNEL RADIOS. AND XX 2-CHANNEL CONTROLS			B5IS-1/2, HF-8095			4-CHANNEL EXCITER, AND 4-CHANNEL EXCITER, CONTROL			4-CHANNEL RECEIVER, AND 4-CHANNEL RECEIVER CONTROL		
PARALLEL INPUT PIN NO.	FUNCTION		PARALLEL OUTPUT PIN NO.	PARALLEL INPUT PIN NO.	FUNCTION	PARALLEL OUTPUT PIN NO.	PARALLEL INPUT PIN NO.	FUNCTION	PARALLEL OUTPUT PIN NO.	PARALLEL INPUT PIN NO.	FUNCTION
03	COMMAND	(C)		103	COMMAND (C)			NOT USED			NOT USED
38	STATUS REQUEST	(S)		38	STATUS REQUEST (S)						NOT USED
	NOT USED				NOT USED						NOT USED
107	VBFO SIGN		107	107	VBFO SIGN	107	107		107	107	VBFO SIGN
48	VBFO FREQ 1 kHz	(8)	48	48	VBFO FREQ 1 kHz (8)	48	48		48	48	VBFO FREQ 1 kHz (8)
113		(4)	113	113	(4)	113	113		113	113	(4)
47		(2)	47	47	(2)	47	47		47	47	(2)
112		(1)	112	112	(1)	112	112		112	112	(1)
46	VBFO FREQ 100 Hz	(8)	46	46	VBFO FREQ 100 Hz (8)			NOT USED	46	46	VBFO FREQ 100 Hz (8)
111		(4)	111	111	(4)				111	111	(4)
110		(2)	110	110	(2)				110	110	(2)
44		(1)	44	44	(1)				44	44	(1)
109	VBFO FREQ 10 Hz	(8)	109	109	VBFO FREQ 10 Hz (8)				109	109	VBFO FREQ 10 Hz (8)
43		(4)	43	43	(4)				43	43	(4)
108		(2)	108	108	(2)				108	108	(2)
42		(1)	42	42	(1)				42	42	(1)
7	NOT USED		7	7	NOT USED	7	7	GPI-1 (11)	7	7	GPI-1 (11)
8			8	8		8	8	GPI-2	8	8	GPI-2
10			10	10		10	10	GPI-3	10	10	GPI-3
9			9	9		9	9	GPO-1	9	9	GPO-1
3			3	3		3	3	GPO-2	3	3	GPO-2
5			5	5		5	5	SER TS OVRD	5	5	SER TS OVRD
6			6	6		6	6	PAR BCD ENBL	6	6	SER BCD ENBL
4			4	4		4	4	PAR RF GAIN ENBL	4	4	SER RF GAIN ENBL
	NOT USED				NOT USED			NOT USED			NOT USED
81			18	81		18	81		18	81	
82	PILOT CARRIER ENBL		82	82	VBFO TUNE	82	82	PILOT CARRIER ENBL	82	82	B2 AGC BUS
78	PA L PWR ENBL		78	78	VBFO PARALLEL ENBL	78	78	PA LO PWR ENBL	78	78	B1 AGC BUS
14	PA HV ENBL		14	14	FINE TUNE	14	14	PA HV ENBL	14	14	AI AGC BUS
79	PA LV ENBL		79	79	RESERVED	79	79	PA LV ENBL	79	79	A2 AGC BUS
03	COMMAND	(C)		103	COMMAND (C)			$\overline{C}$			$\overline{C}$
38	STATUS REQUEST	(S)		38	STATUS REQUEST (S)			$\overline{S}$			$\overline{S}$
	NOT USED		27	105	UP/DOWN	(12)	13	EXCTR FLT	(12)	13	RCV FLT
68	REMOTE KEY (MON)		92	68	TUNE RATE (16)	92 (68)	68	SYSTEM KEY	92 (68)	68	RF OVLD FLT
	NOT USED		28	4	(8)		88	B2 AF MON		88	B2 AF MON
			29	39	(4)		23	B1 AF MON		23	B1 AF MON
			95	5	(2)		22	AI AF MON		22	AI AF MON
			30	70	(1)		24	A2 AF MON		24	A2 AF MON
2	AFC LOCK		(2)	2	NOT USED	(2)	2	NOT USED	(2)	2	NOT USED
0	EXCTR RF MON		(40)	40	NOT USED	(40)	40	NOT USED	(40)	40	NOT USED
5	CHAN A XMT AF MON			105	NOT USED		105	NOT USED		105	NOT USED
6	CHAN A RCV AF MON			36	CHAN A AF MON		36	NOT USED		36	NOT USED
3	CHAN A AGC MON			83	CHAN A AGC MON		83	NOT USED		83	NOT USED
9	CHAN B XMT MON			39	NOT USED		39	CONT INTFC FLT (DDS)		39	CONT INTFC FLT (DDS)
1	CHAN B RCV MON			101	CHAN B AF MON		101	VFO FAULT (DDS)		101	VFO FAULT (DDS)
8	CHAN B AGC MON			18	CHAN B AGC MON		18	RF FAULT (DDS)		18	RF FAULT (DDS)
9	PA RDY		(69)	69	NOT USED	(69)	69	NOT USED	(69)	69	NOT USED
4	PA FLT		(77)	4		(77)	4	SUBCARRIER LOCK FLT	(77)	4	SUBCARRIER LOCK FLT
5	PA RF MON		(5)	5		(5)	5	EXCTR RF MON	(5)	5	VBFO SYNTH FLT
0	CPLR FLT		(13)	70		(13)	70	EXCTR PS FLT	(13)	70	RCVR PS FLT
7	RF OVLD FLT		(67)	67	RF OVLD FLT	(67)	67	NOT USED	(67)	67	B2 AGC MON
9	SYNTH FLT			49	SYNTH		49	EXT STANDARD		49	B1 AGC MON
6	PS FLT			86	PS FLT		86	A1 IF MON		86	A1 AGC MON
3	RCVR/EXCTR FLT		(12)	3	RCVR FLT	(105)	3	NOT USED	(105)	3	A2 AGC MON
	NOT USED		(70)		NOT USED	(70)	77	PA READY	(70)	77	NOT USED
	NOT USED		(104)		NOT USED	(104)	102	PA FLT	(104)	102	EXT STANDARD
7	VBFO SYNTH FLT		(27)	7	VBFO SYNTH FLT	(27)	7	PA RF MON	(27)	7	AFC LOCK MON
	NOT USED		(92)		NOT USED	(92)	89	CPLR FLT	(92)	89	RF PERF MON
1	PRESEL FLT		(28)	71	PRESEL FLT	(28)	71	PRESEL FLT	(28)	71	PRESEL FLT
5	DATA ERROR		(29)	95	DATA ERROR	(29)	95	DATA ERROR	(29)	95	DATA ERROR
6	LOCAL CONTROL		(95)	16	LOCAL CONTROL	(95)	16	LOCAL CONTROL	(95)	16	LOCAL CONTROL
0	MONITOR		(30)	80	MONITOR	(30)	80	MONITOR	(30)	80	MONITOR

TPA-8092-015

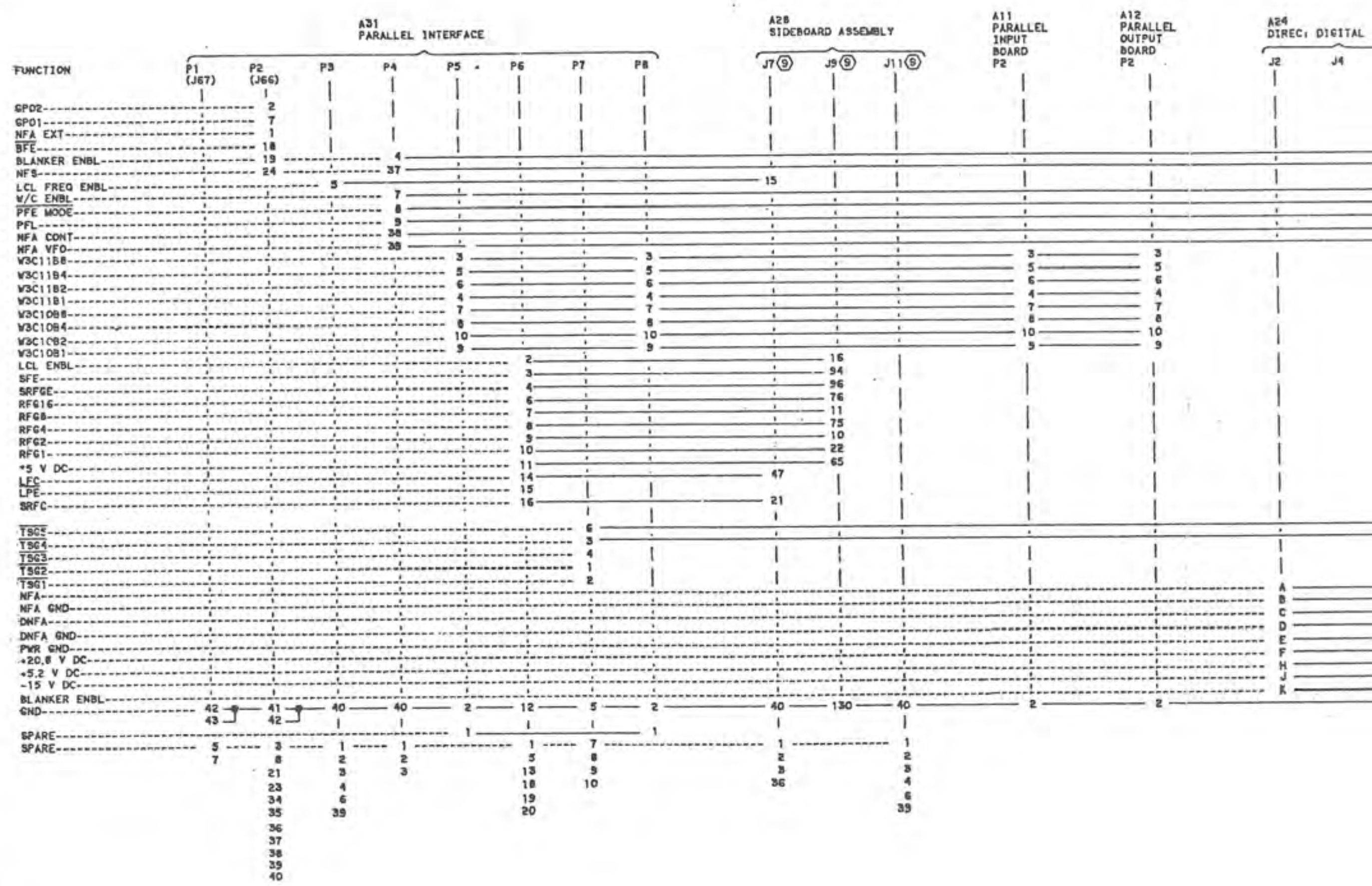
Parallel Output (642-3137-002), Schematic Diagram
Figure 4 (Sheet 6)



MATERIAL			NONE
FINISH			NONE
25½ x 17	120		50
IMAGE AREA W X H	LTR SIZE	PAGE INCR	PCT
PUBN NO. FOR COLLINS DIVISIONS			

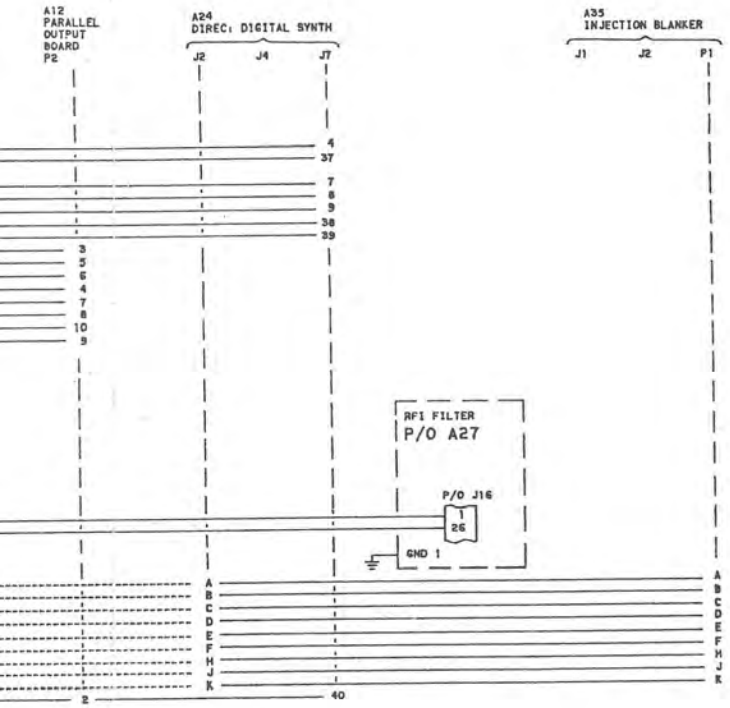
11⅜ x 8½

NOTES:



28¼ x 1
IMAGE AR
W X H
PUBN NO.
FOR

REVISIONS			
LTR	DESCRIPTION	DATE	APVD
	SEE SHEET 1		



659-7090

-001

28½ x 13½	120		50
IMAGE AREA W X H	LTR SIZE	PAGE INCR	PCT
PUBN NO.			
FOR COLLINS DIVISIONS			

14¼ x 6¾

MATERIAL: NONE

FINISH: NONE

UNLESS OTHERWISE SPECIFIED : DUAL DIMENSIONED DWGS ARE IN MILLIMETRES (INCHES). SINGLE DIMENSIONED DWGS ARE IN INCHES.

METRIC

TOL ON METRIC DIMS .X±0.5, .XX±0.2

HOLE DIAMETERS
UNDER 6.35Ø+0.13-0.13
6.35 TO 12.7Ø+0.15-0.13
OVER 12.7Ø+0.20-0.13

ANGLES: ±1.0°

CONCENTRICITY BETWEEN DIA ON A COMMON AXIS TO BE WITHIN 0.25 Ø.

PART SHALL COMPLY TO 580-5400-001--THIRD ANGLE PROJECTION

US CUSTOMARY[ ]

TOL ON [ ] DIMS .XX±.02, .XX3±.008

HOLE DIAMETERS:
UNDER .25Ø+.005-.005
.25[TO .500Ø+.006-.005
OVER .500Ø+.008-.005

ANGLES: ±1°

CONCENTRICITY BETWEEN DIA ON A COMMON AXIS TO BE WITHIN .010 Ø.

CONTRACT NO.	
PREP	A. SIPPY 84/6/29
CHK	J. WITMER 84/6/29
APVD	C. ERRINGTON

ROCKWELL INTERNATIONAL CORPORATION
COLLINS GROUPS
DALLAS, TEX 75207 NEWPORT BEACH, CALIF 92663 CEDAR RAPIDS, IA 52404

INTERCONNECT DIAGRAM-
CHASSIS, HF-8041/
HF-8054A, 622-3475-210

METRIC

SIZE	FSCM	DWG NO.	REV LTR
E	13499	659-7090	B

SCALE NONE SHEET 9

659-7090 B1

NOTES:

RECEIVER CABLE/ASSEMBLY CONFIGURATIONS

CABLE/ASSEMBLY	PART NUMBER	HF-8054 RECEIVER					HF-8054A RECEIVER								FUNCTION
		-001					-001	-002	-003	-004	-005	-006	-007	-210	
SIDEBOARD ASSEMBLY A28	634-8224-001	X					X	X		X	X	X			STANDARD SIDEBOARD ASSEMBLY
	634-8224-002								X				X		INCLUDES WIRING FOR YBFO AND AFC
SIDEBOARD	638-6627-001	X					X	X	X	X	X	X	X	X	MAIN SIDEBOARD
CABLE ASSEMBLY	634-8210-001	X					X	X	X	X	X	X	X	X	INCLUDES A28J11, A28P2, AND A28P11
CABLE ASSEMBLY	634-8228-001	X					X	X	X	X	X	X	X	X	INCLUDES A28J19, A28J12, A28P3, A28P4, AND A28P5
CABLE ASSEMBLY W1	634-8226-001	X					X	X	X	X	X	X	X	X	INCLUDES TB1 AND ASSOCIATED WIRING
CABLE ASSEMBLY W2	634-8227-001	X					X	X	X	X	X	X	X	X	INCLUDES TB2 AND ASSOCIATED WIRING
CABLE ASSEMBLY W3	634-8225-001	X					X	X	X	X	X	X	X	X	INCLUDES J47, TB3, AND AUDIO CONNECTIONS (SPEAKER CABLE)
RFI FILTER A27	637-2712-003	X					X	X	X	X	X	X	X	X	RFI FILTER, INCLUDES J15 AND J16
SPECIAL PURPOSE CABLE	637-9313-001	X					X	X	X	X	X	X	X	X	INCLUDES A27J46 AND A27P7
OVEN STANDARD, OSC ASSY A29	637-9135-001							X	X	X	X	X	X	X	
FREQ STANDARD SWITCH A30	646-6558-001							X	X	X	X	X	X	X	
FREQ DISPLAY CABLE A2W1	634-8289-001							X	X	X	X	X	X	X	(P/O AC-8014) INCLUDES A2W1P8 AND A2W1P2A
SYNTHESIZER CHASSIS ASSY A24	634-8201-001	X					X	X	X	X	X	X	X		
SYNTHESIZER SIDEBOARD A24A1	638-6973-001	X					X	X	X	X	X	X	X		
SYNTHESIZER A24	652-6615-001													X	
SIDEBOARD A28	634-8224-003													X	

RF CABLES

RF CABLE ASSY	637-1525-002	X					X	X	X	X	X	X	X	X			INTERCONNECTS J40 AND J22 (RCV ANT)
RF CABLE ASSY	637-1525-005	X					X	X	X	X	X	X	X	X			INTERCONNECTS J38 AND J23 (CH B2 IF OUT)
RF CABLE ASSY	637-1525-003	X					X	X	X	X	X	X	X	X			INTERCONNECTS J37 AND J24 (CH A2 IF OUT)
RF CABLE ASSY	637-1525-003	X					X	X	X	X	X	X	X	X			INTERCONNECTS J36 AND J25 (CH B1 IF OUT)
RF CABLE ASSY	637-1525-003	X					X	X	X	X	X	X	X	X			INTERCONNECTS J35 AND J26 (CH A1 IF OUT)
RF CABLE ASSY	637-1526-002	X					X	X	X	X	X	X	X	X			INTERCONNECTS J41 AND J42 (9.45 MHz IF)
RF CABLE ASSY	637-1526-003								X				X	X			INTERCONNECTS J34 AND J39 (450 kHz IF FROM YBFO)
RF CABLE ASSY	637-1526-003								X								INTERCONNECTS J32 AND J38 (9.9 MHz IF FROM AFC)
RF CABLE ASSY	637-1526-005	X					X	X	X	X	X	X	X	X			INTERCONNECTS J29 AND J43 (118.8 MHz INJ)
RF CABLE ASSY	637-1526-003	X					X	X	X	X	X	X	X	X			INTERCONNECTS J28 AND J45 (VAR INJ)
RF CABLE ASSY	637-1526-006	X					X	X		X	X	X	X	X			INTERCONNECTS J32 AND J44 (9.9 MHz INJ)
									X								INTERCONNECTS J44 AND J57 (9.9 MHz INJ TO AFC)
RF CABLE ASSY	637-1529-001	X					X	X		X	X	X		X			INTERCONNECTS A24E1 AND J34 (450 kHz INJ)
									X				X				INTERCONNECTS A24E1 AND J60 (450 kHz INJ TO YBFO)
RF CABLE ASSY	637-1529-001	X					X	X	X	X	X	X	X	X			INTERCONNECTS A24E1 AND J39 (450 kHz INJ)
RF CABLE ASSY	637-1529-001	X					X	X	X	X	X	X	X	X			INTERCONNECTS A24E7 AND J54 (456.25 kHz INJ)
RF CABLE ASSY	637-1529-001	X					X	X	X	X	X	X	X	X			INTERCONNECTS A24E5 AND J55 (443.71 kHz INJ)
RF CABLE ASSY	642-2454-001	X					X	X		X	X	X	X	X			INTERCONNECTS J50, J51, J52, AND J53 (450 kHz IF)
	646-6534-001								A								INTERCONNECTS J50, J51, J52, J53, AND J56 (450 kHz IF FOR AFC)
RF CABLE ASSY	637-9136-001																(P/O AC-8013) INTERCONNECTS A24E3 AND J27 (EXT STD)
RF CABLE ASSY	P/O A29							X	X	X	X	X	X	X			(P/O AC-8012) INTERCONNECTS A24E3 AND A29W1P1 (1 MHz STD)
RF CABLE ASSY	P/O A30							X	X	X	X	X	A	X			(P/O AC-8015) INTERCONNECTS A30P1 AND A29J1 (1 MHz STD)
RF CABLE ASSY	P/O A30							X	X	X	X	X	X	X			(P/O AC-8015) INTERCONNECTS A30J1 AND A29W1P1 (100 kHz REF)
RF CABLE ASSY	P/O A30							X	X	X	X	X	X	X			(P/O AC-8015) INTERCONNECTS A30J2 AND J27 (EXT STD)
RF CABLE ASSY	P/O A30							X	X	X	X	X	X	X			(P/O AC-8015) INTERCONNECTS A30J3 AND J65 (100 kHz REF OUT)

NOTES:

① RE
IN
CA

② UN
AN

③ PA
PR

④ J1
A5

⑤ A2
MA

⑥ A2
OR
SH

A27P7

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34

⑦ J1

⑧ RE

⑨ PIN

31 x 145
IMAGE AREA
W X H

PUBN NO.

FOR C

REVISIONS			
LTR	DESCRIPTION	DATE	APVD
	SEE SHEET 1		

NCTION
D AFC
A28P11
P3, A28P4, AND A28P5
WIRING
WIRING
CONNECTIONS (SPEAKER CABLE)
D J16
8 AND A2W1P2A

RCV ANT)
CH B2 IF OUT)
CH A2 IF OUT)
CH B1 IF OUT)
CH A1 IF OUT)
9.45 MHz IF)
450 kHz IF FROM VBFO)
9.9 MHz IF FROM AFC)
18.8 MHz INJ)
VAR INJ)
9.9 MHz INJ)
9.9 MHz INJ TO AFC)
(450 kHz INJ)
(450 kHz INJ TO VBFO)
(450 kHz INJ)
(456.25 kHz INJ)
(443.71 kHz INJ)
ND J53 (450 kHz IF)
53, AND J56 (450 kHz IF FOR AFC)
A24E3 AND J27 (EXT STD)
A24E3 AND A29W1P1 (1 MHz STD)
A30P1 AND A25J1 (1 MHz STD)
A30J1 AND A29W1P1 (100 kHz REF)
A30J2 AND J27 (EXT STD)
A30J3 AND J65 (100 kHz REF OUT)

NOTES:

1. REFER TO CONFIGURATION TABLE FOR CABLES/ASSEMBLIES USED IN EACH RECEIVER. INCLUDED IN THIS TABLE ARE ONLY THE CABLES/ASSEMBLIES SHOWN ON THIS SCHEMATIC.
2. UNLESS OTHERWISE SPECIFIED, CAPACITANCE VALUES ARE 0.01 MICROFARADS AND INDUCTANCE VALUES ARE 100 MICROHENRYS.
3. PARTIAL REFERENCE DESIGNATIONS ARE SHOWN; FOR COMPLETE DESIGNATION, PREFIX WITH UNIT AND/OR ASSEMBLY DESIGNATION.
4. J11, J12, J17, J18 AND J19 ARE SOLDERED INTO AND ARE PART OF SIDEBOARD ASSEMBLY A28 (THERE IS NO MATING CONNECTOR FOR J11, J12, J17, J18, AND J19).
5. A27J46 IS SOLDERED INTO AND IS PART OF RF1 FILTER A27 (THERE IS NO MATING CONNECTOR FOR A27J46).
6. A27P7 MATES WITH PINS ON ONE SIDE OF J7, A10P1 MATES WITH SOCKET ON OTHER SIDE OF J7 (OPPOSITE SIDES OF SIDEBOARD; PIN NUMBERING SHOWN BELOW).

A27P7	P/O J7	P/O A10P1
1	28	28
2	93	93
3	29	29
4	94	94
5	30	30
6	95	95
7	31	31
8	96	96
9	32	32
10	97	97
11	33	33
12	98	98
13	34	34
14	99	99
15	35	35
16	100	100
17	36	36
18	101	101
19	37	37
20	102	102
21	38	38
22	103	103
23	39	39
24	104	104
25	40	40
26	105	105
27	41	41
28	106	106
29	42	42
30	107	107
31	43	43
32	108	108
33	44	44
34	109	109

7. J14 HARDWIRED TO AND IS PART OF SIDEBOARD ASSEMBLY A28.
8. REFERENCE DESIGNATOR IN PARENTHESIS INDICATES MATING CONNECTOR.
9. PINS DUPLICATED FOR CLARITY.

659-7090

-001

31 x 14½	120		50
IMAGE AREA W x H	LTR SIZE	PAGE INCR	PCT
PUBN NO. FOR COLLINS DIVISIONS			

15½ x 7¼

MATERIAL: NONE

FINISH: NONE

UNLESS OTHERWISE SPECIFIED, DUAL DIMENSIONED DWGS ARE IN MILLIMETRES (INCHES). SINGLE DIMENSIONED DWGS ARE IN INCHES.

METRIC

TOL ON METRIC DIM .X±0.5 .XX±0.2
HOLE DIAMETERS
UNDER 6.35Ø+0.13-0.13
6.35 TO 12.70+0.15-0.13
OVER 12.70+0.20-0.13
ANGLES: ±1.0°
CONCENTRICITY BETWEEN DIA ON A COMMON AXIS TO BE WITHIN 0.25 Ø.

US CUSTOMARY[ ]

TOL ON [ ] DIM .XX±.02 .XXX±.008
HOLE DIAMETERS:
UNDER .250+.005-.005
251 TO .500+.006-.035
OVER .500+.008-.005
ANGLES: ±1.0°
CONCENTRICITY BETWEEN DIA ON A COMMON AXIS TO BE WITHIN .010 Ø.

CONTRACT NO.

PREP	A. SIPPY	84/8/21
CHK	J. WITMER	84/8/21
APVD	C. ERRINGTON	

ROCKWELL INTERNATIONAL CORPORATION
COLLINS GROUPS
DALLAS TEX 75207 NEWPORT BEACH,CALIF 92663 CEDAR RAPIDS,IA 52405

INTERCONNECT DIAGRAM-
CHASSIS, HF-8054/HF-8054A
(622-3475-210)

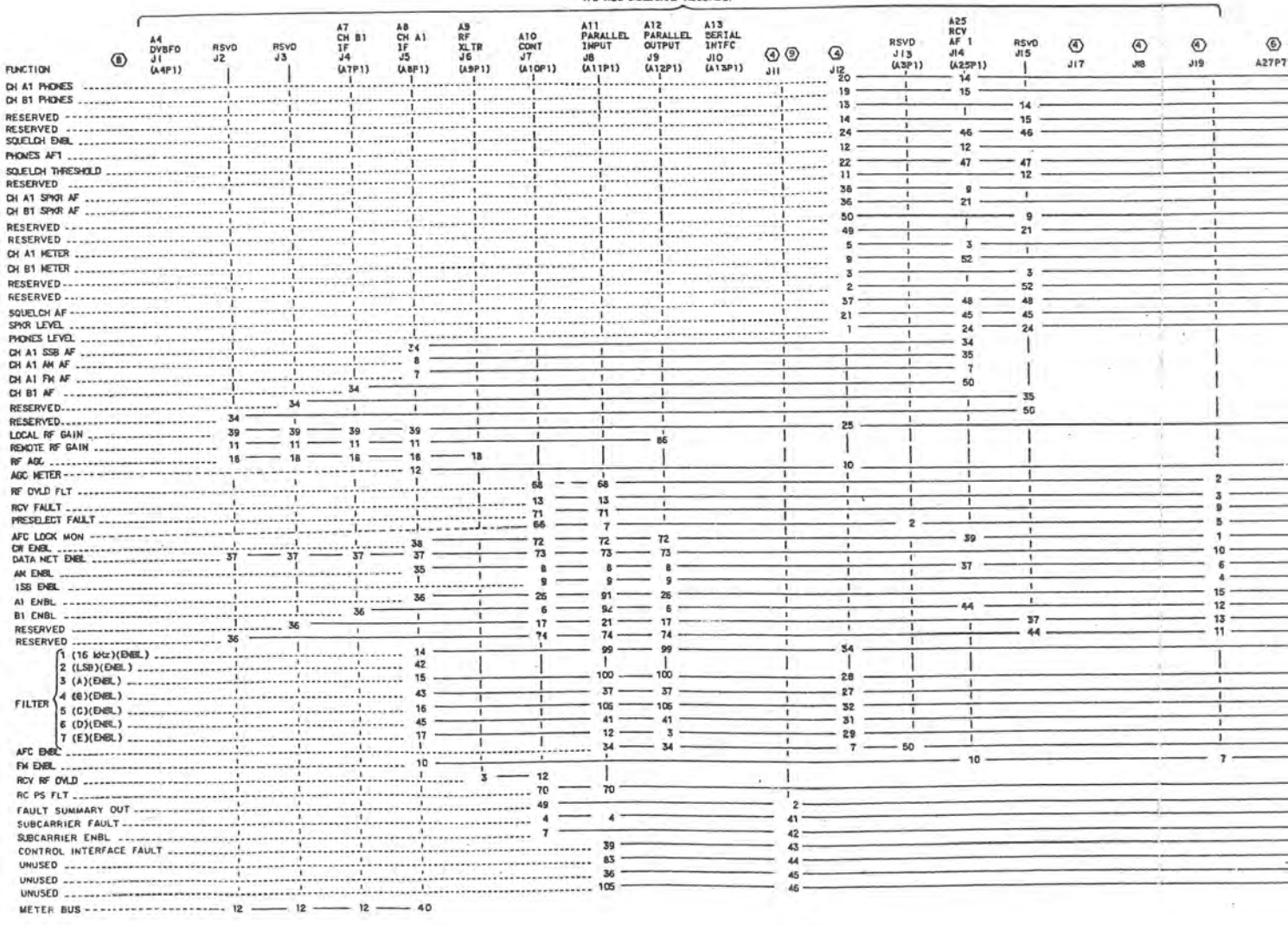
METRIC

SIZE	FSCM	DWG NO.	REV LTR
E	13499	659-7090	8

SCALE NONE SHEET 10

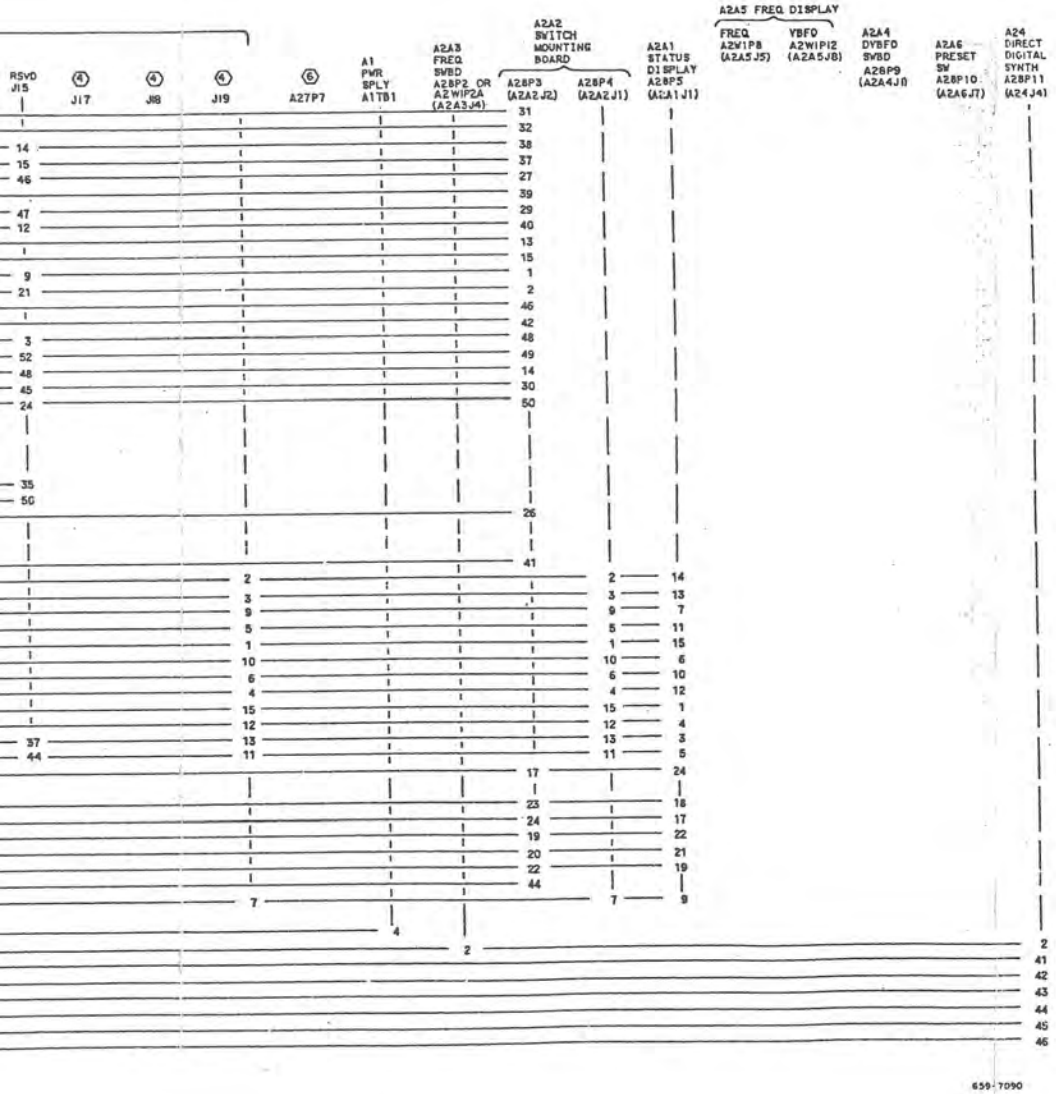
659-7090 10

NOTES:



REV STATUS OF SHEETS	REV		
	SHEET	1	2

REVISIONS			
LTR	DESCRIPTION	DATE	APVD
A	D20708-(CODE 16) REV SH 1,2,9.	84-12-3	CT
B	D21799-(CODE 16) REV SH 1 THRU 10.	85-2-28	CT



-001

REV STATUS OF SHEETS	REV	B	B	B	B	B	B	B	B	B	B
	SHEET	1	2	3	4	5	6	7	8	9	10

17¼ x 8¾

35 x 17	120		50
IMAGE AREA W X H	LTR SIZE	PAGE INCR	PCT

PUBN NO.

FOR COLLINS DIVISIONS

MATERIAL: NONE

FINISH: NONE

UNLESS OTHERWISE SPECIFIED, DUAL DIMENSIONED DWGS ARE IN MILLIMETRES (INCHES). SINGLE DIMENSIONED DWGS ARE IN INCHES.

METRIC

TOL ON METRIC DIM .X=±0.5, .XX=±0.2
HOLE DIAMETERS
UNDER 6.38=+0.13-0.13
6.38 TO 12.78=+0.15-0.13
OVER 12.78=+0.20-0.13
ANGLES: ±1.0°
CONCENTRICITY BETWEEN DIA ON A COMMON AXIS TO BE WITHIN 0.25 Ø.

US CUSTOMARY[ ]

TOL ON [ ] DIM .XX=±.02, .XXX=±.008
HOLE DIAMETERS:
UNDER .256=+.005-.005
.251 TO .500=+.006-.006
OVER .500=+.008-.005
ANGLES: ±1.0°
CONCENTRICITY BETWEEN DIA ON A COMMON AXIS TO BE WITHIN .010 Ø.

PART SHALL COMPLY TO 580-5400-001--THIRD ANGLE PROJECTION

CONTRACT NO.

PREP A. SIPPY 84/8/21

CHK J. WITMER 84/8/21

APVD C. ERRINGTON

ROCKWELL INTERNATIONAL CORPORATION
COLLINS GROUPS
DALLAS, TEX 75207 NEWPORT BEACH, CALIF 92663 CEDAR RAPIDS, IA 52406

INTERCONNECT DIAGRAM-CHASSIS, HF-8054/HF-8054A (622-3475-2101)

METRIC

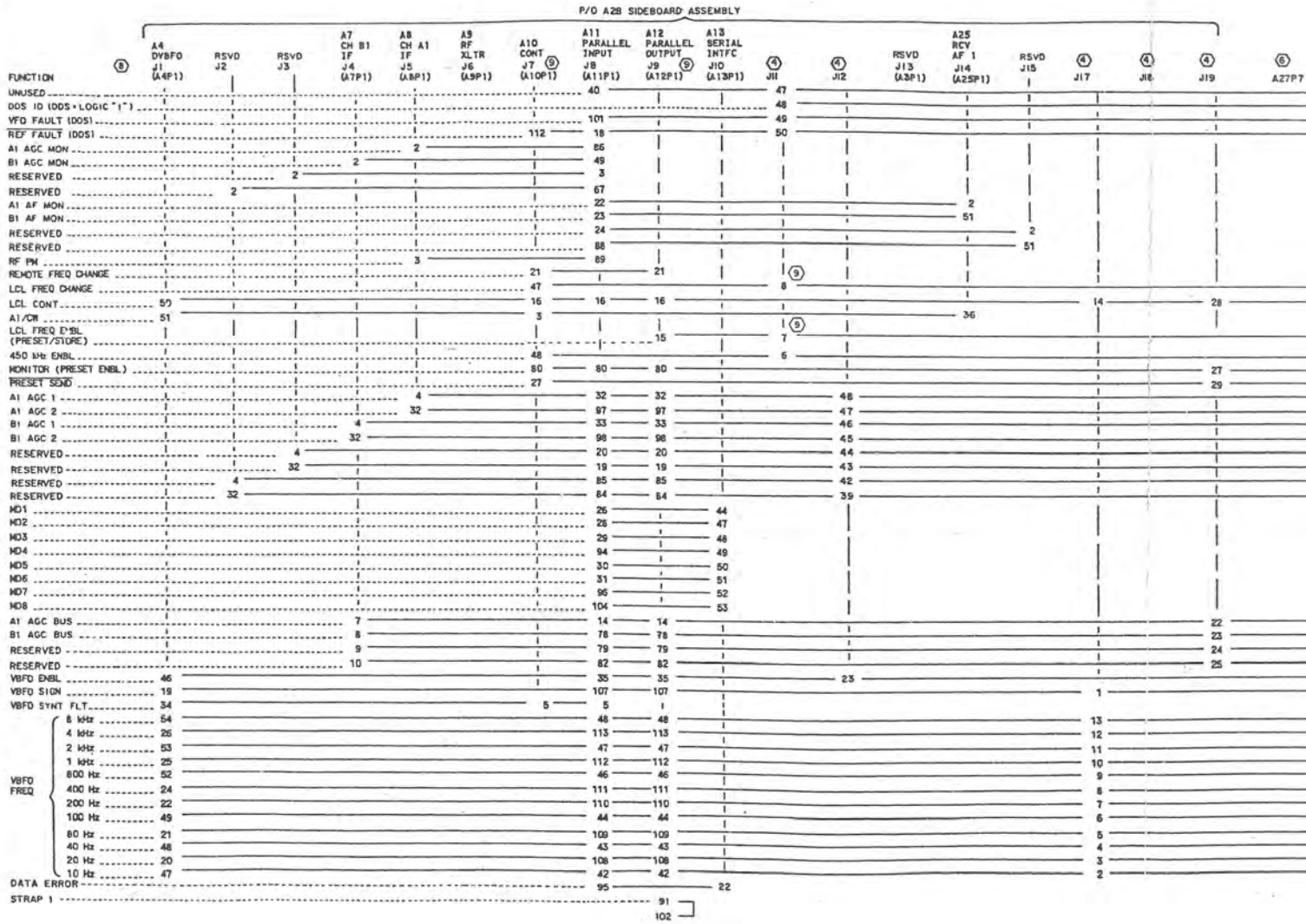
SIZE	FSCM	DWG NO.	REV LTR
E	13499	659-7090	B

SCALE NONE

SHEET 1 OF 10

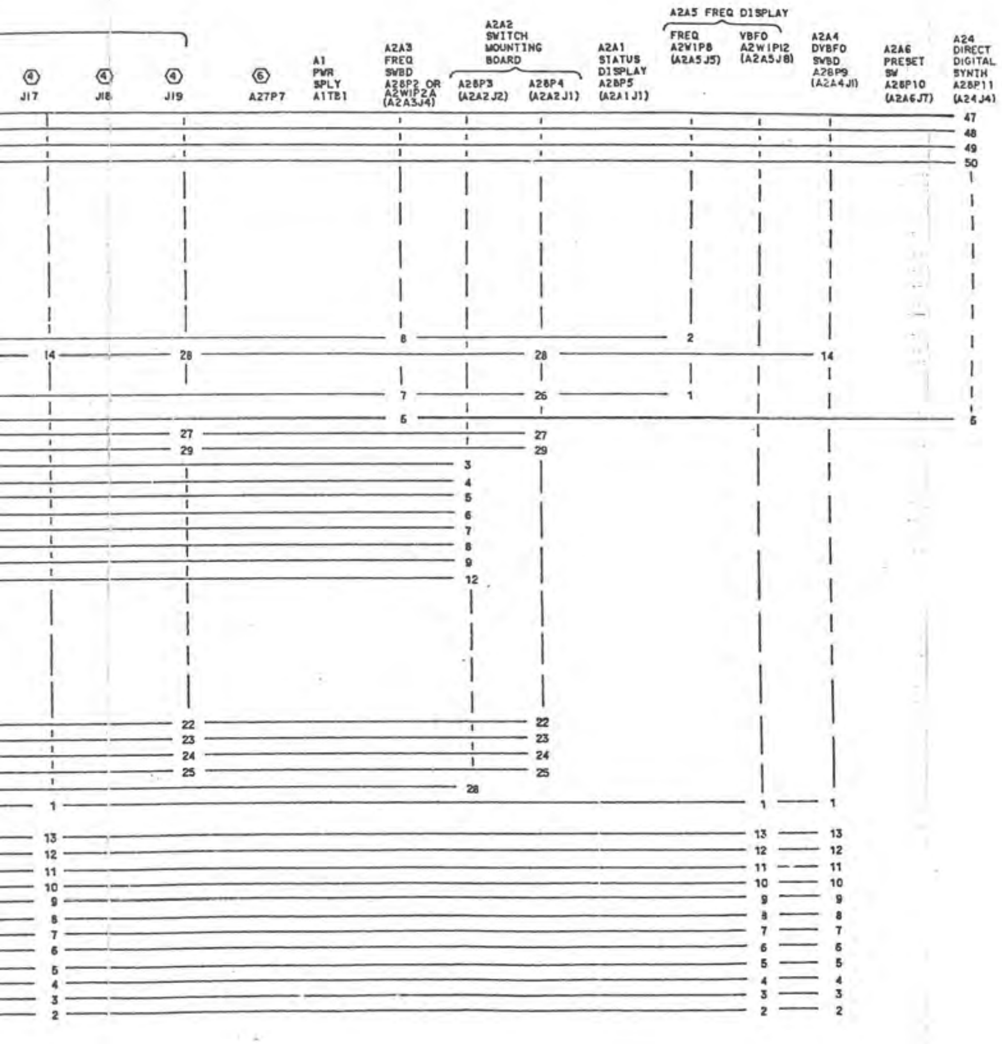
659-7090

NOTES:



55 x
IMAGE AR W X H
PUBN NO.
FOR INTERNAL

REVISIONS		
LTR	DESCRIPTION	DATE	APVD
	SEE SHEET 1		



-001

35 x 16¾	120		50
IMAGE AREA W X H	LTR SIZE	PAGE INCR	PCT

17½ x 8⅜

PUBN NO.

FOR COLLINS DIVISIONS INTERNAL PUBLICATIONS USE ONLY

MATERIAL NONE

FINISH NONE

UNLESS OTHERWISE SPECIFIED, DUAL DIMENSIONED DWGS ARE IN MILLIMETRES [INCHES]. SINGLE DIMENSIONED DWGS ARE IN INCHES.

METRIC	US CUSTOMARY[ ]
TOL ON METRIC DIM .X=±0.5, .XX=±0.2	TOL ON [ ] DIM .XX=±.02, .XXX=±.008
HOLE DIAMETERS UNDER 6.38Ø=+0.13-0.13; 6.38 TO 12.78=+0.15-0.13; OVER 12.78=+0.20-0.13	HOLE DIAMETERS: UNDER .250Ø=+.005-.005; .251 TO .500Ø=+.006-.005; OVER .500Ø=+.008-.005
ANGLES: ±1.0°	ANGLES: ±1.0°
CONCENTRICITY BETWEEN DIA ON A COMMON AXIS TO BE WITHIN 0.25 Ø.	CONCENTRICITY BETWEEN DIA ON A COMMON AXIS TO BE WITHIN .010 Ø.

PART SHALL COMPLY TO 580-5400-001--THIRD ANGLE PROJECTION

CONTRACT NO.

PREP A. SIPPY 84/8/21

CHK J. WITMER 84/8/21

APVD C. ERRINGTON

ROCKWELL INTERNATIONAL CORPORATION
COLLINS GROUPS
DALLAS, TEX 75207 NEWPORT BEACH, CALIF 92663 CEDAR RAPIDS, IA 52406

INTERCONNECT DIAGRAM-
CHASSIS, HF-8054/HF-8054A
(622-3475-210)

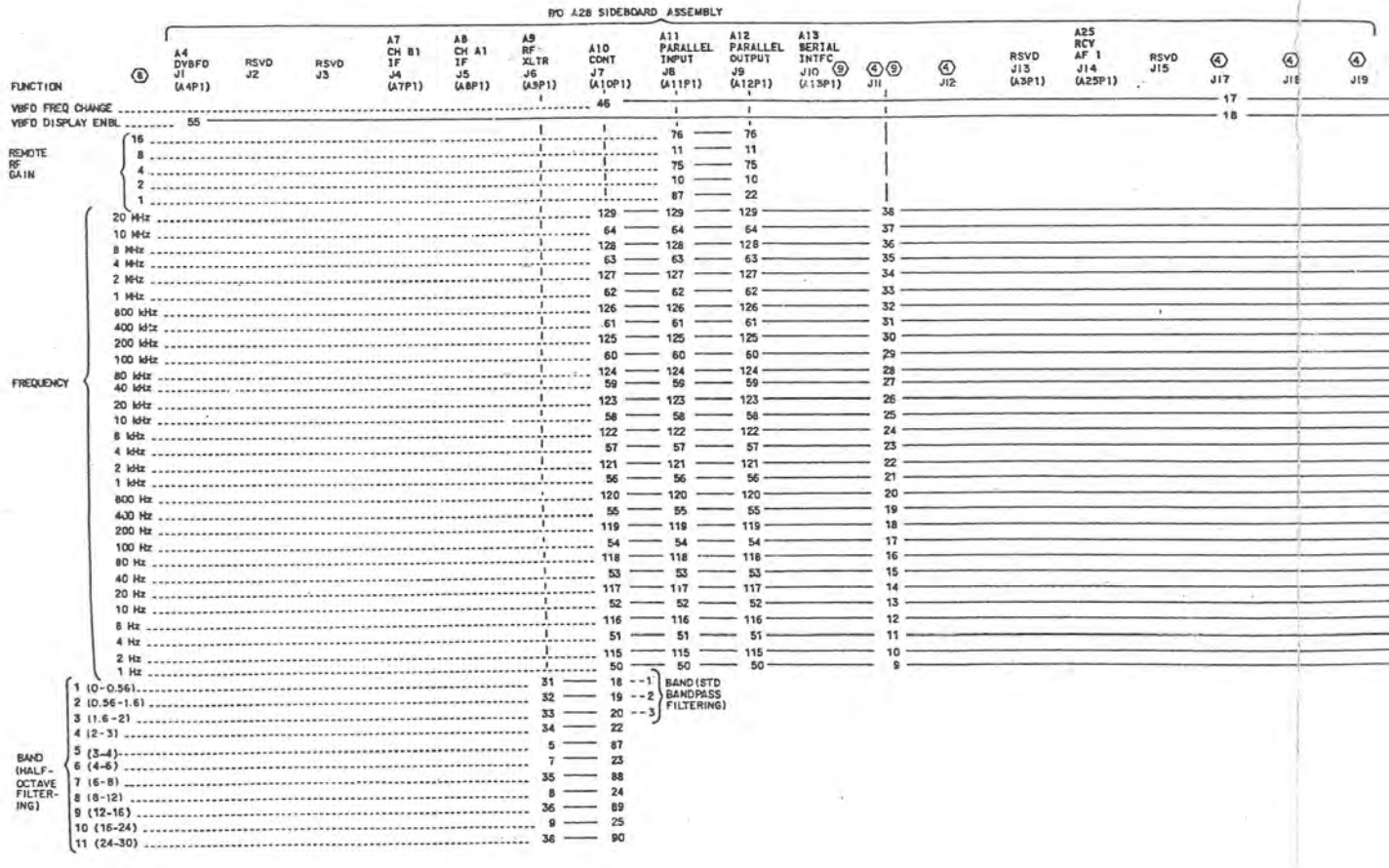
METRIC

SIZE	FSCM	DWG NO.	REV LTR
E	13499	659-7090	B

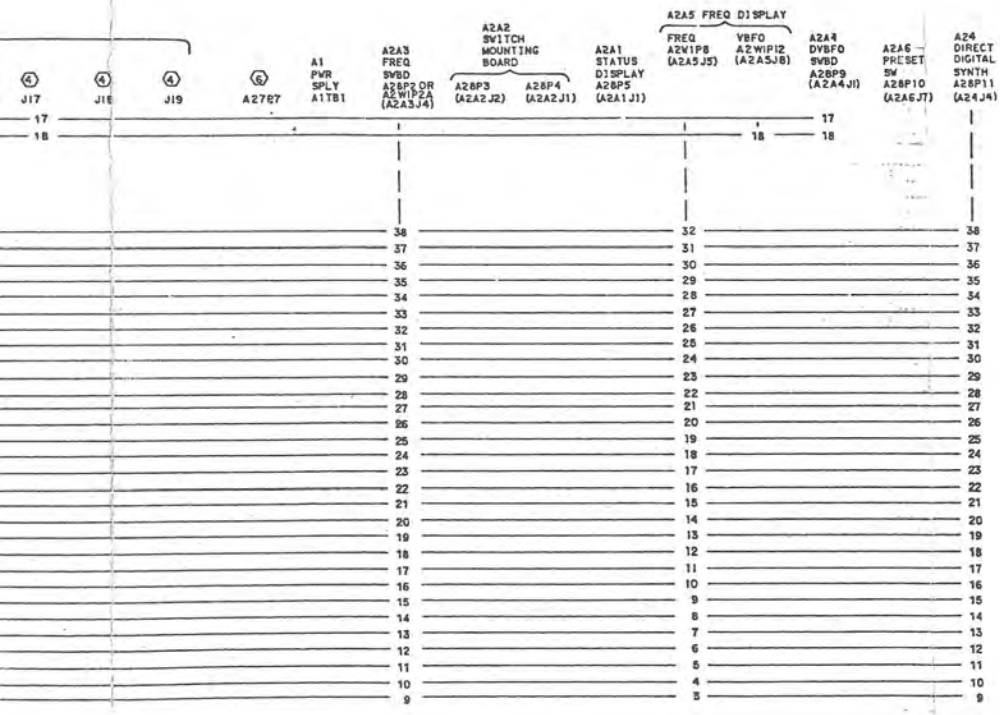
SCALE NONE | SHEET 2

659-7090

NOTES:


RFI A28 SIDEBOARD ASSEMBLY
FUNCTION
A4 DVBFO J1 (A4P1)
RSVD J2
RSVD J3
A7 CH B1 IF J4 (A7P1)
A8 CH A1 IF J5 (A8P1)
A9 RF XLTR J6 (A9P1)
A10 CONT J7 (A10P1)
A11 PARALLEL INPUT J8 (A11P1)
A12 PARALLEL OUTPUT J9 (A12P1)
A13 SERIAL INTFC J10 (A13P1)
J11
J12
RSVD J13 (A3P1)
A25 RCV AF 1 J14 (A25P1)
RSVD J15
J17
J18
J19
VBFO FREQ CHANGE
VBFO DISPLAY ENBL
REMOTE RF GAIN
16
8
4
2
1
FREQUENCY
20 MHz
10 MHz
8 MHz
4 MHz
2 MHz
1 MHz
800 kHz
400 kHz
200 kHz
100 kHz
80 kHz
40 kHz
20 kHz
10 kHz
8 kHz
4 kHz
2 kHz
1 kHz
800 Hz
400 Hz
200 Hz
100 Hz
80 Hz
40 Hz
20 Hz
10 Hz
8 Hz
4 Hz
2 Hz
1 Hz
BAND (HALF-OCTAVE FILTERING)
1 (0-0.56)
2 (0.56-1.6)
3 (1.6-2)
4 (2-3)
5 (3-4)
6 (4-6)
7 (6-8)
8 (8-12)
9 (12-16)
10 (16-24)
11 (24-30)
BAND (STD BANDPASS FILTERING)

REVISIONS			
LTR	DESCRIPTION	DATE	APVD
	SEE SHEET 1		



659-7090

8 4 3

-001

35¼ x 13¾	120		50
IMAGE AREA W X H	LTR SIZE	PAGE INCR	PCT
PUBN NO. FOR COLLINS DIVISIONS			

17⅝ x 6⅞

MATERIAL NONE

FINISH NONE

UNLESS OTHERWISE SPECIFIED, DUAL DIMENSIONED DWGS ARE IN MILLIMETRES (INCHES) SINGLE DIMENSIONED DWGS ARE IN INCHES.

METRIC

TOL ON METRIC DIM .X±0.5, .XX±0.2
HOLE DIAMETERS
UNDER 6.38Ø +0.13 -0.13
6.38 TO 12.78Ø +0.15 -0.13
OVER 12.78Ø +0.20 -0.13
ANGLES: ±1.0°
CONCENTRICITY BETWEEN DIA ON A COMMON AXIS TO BE WITHIN 0.25 Ø.

US CUSTOMARY[ ]

TOL ON [ ] DIM .XX±.02, .XXX±.008
HOLE DIAMETERS:
UNDER .25Ø +.005 -.005
.251 TO .500Ø +.006 -.005
OVER .500Ø +.008 -.005
ANGLES: ±1.0°
CONCENTRICITY BETWEEN DIA ON A COMMON AXIS TO BE WITHIN .010 Ø.

CONTRACT NO.

PREP A. SIPPY 84/8/21

CHK J. WITMER 84/8/21

APVD C. ERRINGTON

ROCKWELL INTERNATIONAL CORPORATION
COLLINS GROUPS
DALLAS, TEX 75207 NEWPORT BEACH, CA, IF 92663 CEDAR RAPIDS, IA 52406

INTERCONNECT DIAGRAM - CHASSIS, HF-8054/HF-8054A (622-3475-210)

METRIC

SIZE	FSCM	DWG NO.	REV LTR
E	13499	659-7090	B

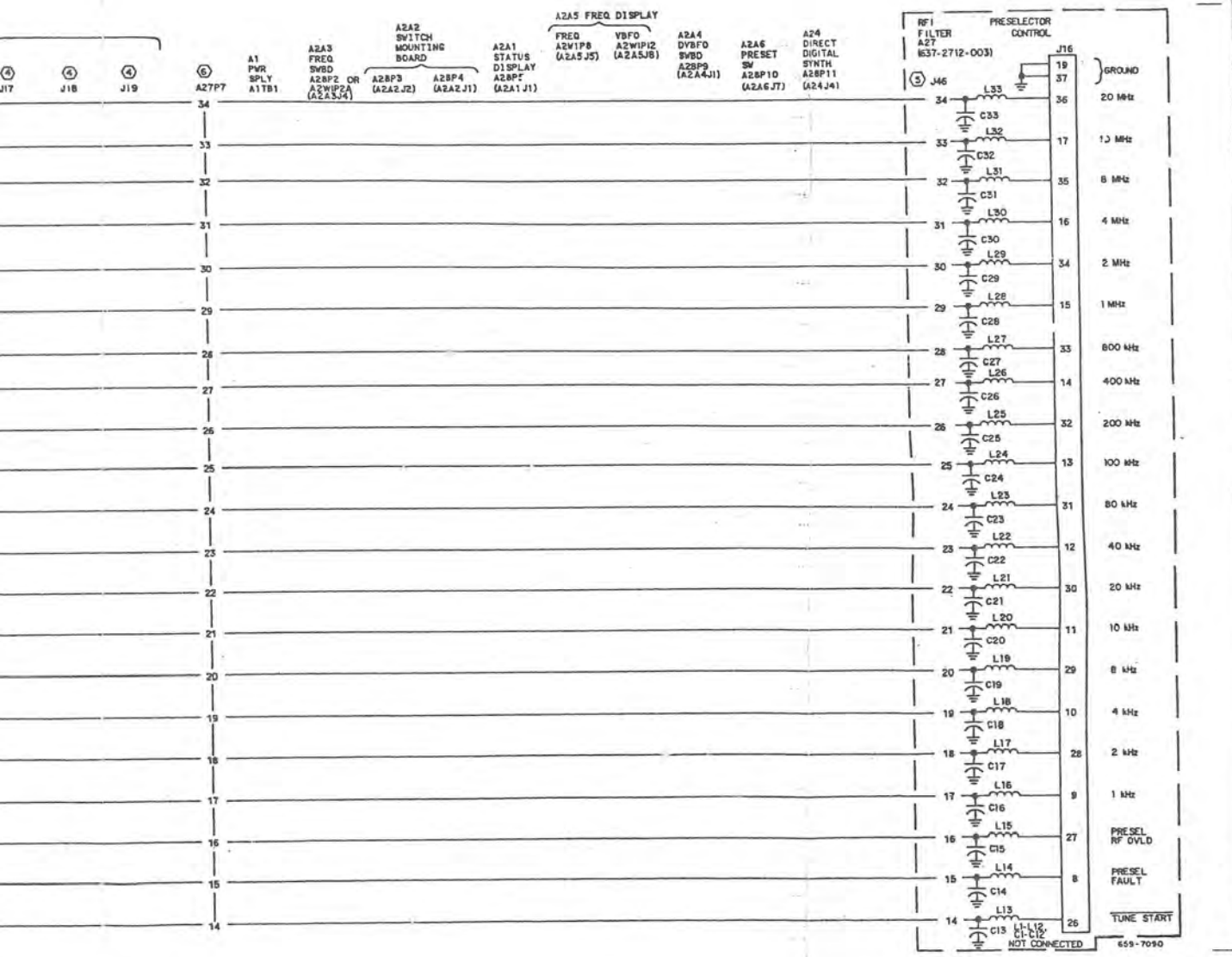
659-7090 SH 3

NOTES:

P/O A28 SIDEBOARD ASSEMBLY

FUNCTION	⑧	A4 DVBFO J1 (A4P1)	RSVD J2	RSVD J3	A7 CH B1 IF J4 (A7P1)	A8 CH A1 IF J5 (A8P1)	A9 RF XLTR J6 (A9P1)	A10 CONT J7 ⑨ (A10P1)	A11 PARALLEL INPUT J8 (A11P1)	A12 PARALLEL OUTPUT J9 (A12P1)	A13 SERIAL INTFC J10 (A13P1)	④ J11	④ J12	RSVD J13 (A3P1)	A25 RCV AF 1 J14 (A25P1)	RSVD J15	④ J17	④ J18	④ J19	⑥ A2
FREQ OUTPUT	20 MHz							109												34
	10 MHz							44												34
	8 MHz							108												33
	4 MHz							43												33
	2 MHz							107												33
	1 MHz							42												2
	800 kHz							106												32
	400 kHz							41												32
	200 kHz							105												31
	100 kHz							40												31
	80 kHz							104												30
	40 kHz							39												30
	20 kHz							103												29
	10 kHz							38												29
	8 kHz							102												28
	4 kHz							37												28
	2 kHz							101												27
	1 kHz							36												27
PRESEL RF OVERLOAD								100												26
PRESEL FAULT								35												26
$\overline{\text{TUNE START}}$								99												25

REVISIONS			
LTR	DESCRIPTION	DATE	APVD
	SEE SHEET 1		



-001

41 X 17	120		50
IMAGE AREA W X H	LTR SIZE	PAGE INCR	PCT

20½ x 8¼

PUBN NO.

FOR COLLINS DIVISIONS

MATERIAL: NONE

FINISH: NONE

UNLESS OTHERWISE SPECIFIED, DUAL DIMENSIONED DWGS ARE IN MILLIMETRES (INCHES). SINGLE DIMENSIONED DWGS ARE IN INCHES.

METRIC

TOL ON METRIC DIM .X±0.5 .XX±0.2

HOLE DIAMETERS
UNDER 6.35Ø++0.13-0.13
6.35 TO 12.7Ø++0.15-0.13
OVER 12.7Ø++0.20-0.13

ANGLES: ±1.0°

CONCENTRICITY BETWEEN DIA ON A COMMON AXIS TO BE WITHIN 0.25 Ø.

US CUSTOMARY[ ]

TOL ON [ ] DIM .XX±.02 .XXX±.008

HOLE DIAMETERS:
UNDER .25Ø++.005-.005
.251 TO .500Ø++.006-.005
OVER .500Ø++.008-.005

ANGLES: ±1.0°

CONCENTRICITY BETWEEN DIA ON A COMMON AXIS TO BE WITHIN .010 Ø.

CONTRACT NO.

PREP A. SIPPY 84/8/21

CHK J WITMER 84/8/21

APVD C. ERRINGTON

ROCKWELL INTERNATIONAL CORPORATION
COLLINS GROUPS
DALLAS TEX 75207 NEWPORT BEACH,CA.IF 92663 CEDAR RAPIDS,IA 52406

INTERCONNECT DIAGRAM-
CHASSIS, HF-8054/HF-8054A
(622-3475-2101)

METRIC

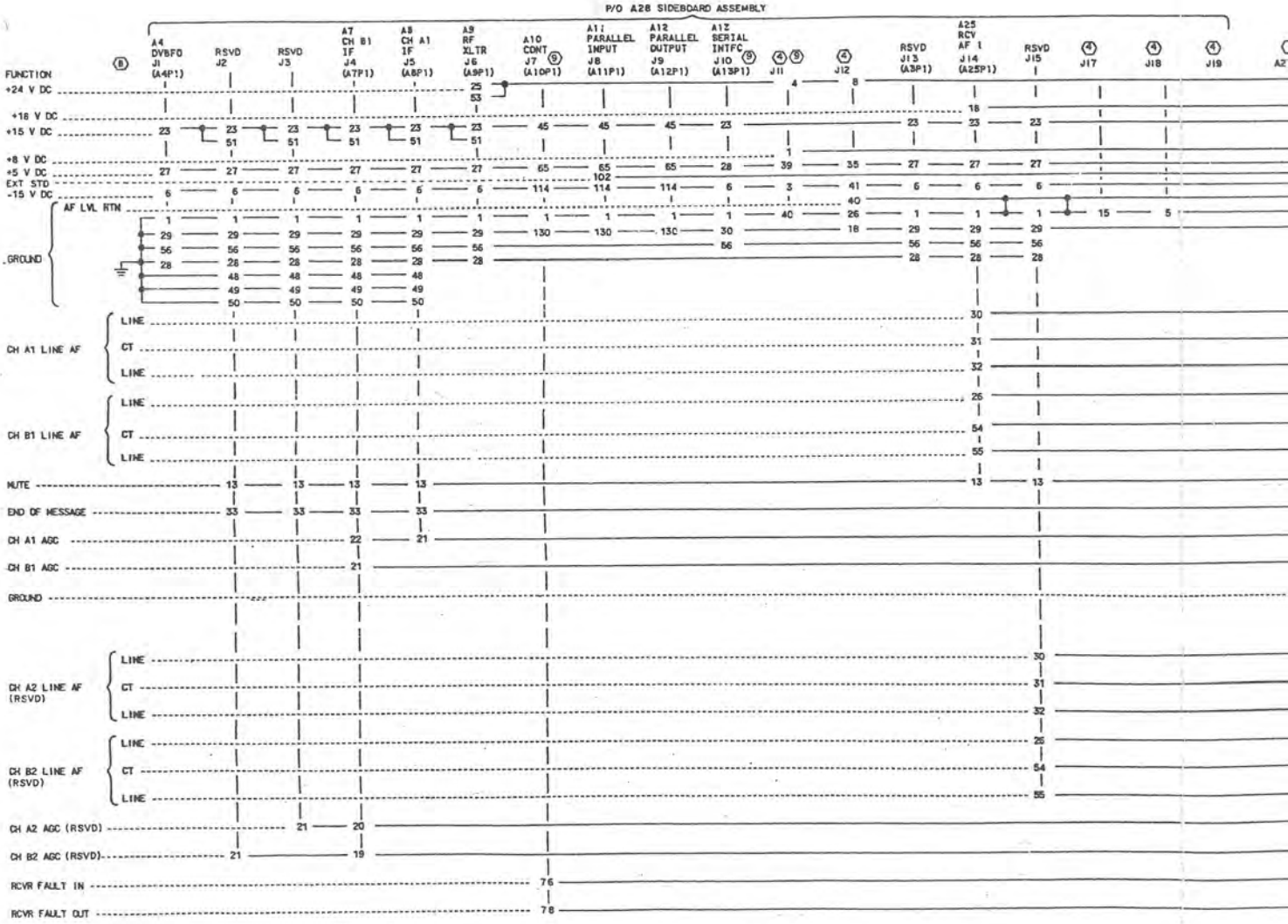
SIZE	FSCM	DWG NO.	REV LTR
E	13499	659-7090	B

SCALE NONE

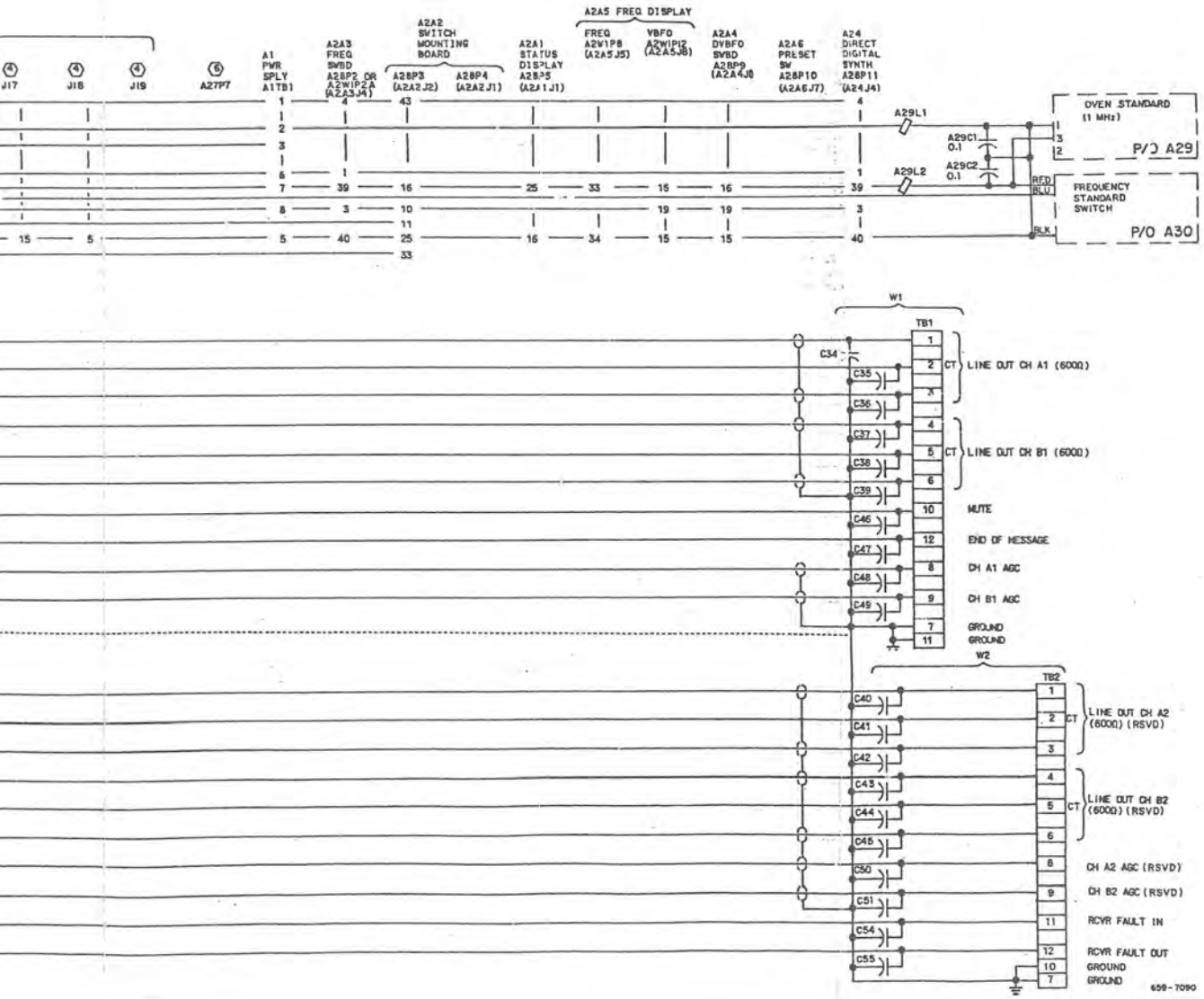
SHEET 4

659-7090 REV B

NOTES:


P/O A28 SIDEBOARD ASSEMBLY
FUNCTION
A4 DVBF0 J1 (A4P1)
RSVD J2
RSVD J3
A7 CH B1 IF J4 (A7P1)
A8 CH A1 IF J5 (A8P1)
A9 RF XLTR J6 (A9P1)
A10 CONT J7 (A10P1)
A11 PARALLEL INPUT J8 (A11P1)
A12 PARALLEL OUTPUT J9 (A12P1)
A13 SERIAL INTFC J10 (A13P1)
J11
J12
RSVD J13 (A3P1)
A25 RCV AF I J14 (A25P1)
RSVD J15
J17
J18
J19
+24 V DC
+18 V DC
+15 V DC
+8 V DC
+5 V DC
EXT STD
-15 V DC
AF LVL RTN
GROUND
CH A1 LINE AF
LINE
CT
LINE
CH B1 LINE AF
LINE
CT
LINE
MUTE
END OF MESSAGE
CH A1 AGC
CH B1 AGC
GROUND
CH A2 LINE AF (RSVD)
LINE
CT
LINE
CH B2 LINE AF (RSVD)
LINE
CT
LINE
CH A2 AGC (RSVD)
CH B2 AGC (RSVD)
RCVR FAULT IN
RCVR FAULT OUT

REVISIONS			
LTR	DESCRIPTION	DATE	APVD
	SEE SHEET 1		



-001

40½ x 17 (20¼ x 8½)	120		50
IMAGE AREA W x H	LTR SIZE	PAGE INCR	PCT
PUBN NO.			
FOR COLLINS DIVISIONS INTERNAL PUBLICATIONS USE ONLY			

MATERIAL: NONE

FINISH: NONE

UNLESS OTHERWISE SPECIFIED, DUAL DIMENSIONED DWGS ARE IN MILLIMETRES (INCHES). SINGLE DIMENSIONED DWGS ARE IN INCHES.

METRIC

TOL ON METRIC DIMS .X±0.5, .XX±0.2
HOLE DIAMETERS
UNDER 6.388=+0.13-0.13
6.38 TO 12.76=+0.15-0.13
OVER 12.76=+0.20-0.13
ANGLES: ±1.0°
CONCENTRICITY BETWEEN DIA ON A COMMON AXIS TO BE WITHIN 0.25 Ø.

US CUSTOMARY[ ]

TOL ON [ ] DIMS .XX±.02, .XXX±.008
HOLE DIAMETERS:
UNDER .25Ø=+.005-.005
.251 TO .5008=+.006-.005
OVER .5008=+.008-.005
ANGLES: ±1.0°
CONCENTRICITY BETWEEN DIA ON A COMMON AXIS TO BE WITHIN .010 Ø.

PART SHALL COMPLY TO 580-5400-001--THIRD ANGLE PROJECTION

CONTRACT NO.	
PREP A.SIPPY 84/8/21	
CHK J.WITMER 84/8/21	
APVD C ERRINGTON	

ROCKWELL INTERNATIONAL CORPORATION
COLLINS GROUPS
DALLAS, TEX 75207 NEWPORT BEACH, CALIF 92663 CEDAR RAPIDS, IA 52406

INTERCONNECT DIAGRAM-
CHASSIS, HF-8054/HF-8054A
(622-3475-210)

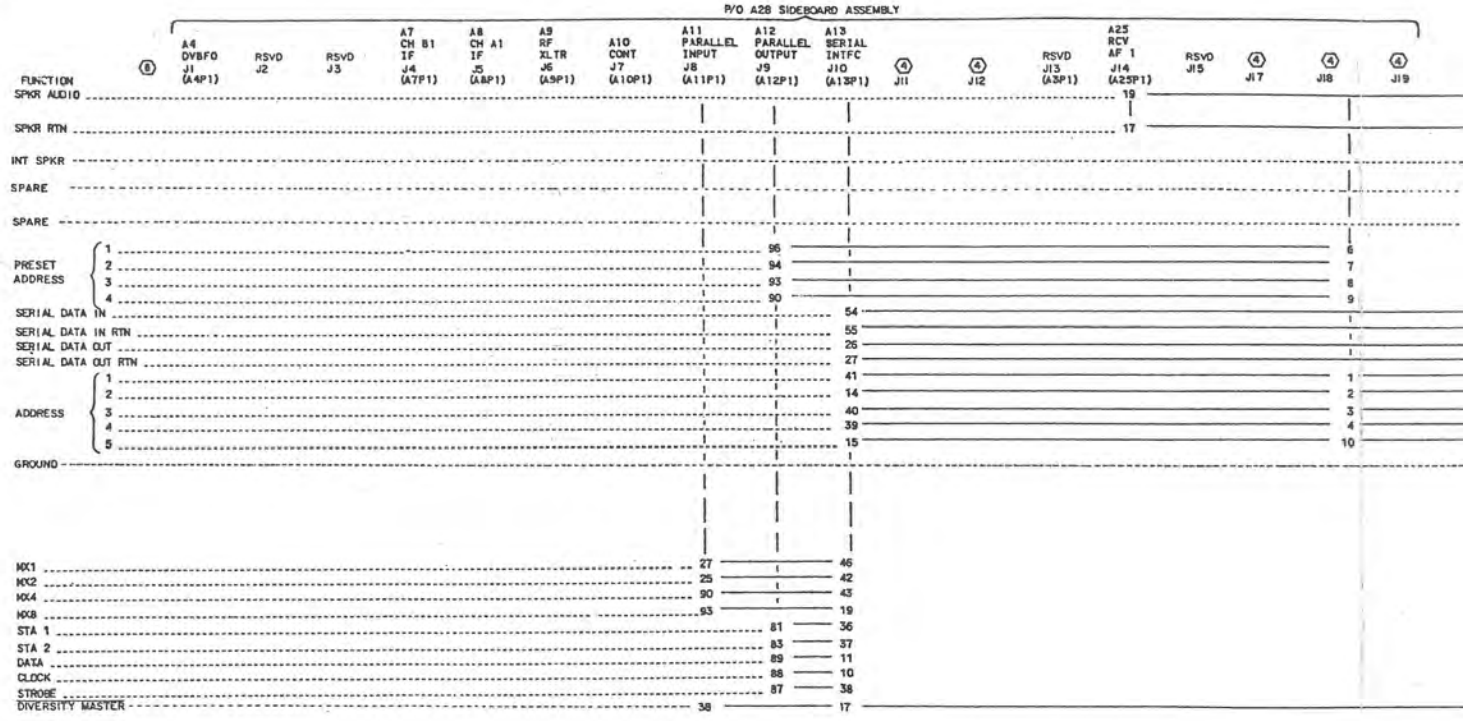
METRIC

SIZE	FSCM	DWG NO.	REV
E	13499	659-7090	LTR 8

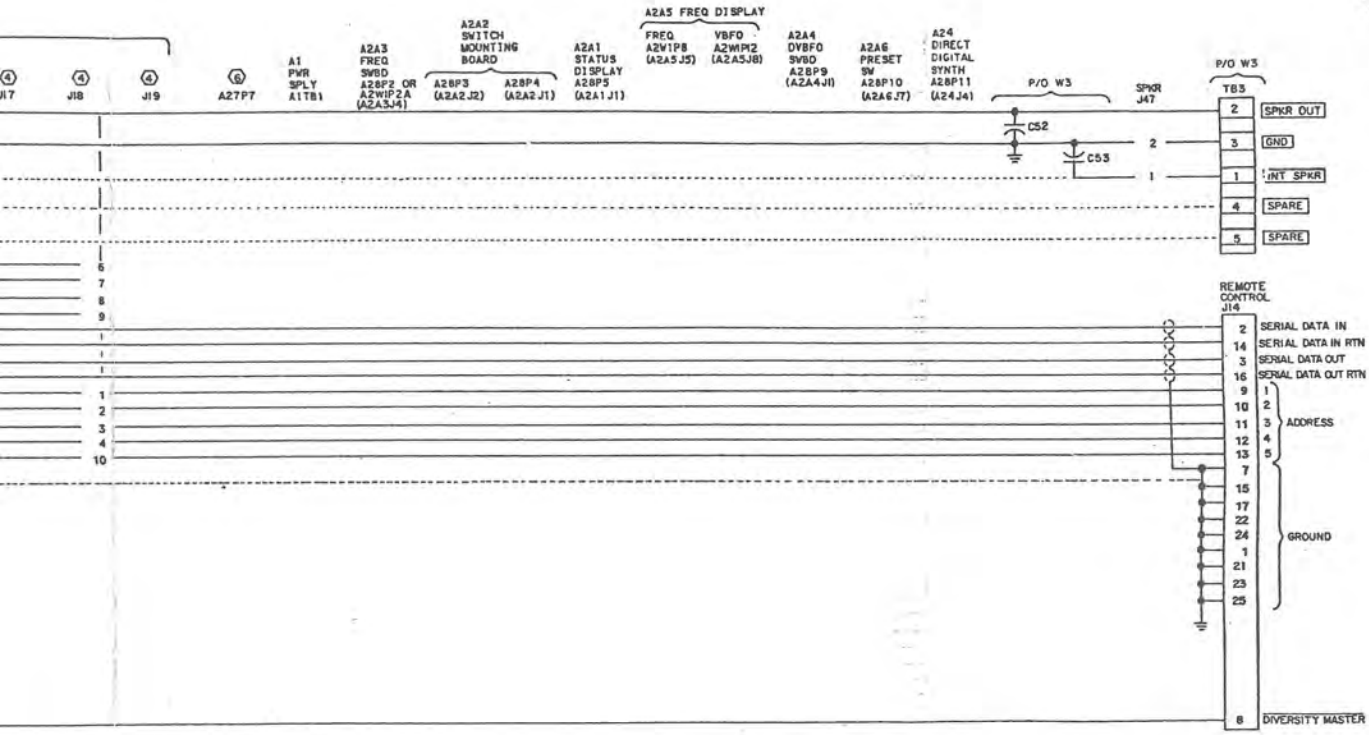
SCALE NONE SHEET 5

659-7090

P/O A28 SIDEBOARD ASSEMBLY



LTR	DESCRIPTION	DATE	APVD
	SEE SHEET 1		



659-7090

-001

41 X 12	120		50	
IMAGE AREA W X H	LTR SIZE	PAGE INCH		PCT

20½ x 6

PUBN NO.

FOR COLLINS DIVISIONS INTERNAL PUBLICATIONS USE ONLY

MATERIAL: NONE

FINISH: NONE

UNLESS OTHERWISE SPECIFIED, DUAL DIMENSIONED DWGS ARE IN MILLIMETRES [INCHES]. SINGLE DIMENSIONED DWGS ARE IN INCHES.

METRIC

TOL ON METRIC DIM: .X±0.5, .XX±0.2

HOLE DIAMETERS
UNDER 6.35=+0.13-0.13
6.35 TO 12.76=+0.15-0.13
OVER 12.76=+0.20-0.13

ANGLES= ±1.0°

CONCENTRICITY BETWEEN DIA ON A COMMON AXIS TO BE WITHIN 0.25 Ø.

US CUSTOMARY[ ]

TOL ON [ ] DIM: .XX±.02, .XXX±.005

HOLE DIAMETERS=
UNDER .254=+.005-.005
.251 TO .500=+.006-.005
OVER .500=+.008-.005

ANGLES= ±1.0°

CONCENTRICITY BETWEEN DIA ON A COMMON AXIS TO BE WITHIN .010 Ø.

PART SHALL COMPLY TO 580-5400-001--THIRD ANGLE PROJECTION

CONTRACT NO.		
PREP A. SIPPY	84/8/21	
CHK J. WITMER	84/8/21	
APVD C. ERRINGTON		

ROCKWELL INTERNATIONAL CORPORATION
COLLINS GROUPS
DALLAS, TEX 75207 NEWPORT BEACH, CALIF 92663 CEDAR RAPIDS, IA 52400

INTERCONNECT DIAGRAM - CHASSIS, HF-8054/HF-8054A (622-3475-2101)

METRIC

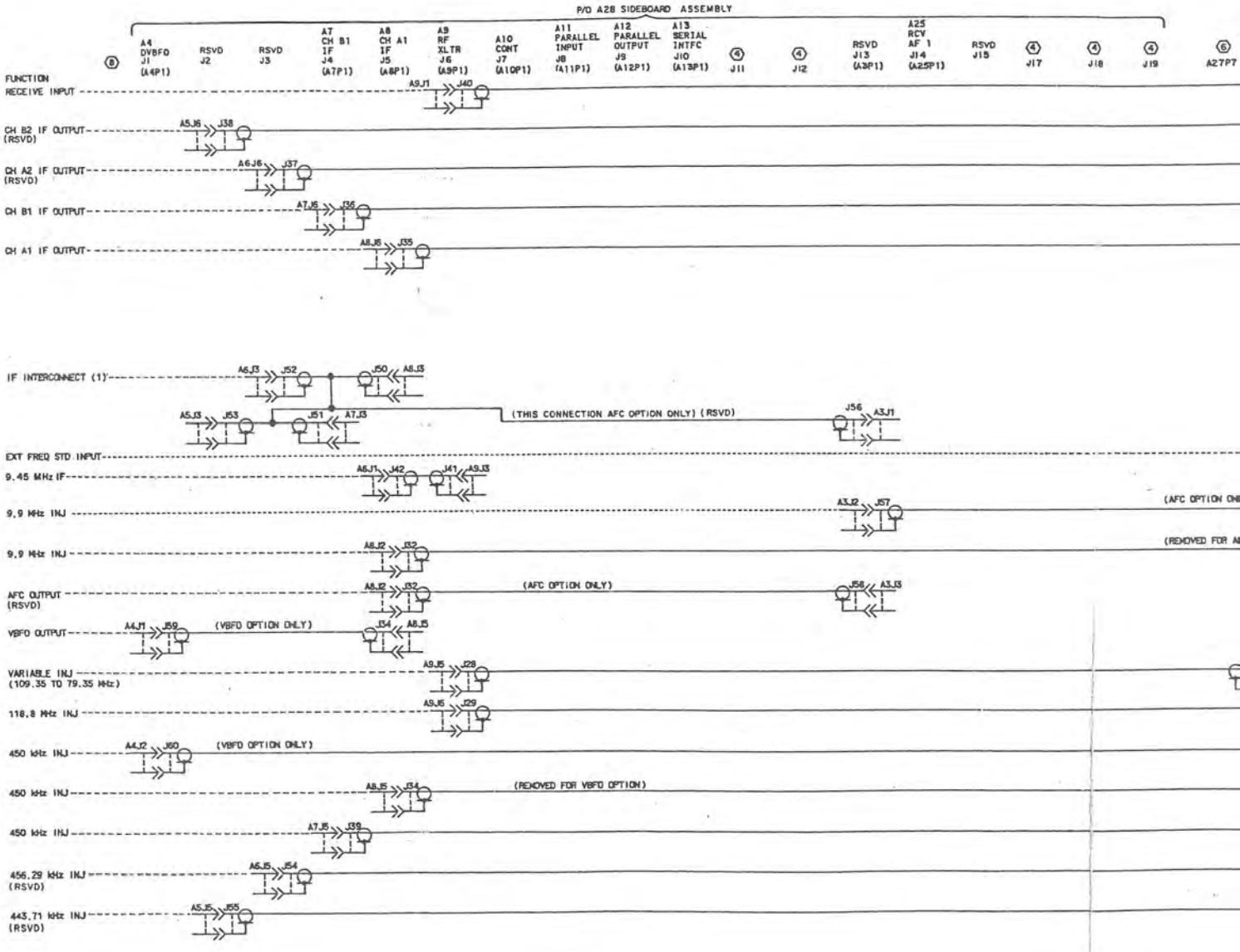
SIZE	FSCM	DWG NO.	REV
E	13499	659-7090	LTR 8

SCALE NONE SHEET 6

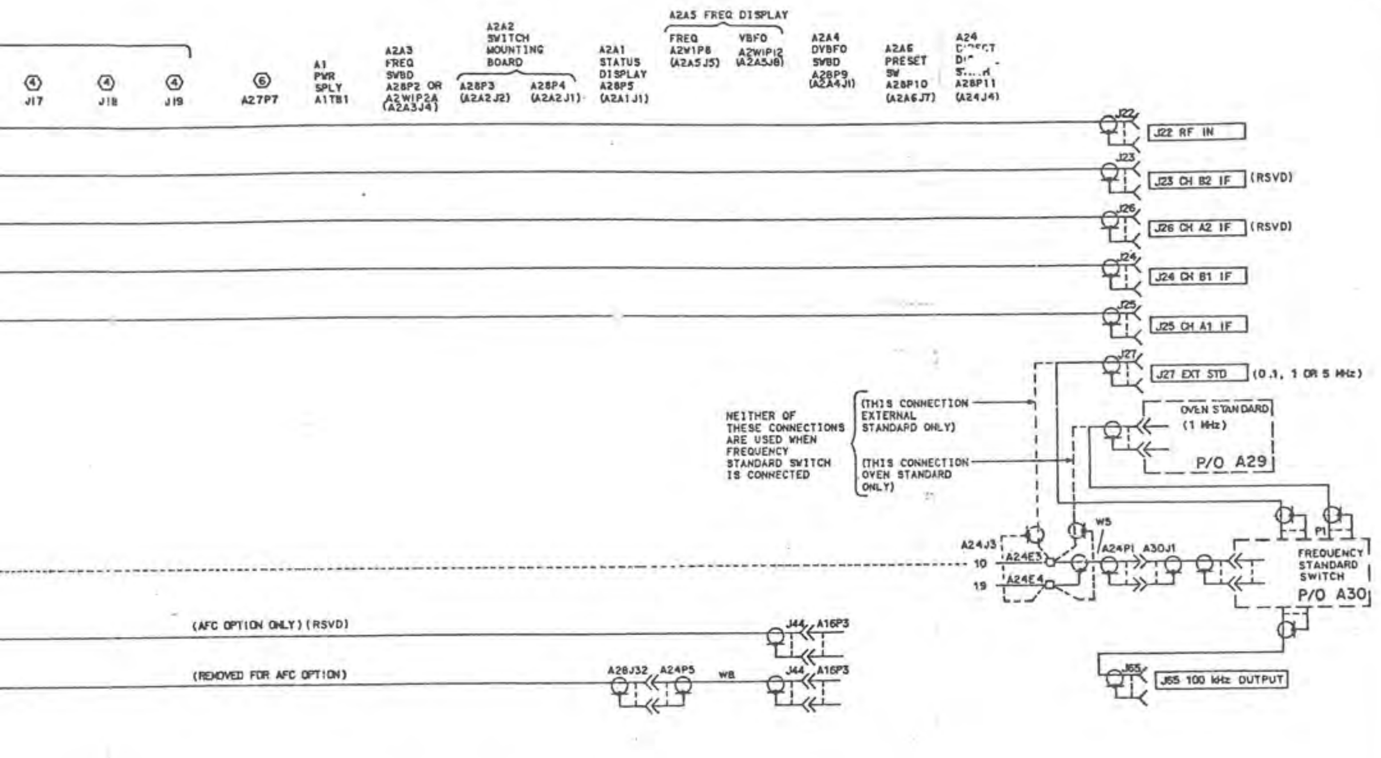
FRO ☐ HFP ☐ REL ☐ CR 2 NB 0 DL 0 TO 1

659-7090 B

NOTES:


P/O A28 SIDEBOARD ASSEMBLY
A4 DVBFO J1 (A4P1)
RSVD J2
RSVD J3
A7 CH B1 IF J4 (A7P1)
A8 CH A1 IF J5 (A8P1)
A9 RF XLTR J6 (A9P1)
A10 CONT J7 (A10P1)
A11 PARALLEL INPUT J8 (A11P1)
A12 PARALLEL OUTPUT J9 (A12P1)
A13 SERIAL INTFC J10 (A13P1)
J11
J12
RSVD J13 (A3P1)
A25 RCV AF 1 J14 (A25P1)
RSVD J15
J17
J18
J19
A27P7
FUNCTION
RECEIVE INPUT
CH B2 IF OUTPUT (RSVD)
CH A2 IF OUTPUT (RSVD)
CH B1 IF OUTPUT
CH A1 IF OUTPUT
IF INTERCONNECT (1)
(THIS CONNECTION AFC OPTION ONLY) (RSVD)
EXT FREQ STD INPUT
9.45 MHz IF
9.9 MHz INJ
9.9 MHz INJ
AFC OUTPUT (RSVD)
(AFC OPTION ONLY)
VBFO OUTPUT
(VBFO OPTION ONLY)
VARIABLE INJ (109.35 TO 79.35 MHz)
118.8 MHz INJ
450 kHz INJ
(VBFO OPTION ONLY)
450 kHz INJ
(REMOVED FOR VBFO OPTION)
450 kHz INJ
456.29 kHz INJ (RSVD)
443.71 kHz INJ (RSVD)

LTR	DESCRIPTION	DATE	APVD
	SEE SHEET 1		



659-7090

-001

$40\frac{3}{4} \times 17\frac{3}{4}$ ($19\frac{1}{2} \times 8\frac{1}{2}$)	120		48
IMAGE AREA W X H	LTR SIZE	PAGE INCR	PCT

PUBN NO.

FOR COLLINS DIVISIONS INTERNAL PUBLICATIONS USE ONLY

MATERIAL NONE

FINISH NONE

UNLESS OTHERWISE SPECIFIED, DUAL DIMENSIONED DWGS ARE IN MILLIMETRES [INCHES]. SINGLE DIMENSIONED DWGS ARE IN INCHES.

METRIC	US CUSTOMARY[ ]
TOL ON METRIC DIM: .X=±0.5, .XX=±0.2	TOL ON [ ] DIM: .XX=±.02, .XXX=±.005
HOLE DIAMETERS UNDER 6.38Ø=+0.13-0.13; 6.38 TO 12.7Ø=+0.15-0.13; OVER 12.7Ø=+0.20-0.13	HOLE DIAMETERS: UNDER .251Ø=+.005-.005; .251 TO .500Ø=+.006-.005; OVER .500Ø=+.008-.005
ANGLES: ±1.0°	ANGLES: ±1.0°
CONCENTRICITY BETWEEN DIA ON A COMMON AXIS TO BE WITHIN 0.25 Ø	CONCENTRICITY BETWEEN DIA ON A COMMON AXIS TO BE WITHIN .010 Ø

PART SHALL COMPLY TO 580-5400-001--THIRD ANGLE PROJECTION

CONTRACT NO.

PREP A. SIPPY 84/8/21

CHK J. WITMER 84/8/21

APVD C. ERRINGTON

ROCKWELL INTERNATIONAL CORPORATION
COLLINS GROUPS

INTERCONNECT DIAGRAM-CHASSIS, HF-8054/HF-8054A (622-3475-210)

METRIC

SIZE	FSCM	DWG NO.	REV LTR
E	13499	659-7090	8

SCALE NONE — SHEET 7

659-7090

NOTES:

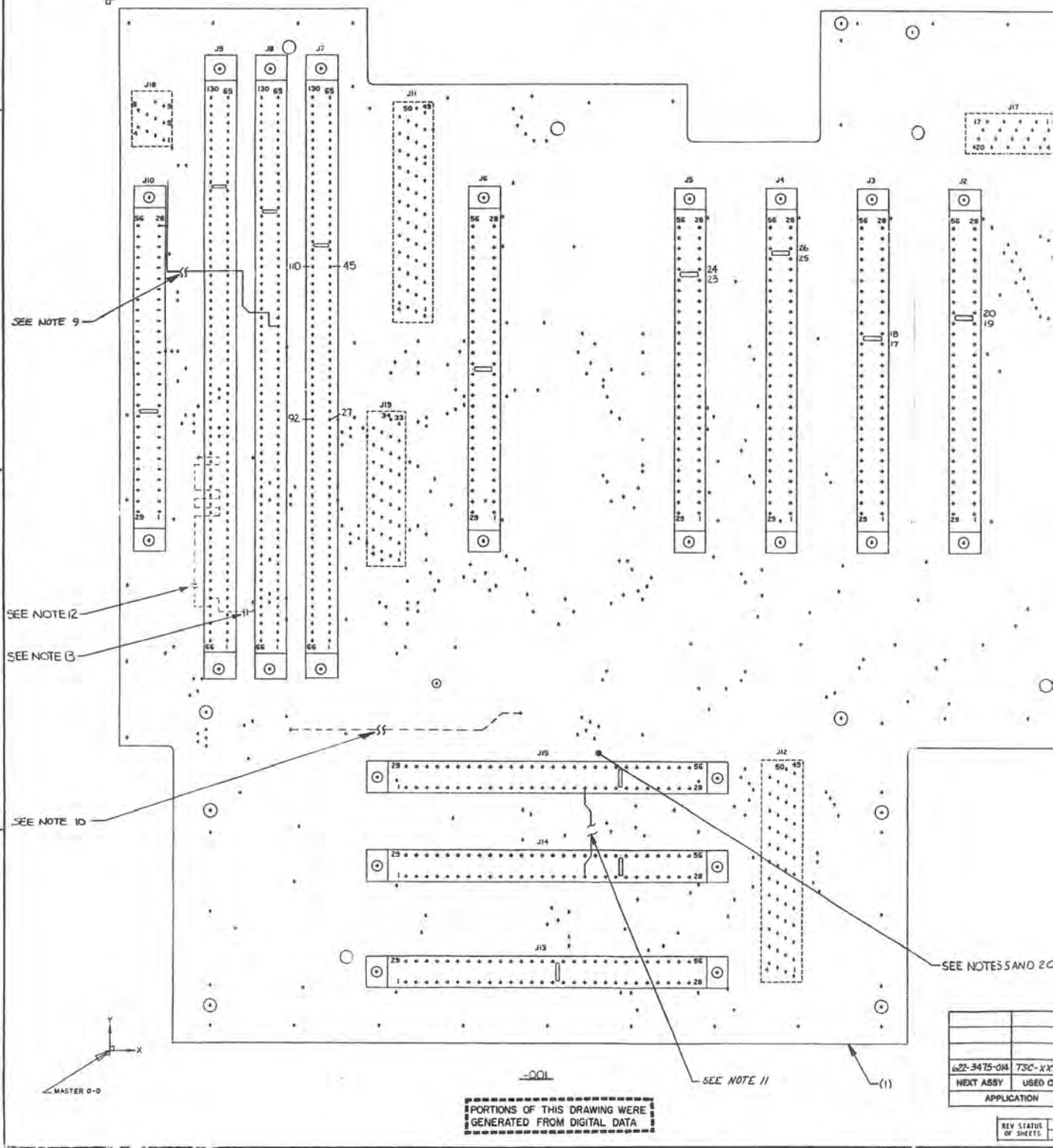
1. PARENTHETICAL ITEM IDENTIFICATION DENOTES: (ITEM NUMBER-QUANTITY).
2. SOLDER PER 580-5178-000.
3. REFERENCE DESIGNATORS ARE USED IN LIEU OF ITEM FIND NUMBERS.
4. J11,12,17,19 AND 1198 REFERENCE ONLY AND WILL BE MOUNTED AT A HIGHER LEVEL.
5. MARK THE REVISION LETTER FOLLOWING THE ETCHED LETTERS REV LOCATED ON OPPOSITE SIDE APPROXIMATELY AS SHOWN PER 580-0497-000.
6. TEST REQUIREMENTS TO BE ADDED AT A HIGHER LEVEL.
7. USE (6) SPARINGLY TO SECURE (5) PER 580-5479-001.
8. CUT PINS 27,15,92,110 ON CONNECTOR J7 FLUSH, OPPOSITE SIDE SHOWN.
9. CUT LINE FROM J10 PIN 28 TO J8 PIN 38 (TOP).
10. CUT LINE FROM J11 PIN 49 TO J8 PIN 2 (BOTTOM).
11. CUT LINE FROM J14 PIN 18 TO J15 PIN 18 ON CIRCUIT 1 (DISCONNECTS J14 18 FROM J15-18.

NOTES CONT. AT RIGHT

12. CUT LINE FROM J9 PIN 70 TO J7 PIN 27 (BOTTOM)
13. CUT LINE FROM J9 PIN 71 TO J7 PIN 35 (BOTTOM)
14. CUT LINE J7 PIN 14 TO J19 PIN 26 (BOTTOM), -002 ONLY.
15. CUT LINE J11 PIN 7 TO J19 PIN 26 (BOTTOM), -002 ONLY.
16. REMOVE THE ETCHED NO 1 AND MARK THE NO 2 FOLLOWING THE NO 638-6627-00, PER 580-0497-000, -002 ONLY.
17. DIM AND TOL SHALL BE IN ACCORDANCE WITH ANSI Y14.5.
18. PAREN INFO IS FOR REF ONLY, EXCEPT FOR ITEM NOS.
19. SEE APPL SPEC CONTROL DWG FOR VENDOR ITEM IN P/L NOT HAVING AN APVD GOVT SPEC.
20. MARK THE NO. 95105 NEAR THE CHAR ASSY, PER 580-0479-000.

.500 MAX

.625 MAX



PORTIONS OF THIS DRAWING WERE GENERATED FROM DIGITAL DATA

622-3475-014	73C-XX
NEXT ASSY	USED O
APPLICATION	

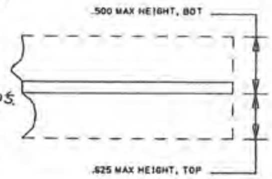
REV STATUS OF SHEETS

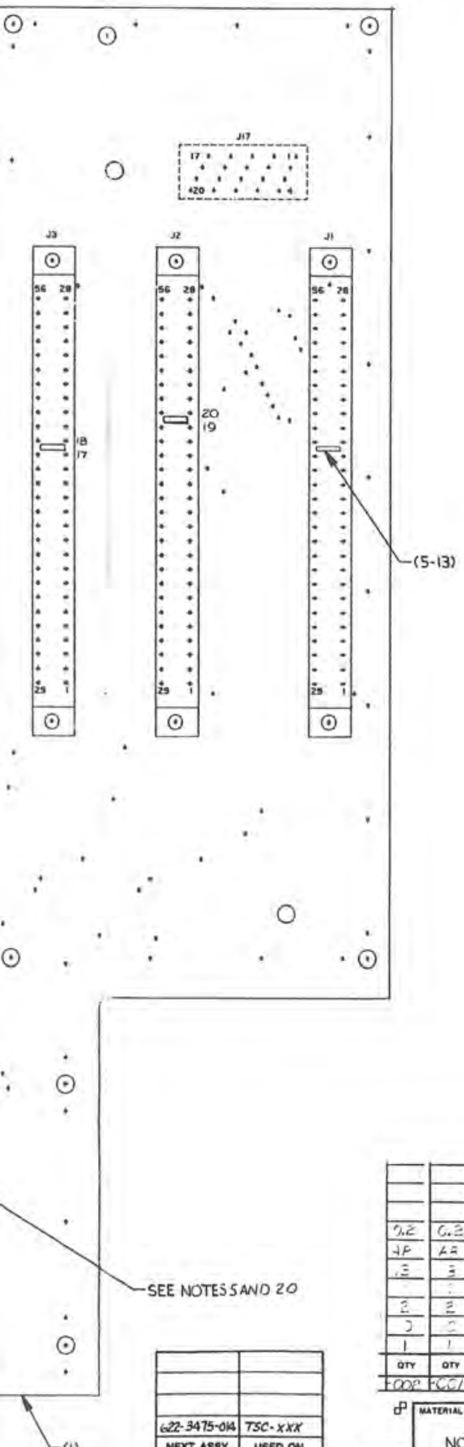
NEXT ASSY. TYPE NO. 17-9057

PIN 27 (BOTTOM)
PIN 35 (BOTTOM)
BOTTOM), -002 ONLY.
BOTTOM), -001 ONLY.
THE NO 2
PER

ANCE WITH

XCEPT FOR ITEM NOS.
VENDOR ITEM IN
SPEC.
CHAR ASSY, PER





			REVISIONS		
-002 REV	-001 REV	LTR	DESCRIPTION	DATE	APVD
		B	DESIGN CHANGES	2-8-30	S.D.
		C	D03719-(CODE 11) ADDED NOTE 7,8, ITEMS 6, ADDED REV E TO ITEM 1, ADDED HOLES AT DIM.'S X=2.100, Y=11.850; X=5.3000, Y=10.900; X=9.600 Y=10.900 X=11.100, Y=4.350; X=2.800, Y=1.100	10-8-80	KW
		D	D04361-(CODE 11) ADDED NOTES 9 AND 10	11-11-80	S.D.
		E	D04568-(CODE 11) ADDED NOTE 11, WIRE CHART AND ITEM 7	12-1-80	SD
		F	D05720-(CODE 11) ADDED NOTES 12 AND 13. CHG TO PICTORIAL VIEW	3-20-81	SD
G	F	G	D19019-(CODE 16) ADDED -002, NOTES 14, 15, 16, AND SH 2, REV SH 1	6-14-84	CT
H	H	H	D22586-(CODE 15) UPDATE PER MIL REQT. REV SH 1, 2.	86-10-5	CT
J	J	J	D29196-(CODE 16) UPDATE PER MIL REQT, REV SH 1	87-2-9	CT

WIRE CHART (-001)			
ITEM NO.	FROM	TO	T/B
7	J9-91	J9-102	B

QTY -002	QTY -001	ITEM NO.	PART OR IDENTIFYING NO.	COLLINS PART NO.	NOMENCLATURE OR DESCRIPTION	REV LTR	DOCUMENT NO.	CODE IDENT	ALTN PREF	UM	MN	NOTES	REF DESIGNATOR
0.2	0.2	7	429-2082-050		WIRE [illegible] XXX)					FT			
AR	AR	6	005-0637-000		ADHESIVE							[illegible]	
3	3	5	372-7600-030		INDEX KEY							7	
[illegible]	[illegible]	4	637-931-001		CONNECTOR [illegible]								[illegible]7
2	2	3	372-2274-050		CONNECTOR [illegible]								[illegible]8, 9
3	3	2	372-7[illegible]-010		CONNECTOR [illegible]								[illegible]
1	1	1	635-3326-330		[illegible] WIRING BOARD								

-002 -001 DASH NO.

PARTS LIST (US CUSTOMARY MEASUREMENTS ONLY)

622-3475-014	TSC-XXX
NEXT ASSY	USED ON
APPLICATION	

REV STATUS OF SHEETS: REV J H; SHEET 1 2

FSCM 95105

MATERIAL: NONE

FINISH: NONE

UNLESS OTHERWISE SPECIFIED, DUAL DIMENSIONED DWGS ARE IN MILLIMETRES [INCHES]. SINGLE DIMENSIONED DWGS ARE IN INCHES.

METRIC
TOL ON METRIC DIM .X±0.5, .XX±0.2
HOLE DIAMETERS
UNDER 6.38Ø +0.13-0.13
6.38 TO 12.78 +0.15-0.13
OVER 12.78 +0.20-0.13
ANGLES: ±1.0°
CONCENTRICITY BETWEEN DIA ON A COMMON AXIS TO BE WITHIN 0.25 Ø.

US CUSTOMARY [ ]
TOL ON [ ] DIM .XX±.02, .XXX±.008
HOLE DIAMETERS
UNDER .251Ø +.005-.003
.251 TO .500Ø +.006-.003
OVER .500Ø +.008-.003
ANGLES: ±1.0°
CONCENTRICITY BETWEEN DIA ON A COMMON AXIS TO BE WITHIN .010 Ø.

PART SHALL COMPLY TO 580-5400-001 -- THIRD ANGLE PROJECTION

CONTRACT NO.
PREP T. MARTIN 2-8-80
CHK M. LUKEN 3-4-80
APVD S.D. 3/13/80

ROCKWELL INTERNATIONAL CORPORATION
COLLINS GROUPS
DALLAS TEX 75207 NEWPORT BEACH CALIF 92663 CEDAR RAPIDS IA 52406

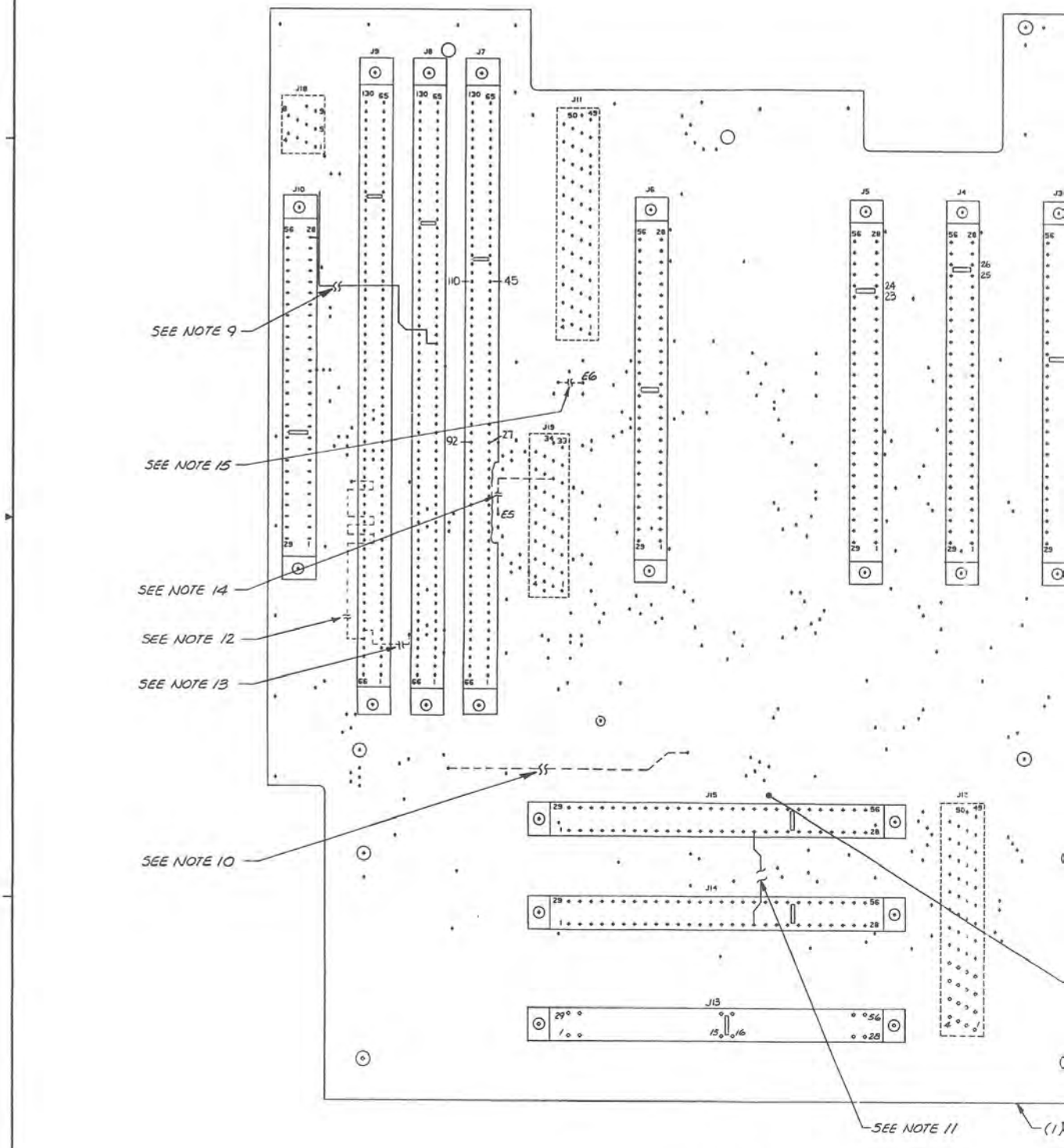
PRINTED WIRING BOARD, SIDEBOARD

METRIC

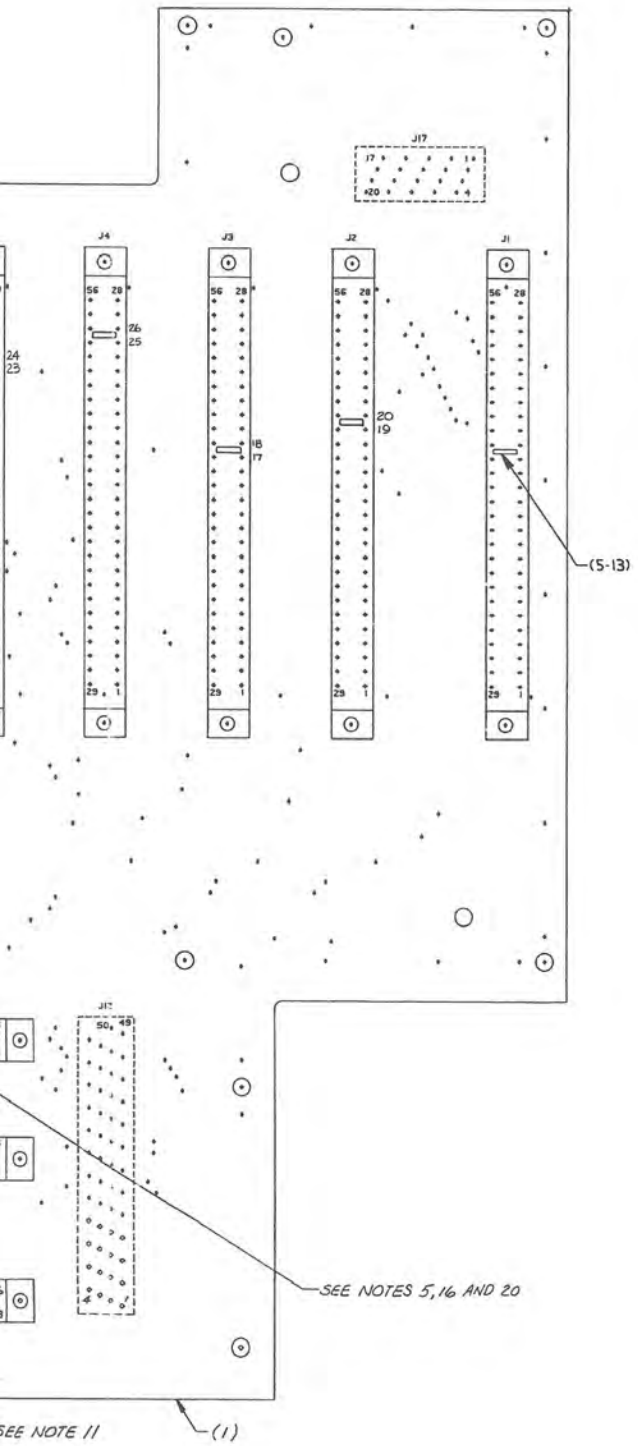
SIZE E | FSCM 13499 | DWG NO. 635-3627 | REV LTR J
SCALE NONE | SHEET 1 OF 2

FRD ☐ NFP ☐ REL ☒ CR 2 NB C DL 2 TO 1

638-6627


J9
J8
J7
J18
J11
J10
J6
J5
J4
J3
J19
J15
J12
J14
J13
110
45
92
27
24
23
26
25
E6
E5
SEE NOTE 9
SEE NOTE 15
SEE NOTE 14
SEE NOTE 12
SEE NOTE 13
SEE NOTE 10
SEE NOTE 11
(1)

-002



WIRE CHART (-002)			
ITEM NO	FROM	TO	T/B
7	J9-91	J9-102	B
7	E5	E6	B

638-6627 | 2

ROCKWELL INTERNATIONAL CORPORATION COLLINS GROUPS					
FSCM 95105	PREP K. WOLLEAT 5/21/84	SIZE E	FSCM 13499	DWG NO. 638-6627	REV LTR H
	CHK J. MASSEY 5/23/84	SCALE NONE			SHEET 2

NOTES:

1. SOLDER PER 580-5178-000.
2. TERMINATE SHIELDS USING (5) AND (6) WHERE INDICATED BY NC.
3. PARENTHETICAL ITEM IDENT DENOTES: (ITEM NO - QTY).
4. TIE CABLE AT APPROX 1.0 INCH INTERVALS USING (2).
5. MARK ASSY 634-8224-APPLICABLE DASH NO. REV AND REV LTR LOCATED APPROX AS SHOWN PER 580-0497-000.
6. 580-6520-001 MAY BE USED ON THIS ASSY.
7. USE (25) AND (26) ON A1TB1 LEADS WHERE INDICATED
8. EXTENDED WIRES 2, 3, 5, 6, 11, 12, 13 AND 14 TO GND 5 ON TOP LEVEL ASSY.
9. INSULATE TERMINALS OF (3) USING (4) APPROX .31 LONG.
10. * INDICATES WIRES TERM IN NEXT ASSY.
11. USE (34) AS REQD FOR SECURING CABLE W2.
12. POSITION W1P4 APPROX AS SHOWN WITH PINS FACING UP. SECURE IN PLACE USING TAPE (33).
13. DIM AND TOL SHALL BE INTERPRETED IN ACCORDANCE WITH ANSI Y14.5 M-1982.
14. SEE APPL SPEC CONTROL DWG FOR VENDOR ITEMS IN PL NOT HAVING AN APVD GOVT SPEC.
15. PAREN INFO IS FOR REF ONLY, EXCEPT FOR ITEM NO.
16. MARK THE NO 95105 NEAR THE CHAR ASSY PER 580-0497-000.
17. USE ADHESIVE (37) AS REQUIRED TO RETAIN WIRING.

AR					37	005
0.6					36	428-
	1				35	637-
		3			34	150-
		0.2			33	014-
		0.3			32	M168
		1			31	638-
		1			30	652-
2.0	2.0	2.0	2.0	2.0	29	422-
1		1	1		28	647-
2.0	2.0	2.0	2.0	2.0	27	422-
1	1	1	1	1	26	MS2
7	7	7	7	7	25	MS2
2.0	2.0	2.0	2.0	2.0	24	M168
2.0	2.0	2.0	2.0	2.0	23	M168
2.0	2.0	2.0	2.0	2.0	22	M168
2.0	2.0	2.0	2.0	2.0	21	M168
2.0	2.0	2.0	2.0	2.0	20	M168
2.0	2.0	2.0	2.0	2.0	19	M168
2.0	2.0	2.0	2.0	2.0	18	M168
2.0	2.0	2.0	2.0	2.0	17	439-
2.0	2.0	2.0	2.0	2.0	16	439-
2.0	2.0	2.0	2.0	2.0	15	422-
2.0	2.0	2.0	2.0	2.0	14	422-
2.0	2.0	2.0	2.0	2.0	13	422-
		1			12	634-8
2.0	2.0	2.0	2.0	2.0	11	422-
2.0	2.0	2.0	2.0	2.0	10	439-0
2.0	2.0	2.0	2.0	2.0	9	439-
1	1		1	1	8	634-
1	1	1	1	1	7	634-8
0.1	0.1	0.1	0.1	0.1	6	M230
2	2	2	2	2	5	M835
1.0	1.0	1.0	1.0	1.0	4	152-2
1	1	1	1	1	3	371-0
2.0	2.0	2.0	2.0	2.0	2	TY1512
1	1		1	1	1	638-6
QTY	QTY	QTY	QTY	QTY	ITEM NO.	P. IDENT
-005	-004	-003	-002	-001	DASH NO.	

MATERIAL

NONE

FINISH

NONE

REV STATUS OF SHEETS	REV	L	L	J
	SHEET	1	2	3

FSCM 95105

NEXT ASSY 622-3474-001 TYPE NO: HF8054
622-3475-001-2 HF8054A

DWG NO. 634-8224 SH 1

-005 REV	-004 REV	-003 REV	-002 REV	-001 REV
L	J	J	J	J

REVISIONS			
LTR	DESCRIPTION	DATE	APVD
K	D41406-(CODE 16) DEL PREV REV HIST; ADD -005, ITEM 30, WIRE NO 30; REV SH 1,2	89-9-13	CT
L	D41698-(CODE 13) ADD ITEM 37, NOTE 17, E4 AT VIEW; CHG AT WIRE NO 30; REV SH 1,2.	89-10-28	CT

QTY -003	QTY -002	QTY -001	ITEM NO.	PART OR IDENTIFYING NO.	COLLINS PART NO.	NOMENCLATURE OR DESCRIPTION	REV LTR	DOCUMENT NO.	CODE IDENT	ALTN PREF	UM	MN	NOTES	REF DESIGNATOR
			37	005-2434-010		ADHESIVE								
			36	428-0282-050		WIRE, ELEC					FT			W30
			35	637-3761-002		CABLE, VBFO								W3
3			34	150-0873-010		CLAMP, CABLE							11	
0.2			33	014-1315-200		TAPE, ADHESIVE							12	
0.3			32	M16878/6BA1		WIRE, ELEC (D26TA00X1XXX)		MIL-W-16878/6			FT			
1			31	638-6627-002		CKT BD, SIDE BOARD								A28
1			30	652-2223-001		CABLE, ASSY, RIBBON-NC4							11	W2
2.0	2.0	2.0	29	422-0796-000		WIRE, ELEC (D26TA00X2XXX)					FT			
1	1		28	647-7201-001		CABLE, DISPLAY-VBFO								W3
2.0	2.0	2.0	27	422-0800-000		WIRE, ELEC (D26TA00X6XXX)					FT			
1	1	1	26	MS25036-144		LUG, TERM-E6								
7	7	7	25	MS25036-101		LUG, TERM-22								
2.0	2.0	2.0	24	M16878/4BFB8		WIRE, ELEC (A22TA00X8XXX)		MIL-W-16878/4			FT			
2.0	2.0	2.0	23	M16878/4BFB7		7XXX)		MIL-W-16878/4						
2.0	2.0	2.0	22	M16878/4BFB6		6XXX)		MIL-W-16878/4						
2.0	2.0	2.0	21	M16878/4BFB3		3XXX)		MIL-W-16878/4						
2.0	2.0	2.0	20	M16878/4BFB2		2XXX)		MIL-W-16878/4						
2.0	2.0	2.0	19	M16878/4BFB1		1XXX)		MIL-W-16878/4						
2.0	2.0	2.0	18	M16878/4BFB0		(A22TA00X0XXX)		MIL-W-16878/4						
2.0	2.0	2.0	17	439-7302-000		(D26TA00X9XXX)								
2.0	2.0	2.0	16	439-7300-000		9XXX)								
2.0	2.0	2.0	15	422-0802-000		8XXX)								
2.0	2.0	2.0	14	422-0801-000		7XXX)								
2.0	2.0	2.0	13	422-0798-000		WIRE, ELEC (D26TA00X7XXX)					FT			
1			12	634-8210-002		CABLE, SPECIAL PURPOSE								W
2.0	2.0	2.0	11	422-0794-000		WIRE, ELEC (D26TA00X0XXX)					FT			
2.0	2.0	2.0	10	439-0650-000		WIRE, ELEC-TWSH PR26 WHT/RED					FT			
2.0	2.0	2.0	9	439-0649-000		WIRE, ELEC-TWSH PR26 WHT/BRN					FT			
	1	1	8	634-8210-001		CABLE, SPECIAL PURPOSE								
1	1	1	7	634-8228-001		CABLE, SPECIAL PURPOSE								W4
0.1	0.1	0.1	6	M23053/5-105-9		SLEEVING, SHRINK		MIL-I-23053/5			FT		2	
2	2	2	5	M83519/1-3		SLEEVE, SOLDER		MIL-S-[illegible]/1					2	
1.0	1.0	1.0	4	152-2533-000		SLEEVE, INSULATION					FT		7	
1	1	1	3	371-0221-000		CONNECTOR								J14
2.0	2.0	2.0	2	TYISIZE3FINBNAT		TAPE, LACING		MIL-T-[illegible]			FT			
	1	1	1	638-6627-001		CKT BD, SIDEBOARD								A28

DASH NO. — PARTS LIST (US CUSTOMARY MEASUREMENTS ONLY)

MATERIAL: NONE

FINISH: NONE

FSCM 95105

UNLESS OTHERWISE SPECIFIED, DUAL DIMENSIONED DWGS ARE IN MILLIMETRES (INCHES). SINGLE DIMENSIONED DWGS ARE IN INCHES.

METRIC: TOL ON METRIC DIM .X=±0.5, .XX=±0.2; HOLE DIAMETERS UNDER 6.35=+0.13-0.13, 6.35 TO 12.70=+0.15-0.13, OVER 12.70=+0.20-0.13; ANGLES: ±1.0°; CONCENTRICITY BETWEEN DIA ON A COMMON AXIS TO BE WITHIN 0.25 Ø.

US CUSTOMARY[ ]: TOL ON [ ] DIM .XX=±.02, .XXX=±.008; HOLE DIAMETERS: UNDER .250=+.005-.005, .251 TO .500=+.006-.005, OVER .500=+.008-.005; ANGLES: ±1.0°; CONCENTRICITY BETWEEN DIA ON A COMMON AXIS TO BE WITHIN .010 Ø.

PART SHALL COMPLY TO 580-5400-001--THIRD ANGLE PROJECTION

CONTRACT NO.

PREP D. JUVE 9/13/79

CHK J. MORGAN 9/20/79

APVD K. Wallace 9-1-79

ROCKWELL INTERNATIONAL CORPORATION
COLLINS GROUPS
DALLAS, TEX 75207 NEWPORT BEACH, CALIF 92663 CEDAR RAPIDS, IA 52406

CIRCUIT BOARD ASSEMBLY, SIDEBOARD A28

METRIC SI

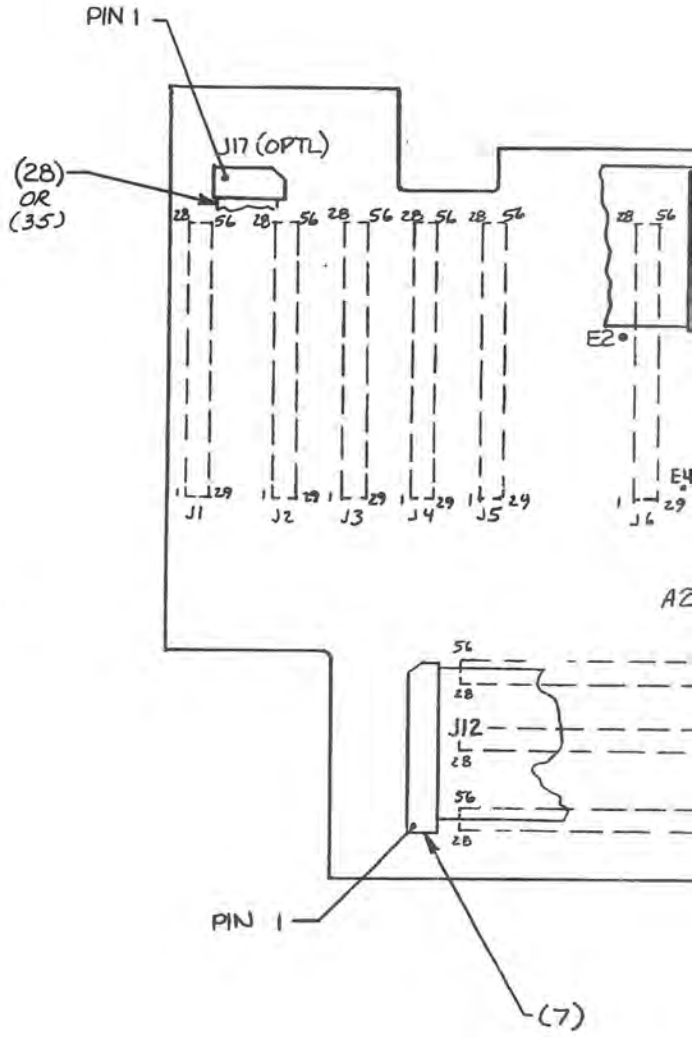
SIZE D | FSCM 13499 | DWG NO. 634-8224 | REV LTR L

SCALE 1/1 | SHEET 1 OF 3

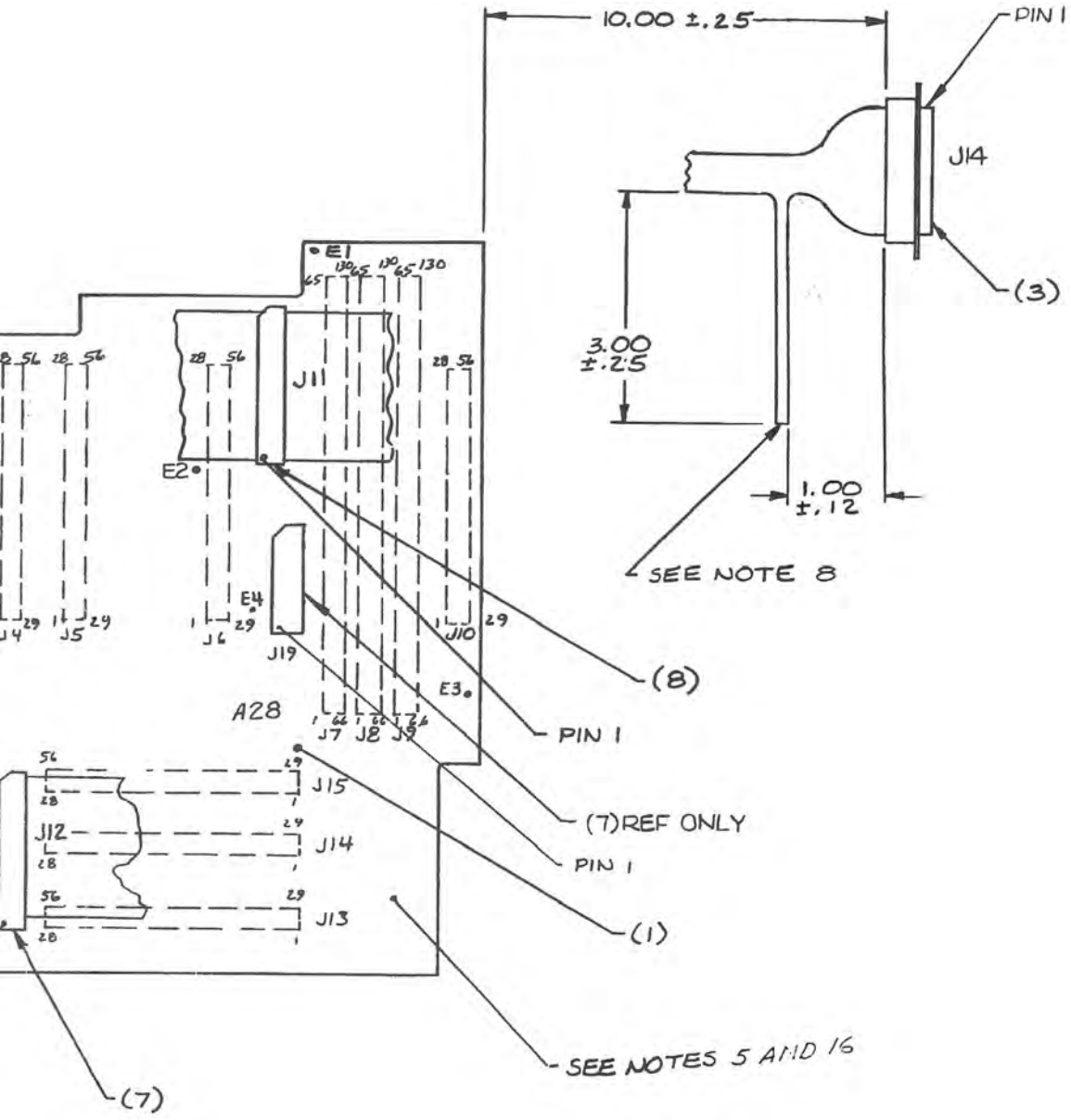
FRO ☐ NFP ☐ REL ☒ CR 3 NC 0 DL 0 TOL

80SVA (E10) uses -003

WIRE CHART FOR -001, -002, -003					
WIRE NO	WIRE CODE		FROM	TO	USED WITH
1A	(9)	WHT	J14-14	A28J10-55	
1B		BRN	J14-2	A28J10-54	
1S		SHIELD	SEE WIRE 2	NC	(6)
2	D26TA00X0XXX		J14 END S1	GND 5 *	(5)
3	D26TA00X0XXX		J14-17	GND 5 *	
4A	(10)	WHT	J14-3	A28J10-26	
4B		RED	J14-16	A28J10-27	
4S		SHIELD	SEE WIRE 5	NC	(6)
5	D26TA00X0XXX		J14 END 4S	GND 5 *	(5)
6	D26TA00X0XXX		J14-15	GND 5 *	
7		7XXX	-9	A28J10-41	
8		8XXX	-10	-14	
9		9XXX	-11	-40	
10		91XX	-12	A28J10-39	
11		0XXX	-1	GND 5 *	
12			-7		
13			-22		
14	D26TA00X0XXX		J14-24	GND 5 *	
15	A22TA00X1XXX		A1TB1-1 *	A28J6-25	(25)
16	A22TA00X2XXX		-2 *	A28J14-18	(25)
17	A22TA00X3XXX		-3 *	A28J5-23	(25)
18	D26TA00X4XXX		-4 *	A28J7-70	(26)
19	A22TA00X0XXX		-5 *	E1	(29)
20		6XXX	-6 *	E2	(25)
21		7XXX	-7 *	A28J5-27	(25)
22	A22TA00X8XXX		A1TB1-8 *	A28J5-6	(25)
24	D26TA00X6XXX		J14-13	A28J10-15	
25	D26TA00X0XXX		J14-21	GND 5 *	
26	D26TA00X0XXX		J14-23	GND 5 *	
27	D26TA00X0XXX		J14-25	GND 5 *	
28	D26TA00X6XXX		A28J10-17	A28J8-38	
29	D26TA00X2XXX		A28J10-17	J14-8	
30	ITEM 36		A29E4	A28J11-5	(-005 ONLY)



-001 OR -00



-001 OR -002 OR -004 OR -005

FSCM 95105	PREP D. JUVE	ROCKWELL INTERNATIONAL CORPORATION COLLINS GROUPS DALLAS, TEX 75207 NEWPORT BEACH, CALIF 92663 CEDAR RAPIDS, IA 52406	
	CHK J.A.	SIZE D / FSCM ~~13499~~ / DWG NO. 634-8224	REV LTR L
		SCALE 1/1	SHEET 2

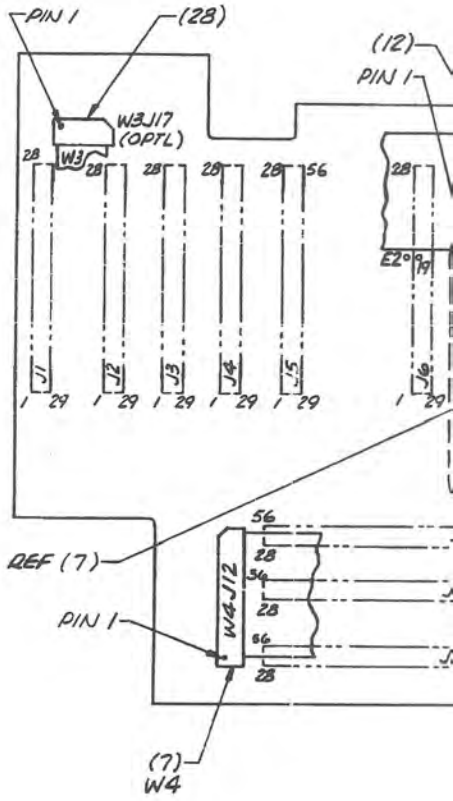
W2 (ITEM 30) HOOK-UP

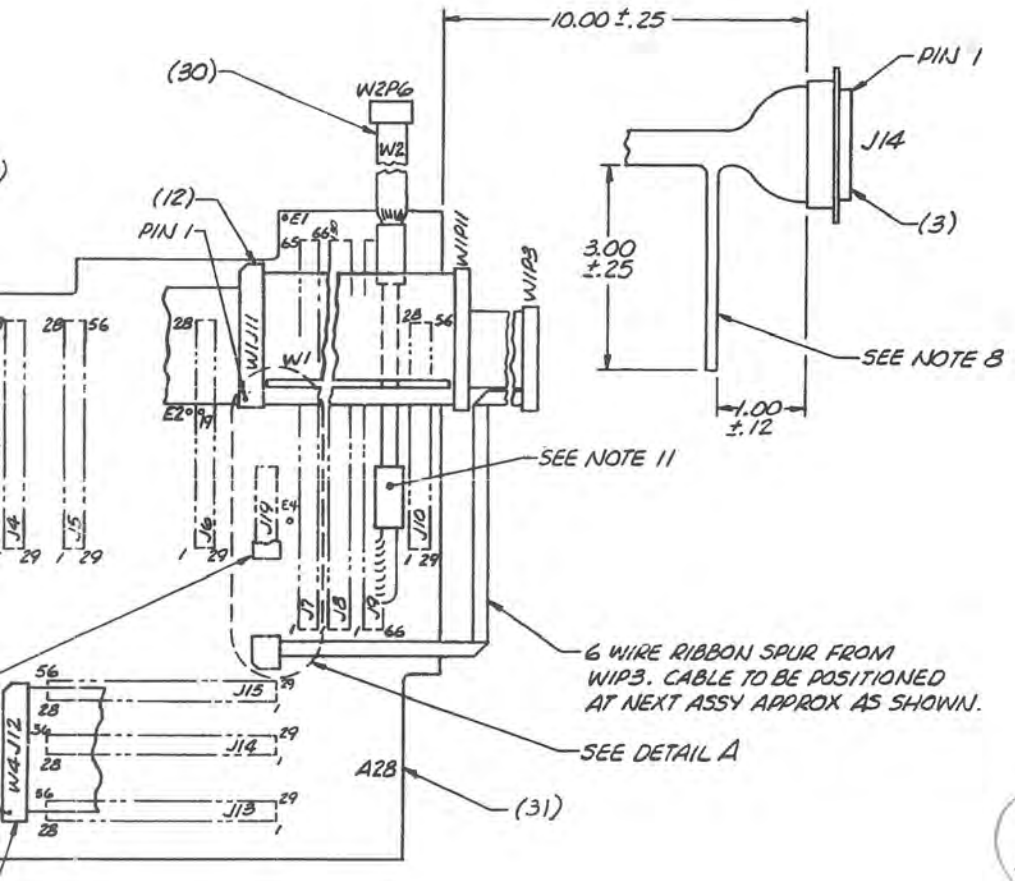
FROM		TO
W2P6-1		NC
	2	A28J9-16
	3	A28J9-94
	4	A28J9-96
	5	NC
	6	A28J9-76
	7	-11
	8	-75
	9	-10
	10	-22
	11	-65
	12	A28J9-130
	13	NC
	14	A28J7-47
	15	NC
	16	A28J7-21
W2P6-17		NC

POINT-TO-POINT WIRING
(-003 ONLY)

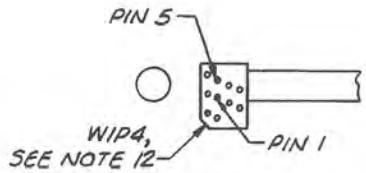
WIRE NO	WIRE CODE	FROM	TO
1	D26TA00X4XXX	W1P4-5	A28E4

FOR ADDITIONAL WIRING INFO
SEE SHEET 2





-003 ONLY



DETAIL A

FSCM 95105	PREP K. WOLLEAT 4/26/84	SIZE D	FSCM 13499	DWG NO. 634-8224 REV LTR T
	CHK J. MORGAN 5/11/84	SCALE 1/1		SHEET 3

ROCKWELL INTERNATIONAL CORPORATION
COLLINS GROUPS
DALLAS, TEX 75207 NEWPORT BEACH, CALIF 92663 CEDAR RAPIDS, IA 52406

NOTES:

P/O A25 SIDEBOARD ASSEMBLY

FUNCTION	A3 CH A2-B2 AUDIO (A3P1) J1	A4 CH A1-B1 AUDIO (A4P1) J2	(RESERVED) A5 CH B2 IF AMPL (A5P1) J3	(RESERVED) A6 CH A2 IF AMPL (A6P1) J4	(RESERVED) A7 CH B1 IF AMPL (A7P1) J5	A8 CH A1 IF AMPL (A8P1) J6	A9 RF XLTR (A9P1) J7	A10 CONTROL LOGIC (A10P1) J8	A11 PARALLEL INPUT (A11P1) J9	A12 PARALLEL OUTPUT (A12P1) J10	A13 SERIAL INTERFACE (A13P1) J11	J12	J13	J17	J18	P6
A1 MIC SEL	15				1							12				
B1 MIC SEL	16											13				
RESERVED	15											11				
RESERVED	16											14				
CH A1 PHONES		44										34				
CH B1 PHONES		43										35				
RESERVED		44										33				
RESERVED		43										36				
A1 METER		34										42				
B1 METER		18										43				
A2 METER	34											41				
B2 METER	18											44				
PHONE AF		11										40				
MIC AF		14										49				
MIC AF RTN		13										48				
PHONE LVL		40										37				
AF LVL RTN																
RESERVED	42	42														
MIC AF OUT	21	21														
CH A1 XMT AF		7				7										
CH B1 XMT AF		45			7											
RESERVED	7			7												
RESERVED	45		7													
ALC						9		85								
TGC							37	26								
XMT RF LVL							20					45				
PRESELECT FAULT IND								71	71							12
CPLR FAULT IND								70	89							10
CW KEY ENBL								81								32
LOCAL KEY								17								33
KEY IND (MON)								68	68							6
REMOTE KEY								92		92						
PA READY IND								69	77							8
PA FAULT IND								4	102	104						7
PRESET SEND								6		71						11
EXCTR FAULT								3	13	4						5
PILOT CARR ENBL						30		73	82	82						16
AF XMT	3	3	3	3	3	3		77								24
SIDETONE ENBL								5	7							9
RF XMT		41	41	41	41	41	41	27								
TUNE POWER						26		46								
XMT RF PM							48		5							
PS FAULT								86	70							
FAULT SUMMARY OUT (RES-FL2)					42	42		49				10	2			
CH A1 AUDIO PM		5							22							
CH B1 AUDIO PM		53							23							
RESERVED		5							24							
RESERVED		53							88							
A1 IF PM						20			86							
VFO FAULT									101				49			
DDS ID BIT (DDS = LOGIC "1")													48			
NOT USED									40				47			
NOT USED									105				46			
NOT USED									36				45			
NOT USED									83				44			
CONTROL INTERFACE FAULT									39				43			
DATA ERROR									95		22					
RMT FREQ CHG			33	33	33	33		21		21						
LCL FREQ CHG								47					8			

(9)

REV STATUS OF SHEETS	REV	A	B	B	B	B	B	B	B	B
	SHEET	1	2	3	4	5	6	7	8	9

-001

15½ x 8½

IMAGE AREA W x H	LTR SIZE	PAGE INCR	PCT
51 x 17	120		50

PUBN NO.

FOR COLLINS DIVISIONS INTERNAL PUBLICATIONS USE ONLY

MATERIAL: NONE

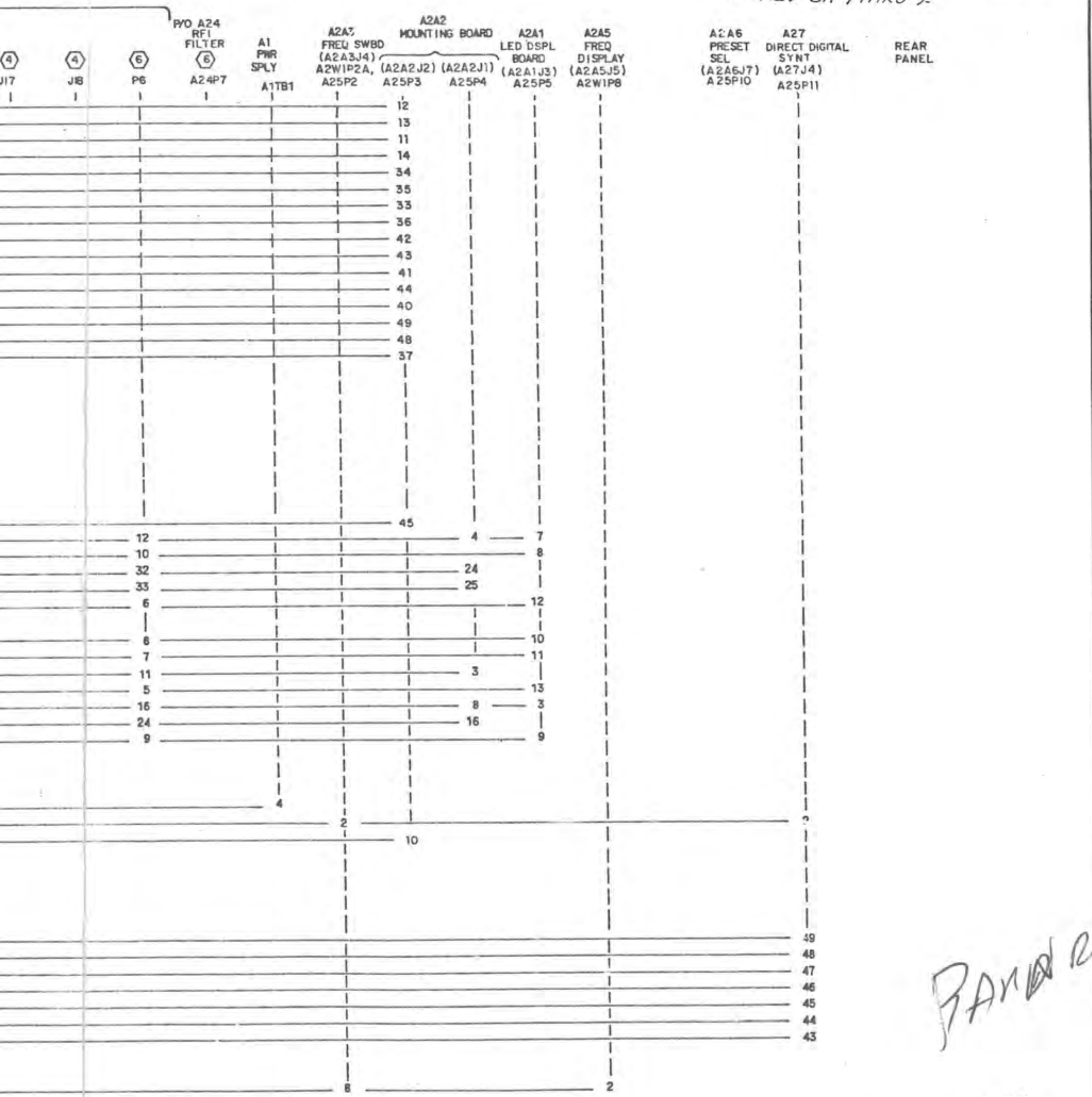
FINISH: NONE

074-5228-002
NEXT ASSY:

TYPE NO: HF-8014/14A (BRENDOOR)

DWG NO. 659-7089 SH 1

LTR	DESCRIPTION	DATE	APVD
A	D20708-(CODE 16) REV SH 1 THRU 5, 7, 8, 9.	84-12-3	CT
B	D21799-(CODE 16) REV SH 1 THRU 9.	85-2-28	CT



CILD SUBBOLT EMCH

MATERIAL	UNLESS OTHERWISE SPECIFIED, DUAL DIMENSIONED DWGS ARE IN MILLIMETRES [INCHES]. SINGLE DIMENSIONED DWGS ARE IN INCHES.	CONTRACT NO.	ROCKWELL INTERNATIONAL CORPORATION COLLINS GROUPS
NONE	METRIC: TOL ON METRIC DIM .X=±0.5, .XX=±0.2; HOLE DIAMETERS UNDER 6.35@=+0.13-0.13, 6.35 TO 12.78=+0.15-0.13, OVER 12.78=+0.20-0.13; ANGLES: ±1.0°; CONCENTRICITY BETWEEN DIA ON A COMMON AXIS TO BE WITHIN 0.25 Ⓜ	PREP G. MESPLAY 84-8-22	DALLAS, TEX 75207 NEWPORT BEACH, CALIF 92663 CEDAR RAPIDS, IA 52406
FINISH NONE	US CUSTOMARY [ ]: TOL ON [ ] DIM .XX=±.02, .XXX=±.008; HOLE DIAMETERS UNDER .250@=+.005-.005, .251 TO .500@=+.006-.005, OVER .500@=+.008-.005; ANGLES: ±1.0°; CONCENTRICITY BETWEEN DIA ON A COMMON AXIS TO BE WITHIN .010 Ⓜ	CHK J. WITMER 84-8-22	INTERCONNECT DIAGRAM-HF-8014/14A EXCITER, CHASSIS, MAIN SIDEBOARD, AND RIBBON CABLING — METRIC
	PART SHALL COMPLY TO 580-5400-001--THIRD ANGLE PROJECTION	APVD C. ERRINGTON	SIZE D FSCM 13499 DWG NO. 659-7089 REV LTR B
			SCALE NONE SHEET 1 OF 9

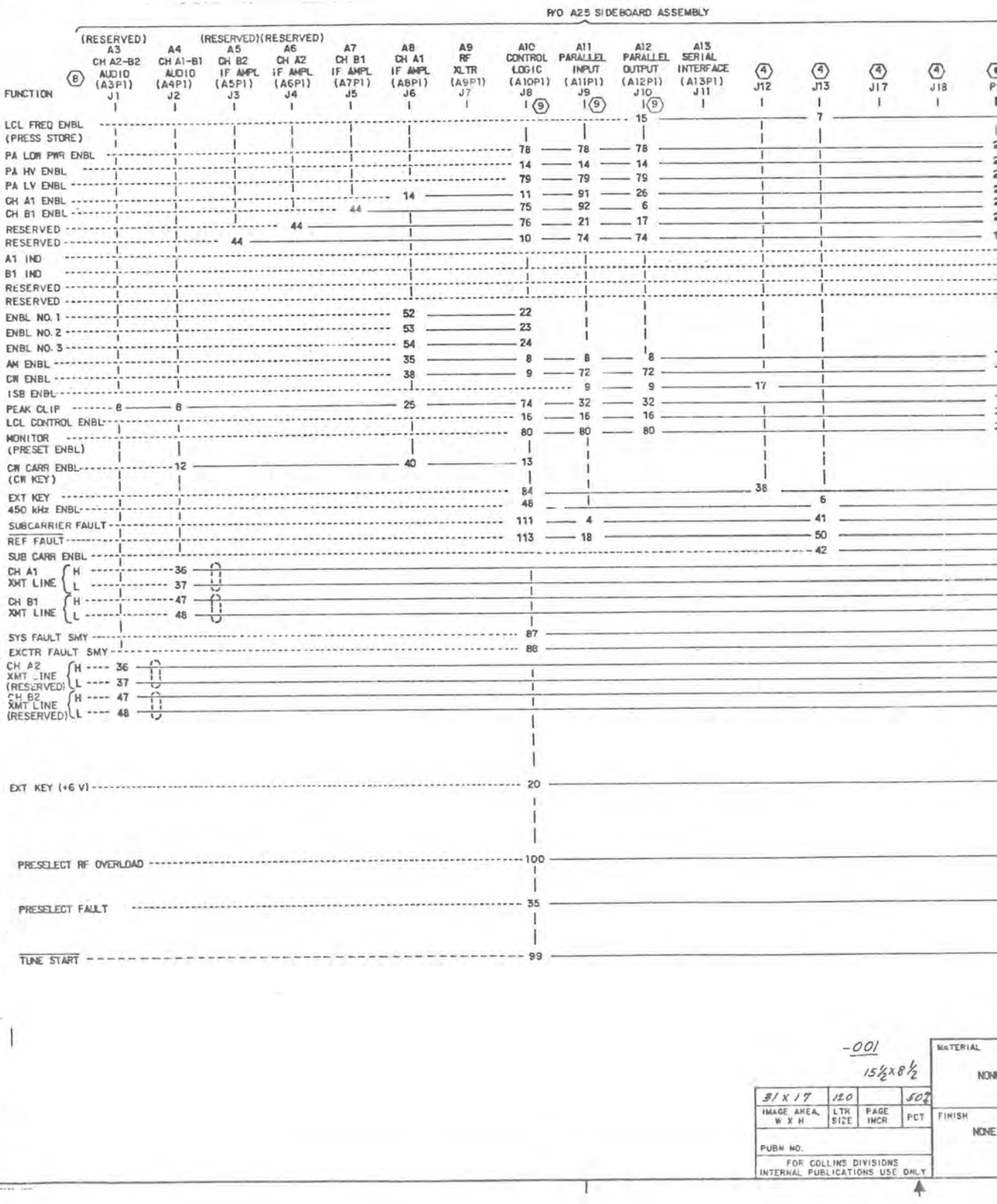
15½×8½ 50 PAGE INCR PCT

SIONS S USE ONLY

T FRO ☐ NFP ☐ REL X CR 2 NB 0 DL 0 TO 1

NOTES:

P/O A25 SIDEBOARD ASSEMBLY



-001

15½ x 8½

IMAGE AREA W X H	LTR SIZE	PAGE INCR	PCT
31 X 17	120		50%

PUBN NO.

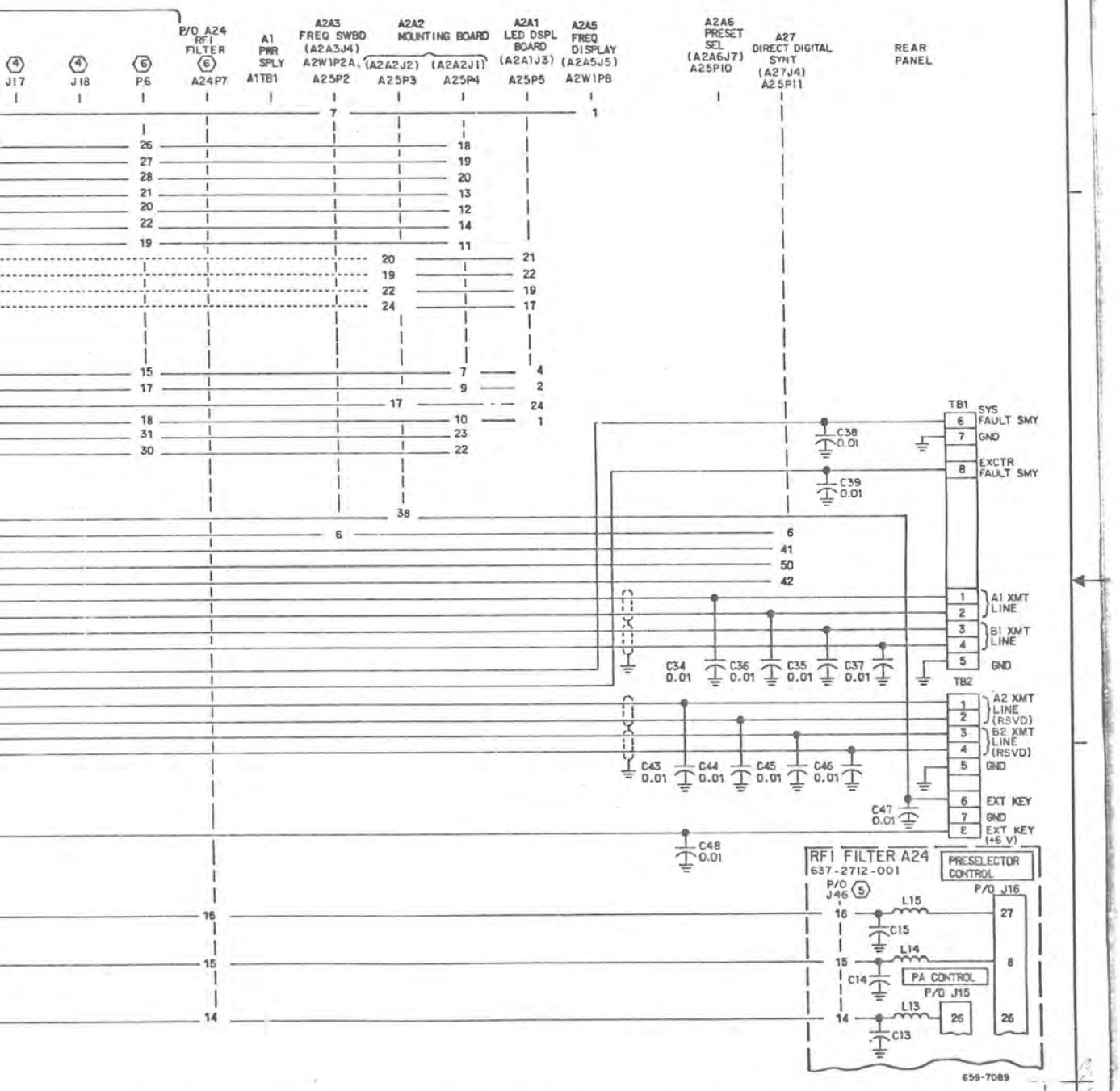
FOR COLLINS DIVISIONS INTERNAL PUBLICATIONS USE ONLY

MATERIAL NONE

FINISH NONE

DWG NO. 659-7089 SH 2

REVISIONS			
LTR	DESCRIPTION	DATE	APVD
	SEE SHEET 1		



MATERIAL: NONE	UNLESS OTHERWISE SPECIFIED, DUAL DIMENSIONED DWGS ARE IN MILLIMETRES [INCHES]. SINGLE DIMENSIONED DWGS ARE IN INCHES.		CONTRACT NO.	ROCKWELL INTERNATIONAL CORPORATION COLLINS GROUPS	
FINISH: NONE	METRIC	US CUSTOMARY[ ]	PREP G. MESPLAY 84-8-22	DALLAS, TEX 75207 NEWPORT BEACH, CALIF 92663 CEDAR RAPIDS, IA 52406	
	TOL ON METRIC DIM .X=±0.5, .XX=±0.2	TOL ON [ ] DIM .XX=±.02, .XXX=±.008	CHK J. RITHER 84-8-22	INTERCONNECT DIAGRAM - HF-5014/144 EXCITER, CHASSIS, MAIN SIDEBOARD, AND RIBBON CABLING	METRIC
	HOLE DIAMETERS UNDER 6.38=+0.13-0.13; 6.38 TO 12.78=+0.15-0.13; OVER 12.78=+0.20-0.13	HOLE DIAMETERS: UNDER .251=+.005-.005; .251 TO .500=+.006-.005; OVER .500=+.008-.005	APVD C. ERRINGTON	SIZE D; FSCM 13499; DWG NO. 659-7089; REV LTR B	
	ANGLES: ±1.0°	ANGLES: ±1.0°		SCALE NONE; SHEET 2	
	CONCENTRICITY BETWEEN DIA ON A COMMON AXIS TO BE WITHIN 0.25 Ø.	CONCENTRICITY BETWEEN DIA ON A COMMON AXIS TO BE WITHIN .010 Ø.			
	PART SHALL COMPLY TO 580-5400-001—THIRD ANGLE PROJECTION				

FRO ☐ NFP ☐ REL ☐ CR 2 MB 0 DL 0 TO 1

NOTES:

P/O A25 SIDEBOARD ASSEMBLY

FUNCTION	(RESERVED) A3 CH A2-B2 AUDIO (A3P1) (8) J1	A4 CH A1-B1 AUDIO (A4P1) J2	(RESERVED) A5 CH B2 IF AMPL (A5P1) J3	(RESERVED) A6 CH A2 IF AMPL (A6P1) J4	A7 CH B1 IF AMPL (A7P1) J5	A8 CH A1 IF AMPL (A8P1) J6	A9 RF XLTR (A9P1) J7	A10 CONTROL LOGIC (A10P1) J8	A11 PARALLEL INPUT (A11P1) J9 (9)	A12 PARALLEL OUTPUT (A12P1) J10	A13 SERIAL INTERFACE (A13P1) J11	(4) J12	(4) J13	(4) J17	(4) J18
PA HIGH VOLTAGE ENBL								34							
PA LOW PWR ENBL								98							
PA LOW VOLTAGE ENBL								33							
EXCITER TUNE								97							
PA SIDETONE ENBL								32							
TGC IN								96							
ALC RETURN															J8-31 (SH 5
ALC IN								95							
PA FAULT								30							
PA READY								94							
SYSTEM KEY								29							
PA INTERLOCK								93							
COUPLER FAULT								28							
FREQ 20 MHz								129	129	129			38		
10 MHz								64	64	64			37		
8 MHz								128	128	128			36		
4 MHz								63	63	63			35		
2 MHz								127	127	127			34		
1 MHz								62	62	62			33		
800 kHz								126	126	126			32		
400 kHz								61	61	61			31		
200 kHz								125	125	125			30		
100 kHz								60	60	60			29		
80 kHz								124	124	124			28		
40 kHz								59	59	59			27		
20 kHz								123	123	123			26		
10 kHz								58	58	58			25		
8 kHz								122	122	122			24		
4 kHz								57	57	57			23		
2 kHz								121	121	121			22		
1 kHz								56	56	56			21		
800 Hz								120	120	120			20		
400 Hz								55	55	55			19		
200 Hz								119	119	119			18		

-001
15½×8½

31 X 17	120		60
IMAGE AREA W X H	LTR SIZE	PAGE INCR	PCT

PUBN NO.

FOR COLLINS DIVISIONS INTERNAL PUBLICATIONS USE ONLY

MATERIAL

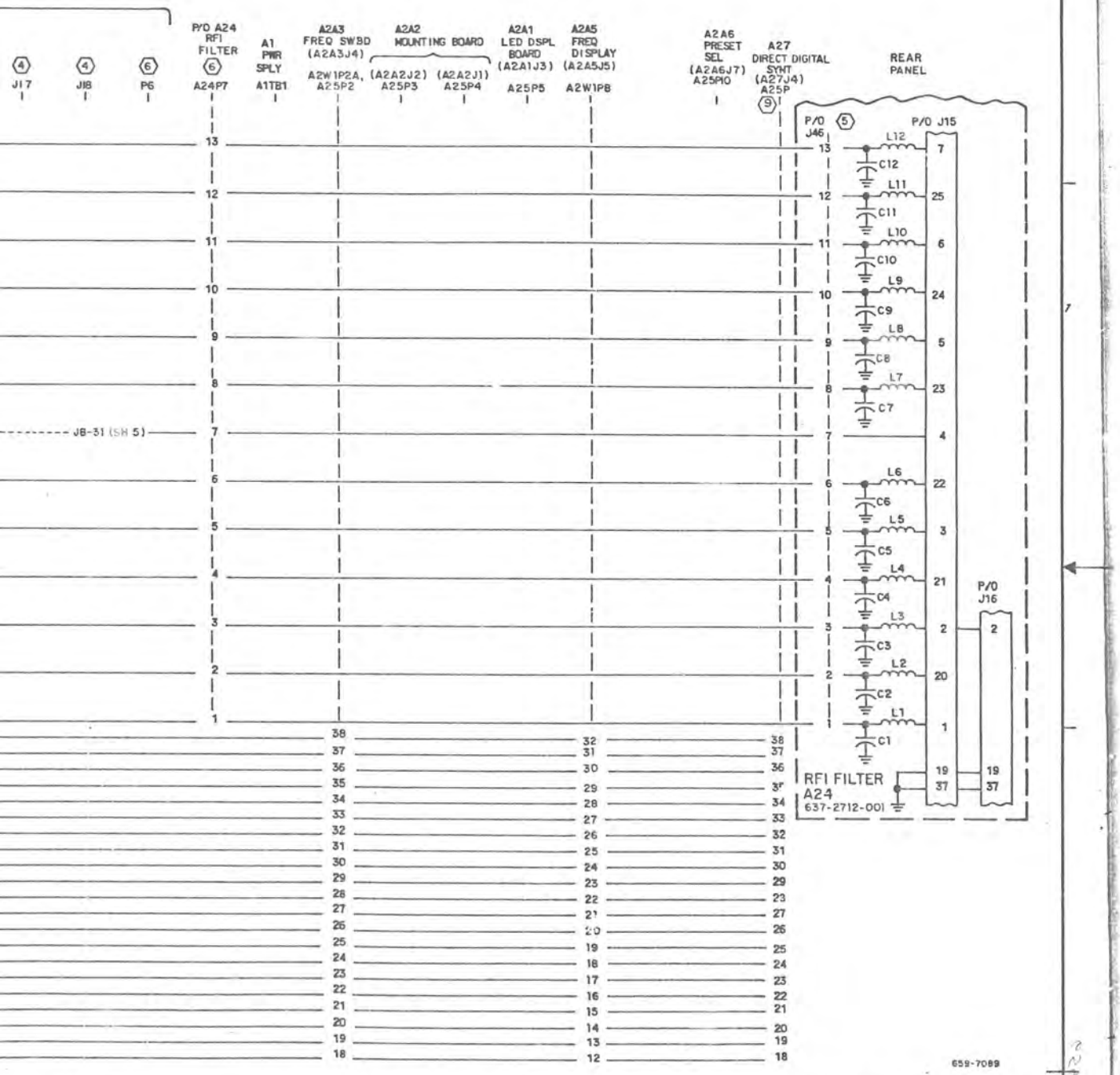
FINISH

074-5276-002
NEXT ASSY:

TYPE NO:

DWG NO. 659-7089 SH 3

REVISIONS			
LTR	DESCRIPTION	DATE	APVD
	SEE SHEET 1		



MATERIAL: NONE	UNLESS OTHERWISE SPECIFIED, DUAL DIMENSIONED DWGS ARE IN MILLIMETRES [INCHES]. SINGLE DIMENSIONED DWGS ARE IN INCHES.		CONTRACT NO.	ROCKWELL INTERNATIONAL CORPORATION COLLINS GROUPS			
	METRIC	US CUSTOMARY[ ]		DALLAS, TEX 75207 NEWPORT BEACH, CALIF 92663 CEDAR RAPIDS, IA 52406			
FINISH: NONE	TOL ON METRIC DIM: .X=±0.5, .XX=±0.2	TOL ON [ ] DIM: .XX=±.02, .XXX=±.008	PREP G. MESPLAY 84-8-22	INTERCONNECT DIAGRAM- HF-8014/146 EXCITER, CHASSIS, MAIN SIDEBOARD, AND RIBBON CABLING			METRIC
	HOLE DIAMETERS: UNDER 6.38=+0.13-0.13; 6.38 TO 12.7=+0.15-0.13; OVER 12.7=+0.20-0.13	HOLE DIAMETERS: UNDER .25=+.005-.005; .25 TO .500=+.006-.005; OVER .500=+.008-.005	CHK J. RITNER 84-8-22				
	ANGLES: ±1.0°	ANGLES: ±1.0°	APVD C. ERRINGTON	SIZE D	FSCM 13499	DWG NO. 659-7089	REV LTR B
	CONCENTRICITY BETWEEN DIA ON A COMMON AXIS TO BE WITHIN 0.25 Ø.	CONCENTRICITY BETWEEN DIA ON A COMMON AXIS TO BE WITHIN .010 Ø.		SCALE NONE		SHEET 3	
	PART SHALL COMPLY TO 580-5400-001--THIRD ANGLE PROJECTION						

FRO ☐ NFP ☐ REL ☐ CR 2 MB 0 DL 0 10

NOTES:

P/O A25 SIDEBOARD ASSEMBLY

FUNCTION		(RESERVED) A3 CH A2-B2 AUDIO (A3P1) ⑥ J1	A4 CH A1-B1 AUDIO (A4P1) J2	(RESERVED) A5 CH B2 IF AMPL (A5P1) J3	(RESERVED) A6 CH A2 IF AMPL (A6P1) J4	A7 CH B1 IF AMPL (A7P1) J5	A8 CH A1 IF AMPL (A8P1) J6	A9 RF XLTR (A9P1) J7	A10 CONTROL LOGIC (A10P1) J8	A11 PARALLEL INPUT (A11P1) ⑨ J9	A12 PARALLEL OUTPUT (A12P1) J10	A13 SERIAL INTERFACE (A13P1) J11	④ J12	④ J13	④ J17	④ J18	⑥ P6
FREQ	100 Hz								54	54	54			17			
	80 Hz								118	118	118			16			
	40 Hz								53	53	53			15			
	20 Hz								117	117	117			14			
	10 Hz								52	52	52			13			
	8 Hz								116	116	116			12			
	4 Hz								51	51	51			11			
	2 Hz								115	115	115			10			
	1 Hz								50	50	50			9			
FREQ	20 MHz								109								
	10 MHz								44								
	8 MHz								108								
	4 MHz								43								
	2 MHz								107								
	1 MHz								42								
	800 kHz								106								
	400 kHz								41								
	200 kHz								105								
	100 kHz								40								
	80 kHz								104								
	40 kHz								39								
	20 kHz								103								
	10 kHz								38								
	8 kHz								102								
	4 kHz								37								
	2 kHz								101								
	1 kHz								36								

-001
15½ x 8½

31 X 17	12.0		50
IMAGE AREA W X H	LTR SIZE	PAGE INCR	PCT

PUBN NO.

FOR COLLINS DIVISIONS INTERNAL PUBLICATIONS USE ONLY

MATERIAL: NONE

FINISH: NONE

CI-1228-002
NEXT ASSY:

TYPE NO:

DWG NO. 659-7089 | SH 4

REVISIONS		
LTR	DESCRIPTION	DATE	APVD
	SEE SHEET 1		

(4) J17	(4) J18	(6) P6	P/O A24 RFI FILTER (6) A24P7	A1 PWR SPLY A1TB1	A2A3 FREQ SWBD A2A3J4 A2W1P2A, A25P2	A2A2 MOUNTING BOARD (A2A2J2) A25P3	(A2A2J1) A25P4	A2A1 LED DSPL BOARD (A2A1J3) A25P5	A2A5 FREQ DISPLAY (A2A5J5) A2W1P8	A2A6 PRESET SEL (A2A6J7) A25P10	A27 DIRECT DIGITAL SYNT (A27J4) A25P (9)	REAR PANEL
					17				11		17	
					16				10		16	
					15				9		15	
					14				8		14	
					13				7		13	
					12				6		12	
					11				5		11	
					10				4		10	
					9				3		9	
			34									
			33									
			32									
			31									
			30									
			29									
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			27									
			26									
			25									
			24									
			23									
			22									
			21									
			20									
			19									
			18									
			17									

RFI FILTER A24
637-2712-001

P/O J46 (5)		P/O J15	P/O J16
34	L33 C33	36	36
33	L32 C32	17	17
32	L31 C31	35	35
31	L30 C30	16	16
30	L29 C29	34	34
29	L28 C28	15	15
28	L27 C27	33	33
27	L26 C26	14	14
26	L25 C25	32	32
25	L24 C24	13	13
24	L23 C23		31
23	L22 C22		12
22	L21 C21		30
21	L20 C20		11
20	L19 C19		29
19	L18 C18		10
18	L17 C17		28
17	L16 C16		9

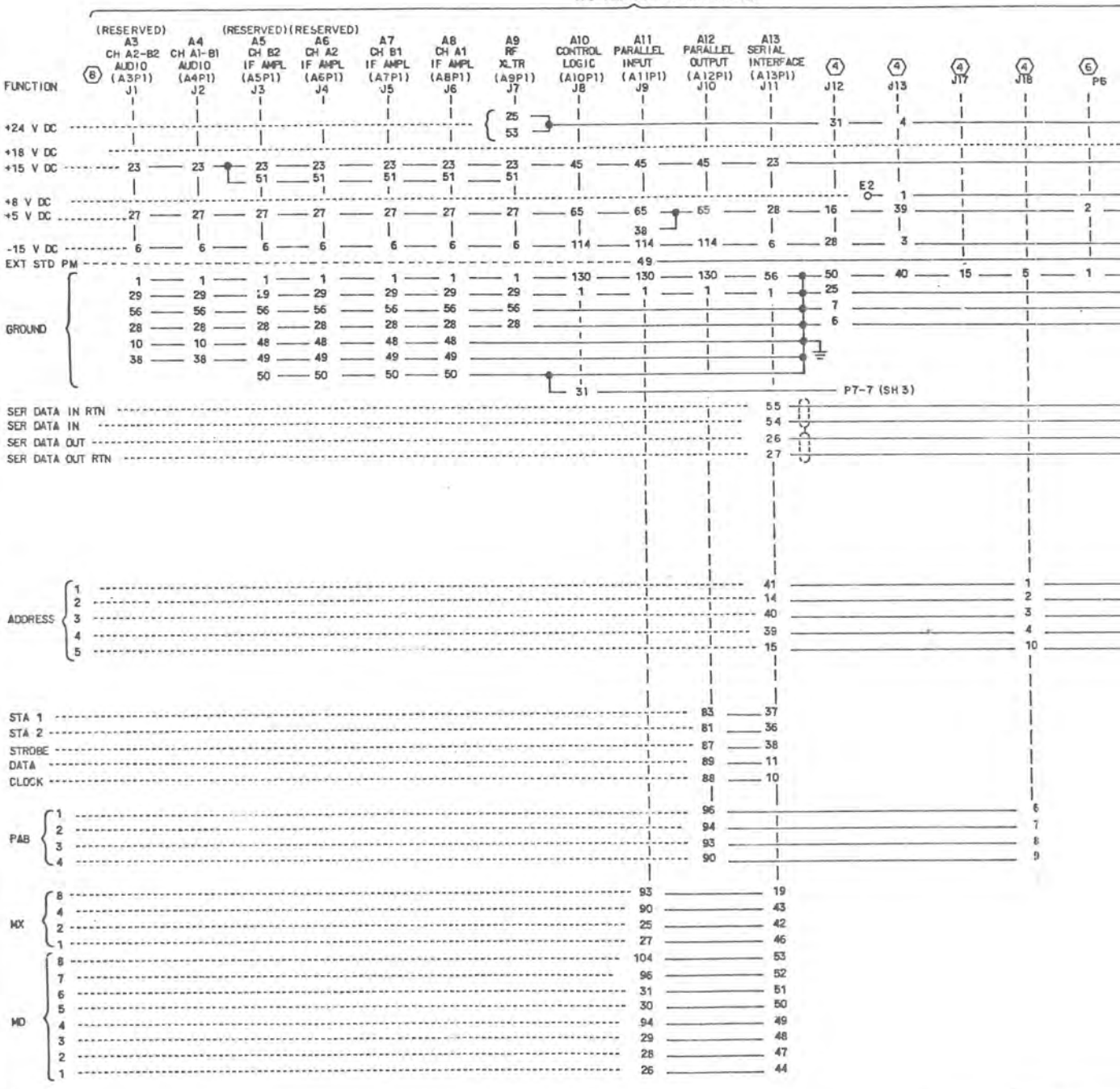
659-7089

01	MATERIAL NONE	UNLESS OTHERWISE SPECIFIED, DUAL DIMENSIONED DWGS ARE IN MILLIMETRES [INCHES]. SINGLE DIMENSIONED DWGS ARE IN INCHES. METRIC: TOL ON METRIC DIM .X±0.5, .XX±0.2; HOLE DIAMETERS UNDER 6.38±0.13-0.13, 6.38 TO 12.78±0.15-0.13, OVER 12.78±0.20-0.13; ANGLES: ±1.0°; CONCENTRICITY BETWEEN DIA ON A COMMON AXIS TO BE WITHIN 0.25 Ⓜ. US CUSTOMARY[ ]: TOL ON [ ] DIM .XX±.02, .XXX±.008; HOLE DIAMETERS: UNDER .250±.005-.005, .25[TO .500±.006-.005, OVER .500±.008-.005; ANGLES: ±1.0°; CONCENTRICITY BETWEEN DIA ON A COMMON AXIS TO BE WITHIN .010 Ⓜ. PART SHALL COMPLY TO 580-5400-001—THIRD ANGLE PROJECTION	CONTRACT NO.	ROCKWELL INTERNATIONAL CORPORATION COLLINS GROUPS DALLAS,TEX 75207 NEWPORT BEACH,CALIF 92663 CEDAR RAPIDS,IA 52405	
1/2 x 8 1/2		PREP G. MESPLAY 64-8-21		
50		CHK J. WITMER 64-8-21	INTERCONNECT DIAGRAM — HF-8014/14A EXCITER, CHASSIS, MAIN SIDEBOARD, AND RIBBON CABLING.	METRIC S1
PAGE INCR PCT	FINISH NONE	APVD C. ERRINGTON	SIZE D FSCM 13499 DWG NO. 659-7089	REV LTR B
ISIONS S USE ONLY			SCALE NONE	SHEET 4

FRO ☐ NFP ☐ REL ☐ CR 2 NB 0 DL 0 TO 1

NOTES:

P/O A25 SIDEBOARD ASSEMBLY



-001

15½ × 8½

91 X 17	12.0	3 1 X 17	50
IMAGE AREA W X H	LTR SIZE	PAGE INCR	PCT

PUBN NO.

FOR COLLINS DIVISIONS INTERNAL PUBLICATIONS USE ONLY

MATERIAL: NONE

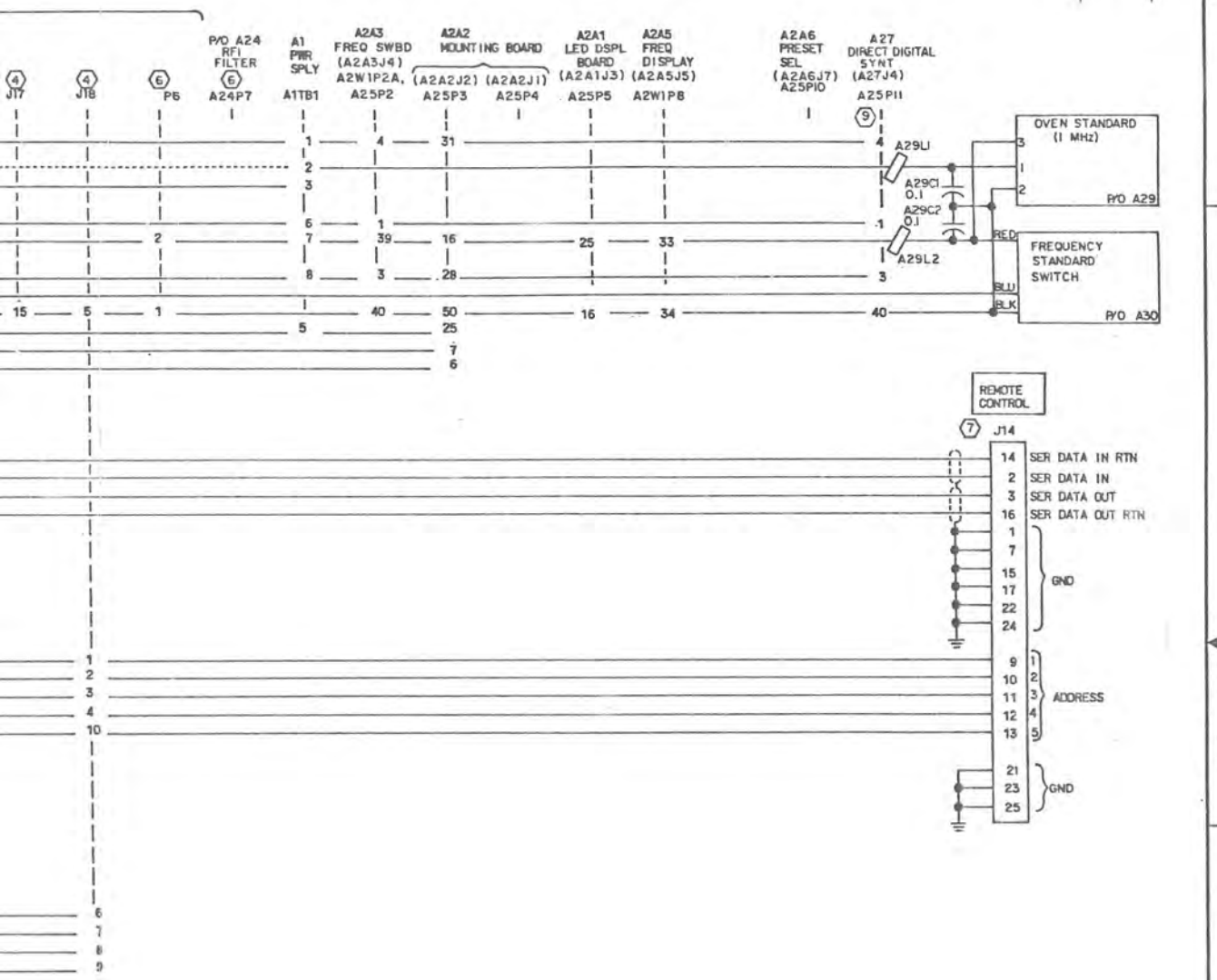
FINISH: NONE

074-5276-002
NEXT ASSY:

TYPE NO:

DWG NO. 659-7089 SH 5

REVISIONS			
LTR	DESCRIPTION	DATE	APVD
	SEE SHEET 1		



659-7089

COLD SUPPORT ENGR

MATERIAL: NONE	UNLESS OTHERWISE SPECIFIED, DUAL DIMENSIONED DWGS ARE IN MILLIMETRES [INCHES]. SINGLE DIMENSIONED DWGS ARE IN INCHES.	CONTRACT NO.	ROCKWELL INTERNATIONAL CORPORATION COLLINS GROUPS
FINISH: NONE	METRIC: TOL ON METRIC DIM .X±0.5, .XX±0.2; HOLE DIAMETERS UNDER 6.38 ±0.13 −0.13, 6.38 TO 12.78 ±0.13 −0.13, OVER 12.78 ±0.20 −0.13; ANGLES: ±1.0°; CONCENTRICITY BETWEEN DIA ON A COMMON AXIS TO BE WITHIN 0.25 Ⓜ	PREP G. MESPLAY 84-8-21	DALLAS, TEX 75207 NEWPORT BEACH, CALIF 92663 CEDAR RAPIDS, IA 52406
	US CUSTOMARY[]: TOL ON [] DIM .XX±.02, .XXX±.008; HOLE DIAMETERS: UNDER .251 ±.005 −.005, .251 TO .500 Ⓜ ±.006 −.005, OVER .500 ±.008 −.005; ANGLES: ±1.0°; CONCENTRICITY BETWEEN DIA ON A COMMON AXIS TO BE WITHIN .010 Ⓜ	CHK J. RITNER 84-8-21	INTERCONNECT DIAGRAM — HF-8014/14A EXCITER, CHASSIS, MAIN SIDEBOARD, AND RIBBON CABLING.
	PART SHALL COMPLY TO 580-5400-001 — THIRD ANGLE PROJECTION	APVD C. ERRINGTON	SIZE D; FSCM 13499; DWG NO. 659-7089; REV LTR B; SCALE NONE; SHEET 5

FRO ☐ NFP ☐ REL ☐ CR 2 NB 0 DL 0 TO 1

NOTES:

P/O A25 SIDEBOARD ASSEMBLY

FUNCTION	(8)	(RESERVED) A3 CH A2-B2 AUDIO (A3P1) J1	A4 CH A1-B1 AUDIO (A4P1) J2	(RESERVED) A5 CH B2 IF AMPL (A5P1) J3	(RESERVED) A6 CH A2 IF AMPL (A6P1) J4	A7 CH B1 IF AMPL (A7P1) J5	A8 C1 A1 IF AMPL (A8P1) J6	A9 RF XLTR (A9P1) J7	A10 CONTROL LOGIC (A10P1) J8	A11 PARALLEL INPUT (A11P1) J9	A12 PARALLEL OUTPUT (A12P1) J10	A13 SERIAL INTERFACE (A13P1) J11	(4) J12	(4) J13	(4) J17	(4) J18
XMT OUTPUT								A9J4 J26								
IF INTERCONNECT				A5J1 J53	J52 A6J1											
						J51 A7J1	J50 A8J4									
FREQ STD INPUT																
9.45 MHz OUTPUT							A8J7 J36	J27 A9J2								
118.8 MHz INJ								A9J6 J24								
9.9 MHz INJ							A8J3 J32									
VARIABLE INJ (109.35 TO 79.35 MHz)								A9J5 J28								
450 kHz INJ						A7J5 J39										
450 kHz INJ							A8J5 J34									
456.29 kHz INJ (RESERVED)					A6J5 J54											
443.71 MHz INJ (RESERVED)				A5J5 J55												

-001

15½ × 7½

31 x 19 5/4	120		50
IMAGE AREA W X H	LTR SIZE	PAGE INCR	PCT
PUBN NO.			
FOR COLLINS DIVISIONS INTERNAL PUBLICATIONS USE ONLY			

MATERIAL NOM

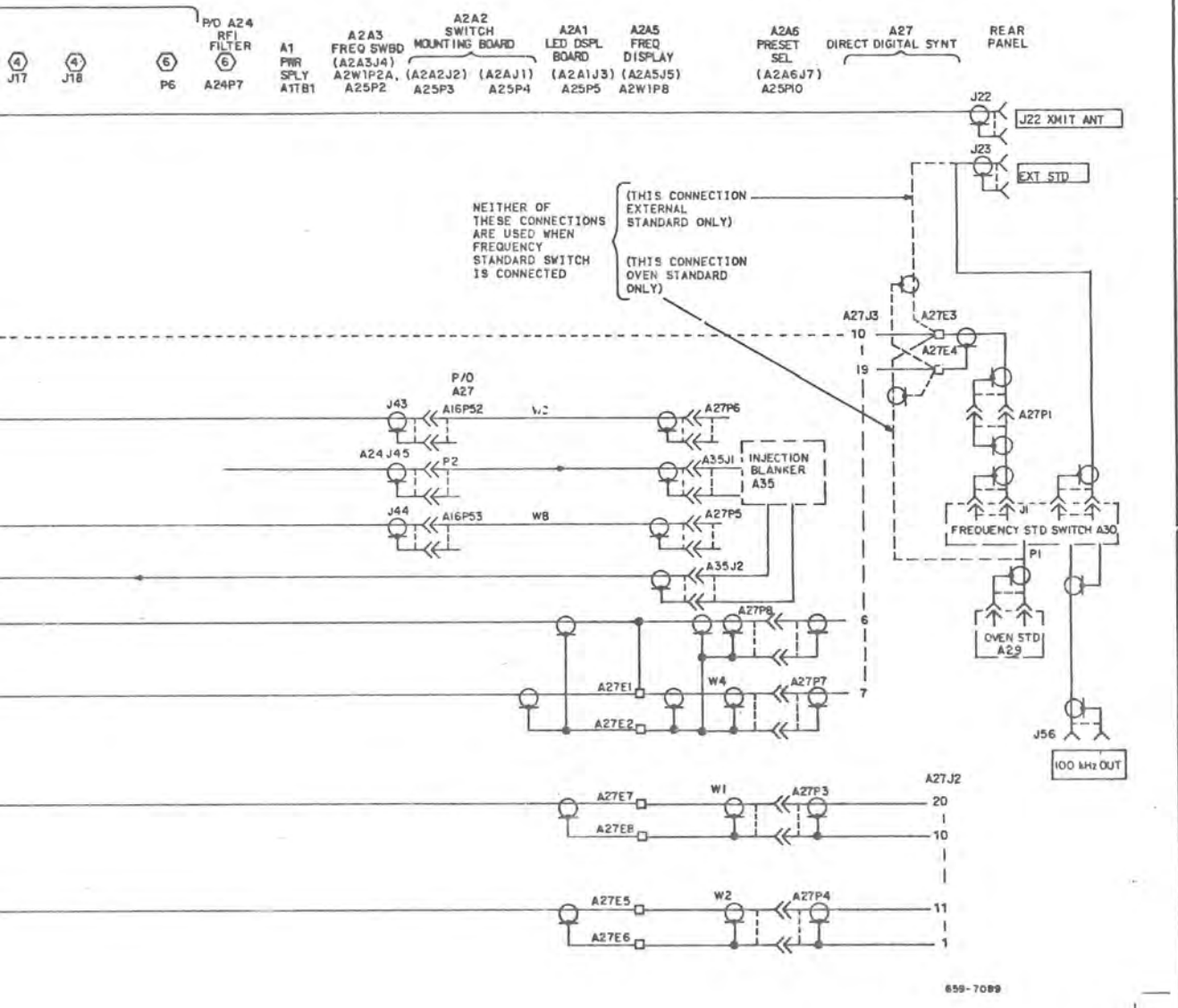
FINISH NOM

074-5226-002
NEXT ASSY:

TYPE NO:

DWG NO. 659-7089 SH 6

REVISIONS			
LTR	DESCRIPTION	DATE	APVD
	SEE SHEET 1		



MATERIAL: NONE	UNLESS OTHERWISE SPECIFIED, DUAL DIMENSIONED DWGS ARE IN MILLIMETRES [INCHES]. SINGLE DIMENSIONED DWGS ARE IN INCHES.		CONTRACT NO.	ROCKWELL INTERNATIONAL CORPORATION COLLINS GROUPS		
FINISH: NONE	METRIC	US CUSTOMARY[ ]	PREP G. MESPLAY 84-8-21	DALLAS, TEX 75207 NEWPORT BEACH, CALIF 92663 CEDAR RAPIDS, IA 52406		
	TOL ON METRIC DIM: .X=±0.5, .XX=±0.2	TOL ON [ ] DIM: .XX=±.02, .XXX=±.008	CHK J. WITMER 84-8-21	INTERCONNECT DIAGRAM-HF-8014/8014A EXCITER, CHASSIS, MAIN SIDEBOARD, AND RIBBON CABLING		METRIC SI
	HOLE DIAMETERS: UNDER 6.350=+0.13-0.13; 6.36 TO 12.70=+0.15-0.13; OVER 12.70=+0.20-0.13	HOLE DIAMETERS: UNDER .250=+.005-.005; .251 TO .500=+.006-.005; OVER .500=+.008-.005	APVD C. ERRINGTON	SIZE D	FSCM 13499	DWG NO. 659-7089 REV LTR B
	ANGLES: ±1.0°	ANGLES: ±1.0°		SCALE NONE		SHEET 6
	CONCENTRICITY BETWEEN DIA ON A COMMON AXIS TO BE WITHIN 0.25 Ø	CONCENTRICITY BETWEEN DIA ON A COMMON AXIS TO BE WITHIN .010 Ø				
	PART SHALL COMPLY TO 580-5400-001--THIRD ANGLE PROJECTION					

FRD ☐ NFP ☐ REL ☐ CR 2 NB 0 DL 0 TO 1

NOTES:

EXCITER CABLE/ASSEMBLY CONFIGURATIONS

CABLE/ASSEMBLY	PART NUMBER	HF-8014 EXCITER					HF-8014A EXCITER										
		-001					-001	-002	-003	-004	-005	-006	-007			211	
SIDEBOARD ASSEMBLY A25	634-8211-001	X					X	X	X	X	X	X	X			X	MAIN SIDEBOARD ASSEMBLY
SIDEBOARD A25A1	638-6617-001	X					X	X	X	X	X	X	X			X	MAIN SIDEBOARD
CABLE ASSEMBLY	634-8210-001	X					X	X	X	X	X	X	X			X	INCLUDES A25J13, A25P2, AND
CABLE ASSEMBLY	634-8212-001	X					X	X	X	X	X	X	X			X	INCLUDES A25J12, A25P3, A25P
WIRING HARNESS	647-2407-001	X					X	X	X	X	X	X	X			X	INCLUDES TB1 AND ASSOCIATE
WIRING HARNESS	642-2408-001	X					X	X	X	X	X	X	X			X	INCLUDES TB2 AND ASSOCIATE
RFI FILTER A24	637-2712-001	X					X	X	X	X	X	X	X			X	RFI FILTER, INCLUDES J15,
SPECIAL PURPOSE CABLE	637-9313-001	X					X	X	X	X	X	X	X			X	INCLUDES A24J46 AND A24P7
OVEN STANDARD, OSC ASSY A29	637-9135-001							X	X	X	X	X	X			X	
FREQ STANDARD SWITCH A30	646-6558-001							X	X	X	X	X				X	
FREQ DISPLAY CABLE A2W1	634-8289-001							X	X	X	X	X	X			X	(P/O AC-8014) INCLUDES A2W
SYNTHESIZER CHASSIS ASSY A27	634-8201-001	X					X	X	X	X	X	X	X				
SYNTHESIZER SIDEBOARD A27A1	638-6973-001	X					X	X	X	X	X	X	X				
SYNTHESIZER CHASSIS ASSY A27	652-6615-001															X	

RF CABLES

RF CABLE ASSY	637-1525-004	X					X	X	X	X	X	X	X			X	INTERCONNECTS J22 AND J26
RF CABLE ASSY	637-1526-003	X					X	X	X	X	X	X	X			X	INTERCONNECTS J27 AND J36
RF CABLE ASSY	637-1526-003	X					X	X	X	X	X	X	X			X	INTERCONNECTS J24 AND J43
RF CABLE ASSY	637-1526-003	X					X	X	X	X	X	X	X			X	INTERCONNECTS J28 SND J45
RF CABLE ASSY	637-1526-004	X					X	X	X	X	X	X	X			X	INTERCONNECTS J32 AND J44
RF CABLE ASSY	637-1529-001	X					X	X	X	X	X	X	X			X	INTERCONNECTS A27E1 AND J
RF CABLE ASSY	637-1529-001	X					X	X	X	X	X	X	X			X	INTERCONNECTS A27E1 AND J
RF CABLE ASSY	637-1529-001	X					X	X	X	X	X	X	X			X	INTERCONNECTS A27E5 AND J
RF CABLE ASSY	637-1529-001	X					X	X	X	X	X	X	X			X	INTERCONNECTS A27E7 AND J
RF CABLE ASSY	624-2454-001	X					X	X	X	X	X	X	X			X	INTERCONNECTS J50, J51, J52
RF CABLE ASSY	637-9136-001																(P/O AC-8013) INTERCONNECT
RF CABLE ASSY	P/O A29							X	X	X	X	X	X			X	(P/O AC-8012) INTERCONNECT
RF CABLE ASSY	P/O A30							X	X	X	X	X				X	(P/O AC-8015) INTERCONNECT
RF CABLE ASSY	P/O A30							X	X	X	X	X				X	(P/O AC-8015) INTERCONNECT
RF CABLE ASSY	P/O A30							X	X	X	X	X				X	(P/O AC-8015) INTERCONNECT
RF CABLE ASSY	P/O A30							X	X	X	X	X				X	(P/O AC-8015) INTERCONNECT

15½×8½

31 X 17	120		50
IMAGE AREA W X H	LTP SIZE	PAGE INCR	PCT

PUBN NO.

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MATERIAL

NONE

FINISH

NONE

074-5229-002

NEXT ASSY:

TYPE NO: HF-8014/14A

LTR	DESCRIPTION	DATE	APVD
	REVISIONS		
	SEE SHEET 1		

FUNCTION
MAIN SIDEBCARD ASSEMBLY
MAIN SIDEBCARD
INCLUDES A25J13, A25P2, AND A25P11
INCLUDES A25J12, A25P3, A25P4, A25P5, AND A25P6
INCLUDES TB1 AND ASSOCIATED WIRING
INCLUDES TB2 AND ASSOCIATED WIRING
RFI FILTER, INCLUDES J15, AND J16
INCLUDES A24J46 AND A24P7
(P/O AC-8014) INCLUDES A2W1P8, A2W1P2A, AND A2W1P2B

INTERCONNECTS J22 AND J26 (XMT OUT)
INTERCONNECTS J27 AND J36 (9.45 MHz IF)
INTERCONNECTS J24 AND J43 (118.8 MHz INJ)
INTERCONNECTS J28 SND J45 (VAR INJ)
INTERCONNECTS J32 AND J44 (9.9 MHz INJ)
INTERCONNECTS A27E1 AND J34 (450 kHz INJ)
INTERCONNECTS A27E1 AND J39 (450 kHz INJ)
INTERCONNECTS A27E5 AND J35 (443.71 kHz INJ)
INTERCONNECTS A27E7 AND J54 (456.29 kHz INJ)
INTERCONNECTS J50, J51, J52 AND J53 (450 kHz IF)
(P/O AC-8013) INTERCONNECTS A27E3 AND J23 (EXT STD)
(P/O AC-8012) INTERCONNECTS A27E3 AND A29W1P1 (1 MHz STD)
(P/O AC-8015) INTERCONNECTS A30P1 AND A29J1 (1 MHz STD)
(P/O AC-8015) INTERCONNECTS A30J1 AND A29W1P1 (100 kHz REF)
(P/O AC-8015) INTERCONNECTS A30J2 AND J23 (EXT STD)
(P/O AC-8015) INTERCONNECTS A30J3 AND J56 (100 kHz REF OUT)

NOTES:

1. REFER TO CONFIGURATION TABLE FOR CABLES/ASSEMBLIES USED IN EACH EXCITER. INCLUDED IN THIS TABLE ARE ONLY THE CABLES/ASSEMBLIES SHOWN ON THIS SCHEMATIC.
2. UNLESS OTHERWISE SPECIFIED; CAPACITANCE VALUES ARE 0.01 MICROFARADS AND INDUCTANCE VALUES ARE 100 MICROHENRYS.
3. PARTIAL REFERENCE DESIGNATIONS ARE SHOWN: FOR COMPLETE DESIGNATION, PREFIX WITH UNIT AND/OR ASSEMBLY DESIGNATION.
4. J12, J13, J17, AND J18 ARE SOLDERED INTO AND ARE PART OF SIDEBOARD ASSEMBLY A25 (THERE IS NO MATING CONNECTOR FOR J12, J13, J17, OR J18).
5. A24J46 IS SOLDERED INTO AND IS PART OF RFI FILTER A24 (THERE IS NO MATING CONNECTOR FOR A24J46).
6. A25P6 AND A24P7 MATE WITH ONE SIDE OF J8, A10P1 MATES WITH OTHER SIDE OF J8 (OPPOSITE SIDES OF SIDEBOARD; PIN NUMBERING SHOWN BELOW).

A25P6	P/O J8	P/O A10P1
1	1	
2	66	
3	2	
4	67	
5	3	
6	68	
7	4	
8	69	
9	5	
10	70	
11	6	
12	71	
13	7	
14	72	
15	8	
16	73	
17	9	
18	74	
19	10	
20	75	
21	11	
22	76	
23	12	
24	77	
25	13	
26	78	
27	14	
28	79	
29	15	
30	80	
31	16	
32	81	
33	17	
34	82	

A24P7	P/O J8	P/O A10P1
1	28	28
2	93	93
3	29	29
4	94	94
5	30	30
6	95	95
7	31	31
8	96	96
9	32	32
10	97	97
11	33	33
12	98	98
13	34	34
14	99	99
15	35	35
16	100	100
17	36	36
18	101	101
19	37	37
20	102	102
21	38	38
22	103	103
23	39	39
24	104	104
25	40	40
26	105	105
27	41	41
28	106	106
29	42	42
30	107	107
31	43	43
32	108	108
33	44	44
34	109	109

7. J14 HARDWIRED TO AND IS PART OF SIDEBOARD ASSEMBLY A25.
8. REFERENCE DESIGNATOR IN PARENTHESIS INDICATES MATING CONNECTOR.
9. PINS DUPLICATED FOR CLARITY.

659-7089

-001

5½×8½ / 50 / PAGE INCR / PCT / REVISIONS USE ONLY	MATERIAL: NONE FINISH: NONE	UNLESS OTHERWISE SPECIFIED, DUAL DIMENSIONED DWGS ARE IN MILLIMETRES [INCHES]. SINGLE DIMENSIONED DWGS ARE IN INCHES. METRIC: TOL ON METRIC DIM .X=±0.5, .XX=±0.2; HOLE DIAMETERS UNDER 6.588=+0.13-0.13, 6.38 TO 12.78=+0.15-0.13, OVER 12.78=+0.20-0.13; ANGLES: ±1.0°; CONCENTRICITY BETWEEN DIA ON A COMMON AXIS TO BE WITHIN 0.25 US CUSTOMARY [ ]: TOL ON [ ] DIM .XX=±.02, .XXX=±.008; HOLE DIAMETERS: UNDER .250=+.005-.005, .251 TO .5008=+.006-.005, OVER .5008=+.008-.005; ANGLES: ±1.0°; CONCENTRICITY BETWEEN DIA ON A COMMON AXIS TO BE WITHIN .010 PART SHALL COMPLY TO 580-5400-001--THIRD ANGLE PROJECTION	CONTRACT NO. PREP G. MESPLAY 84-8-22 CHK J. WITMER 84-8-22 APVD C. ERRINGTON	ROCKWELL INTERNATIONAL CORPORATION COLLINS GROUPS DALLAS, TEX 75207 NEWPORT BEACH, CALIF 92663 CEDAR RAPIDS, IA 52406 INTERCONNECT DIAGRAM- HF-8014/14A EXCITER CHASSIS, MAIN SIDEBOARD AND RIBBON CABLING METRIC SIZE D FSCM 13499 DWG NO 659-7089 REV LTR B SCALE NONE SHEET 7

FRO ☐ NFP ☐ REL ☐ CR 2 NB 0 DL 0 TO 1

NOTES:

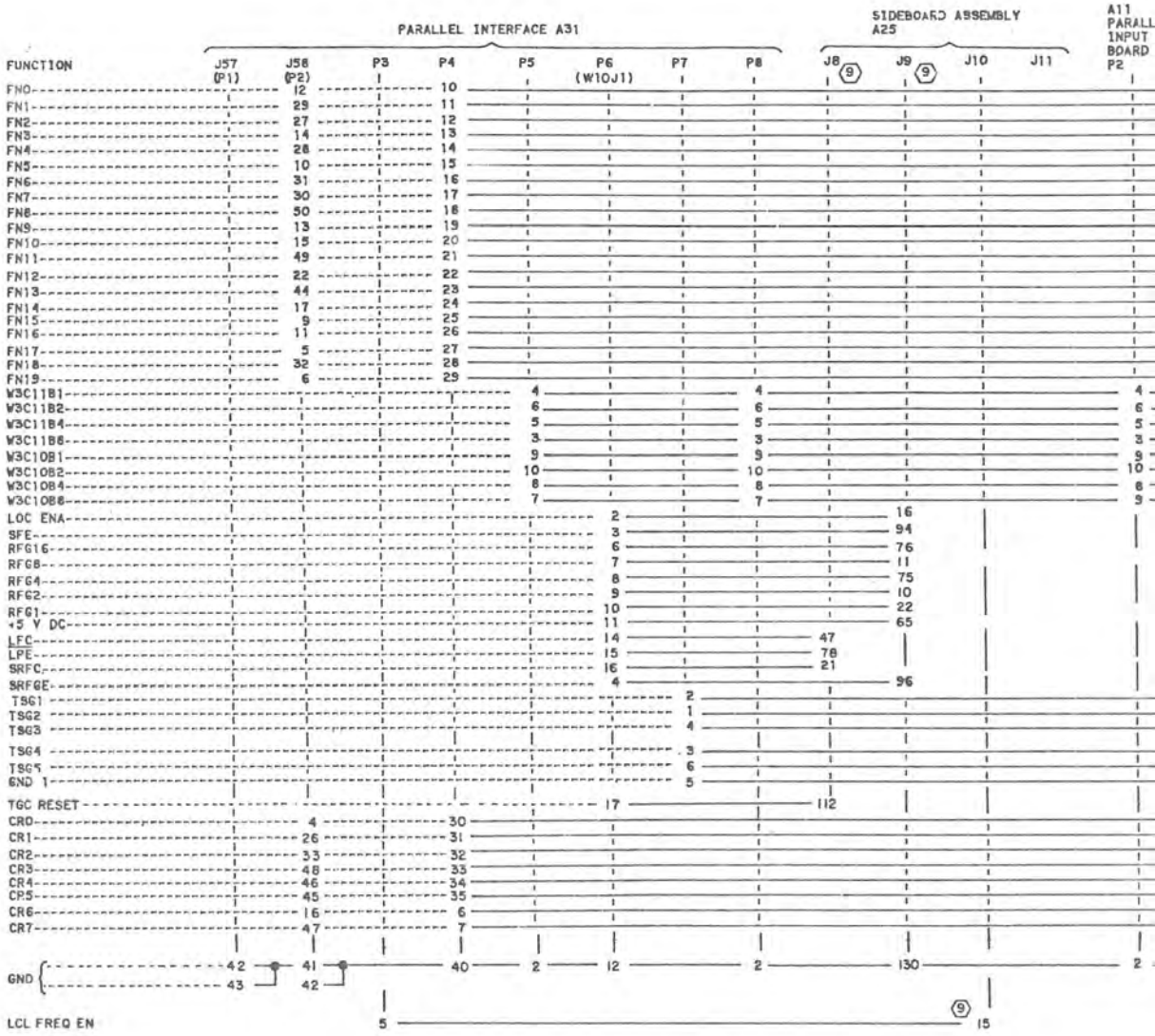

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IMAGE AREA W X H	LTR SIZE	PAGE INCR	PCT	FINISH: NONE
PUBN NO.				
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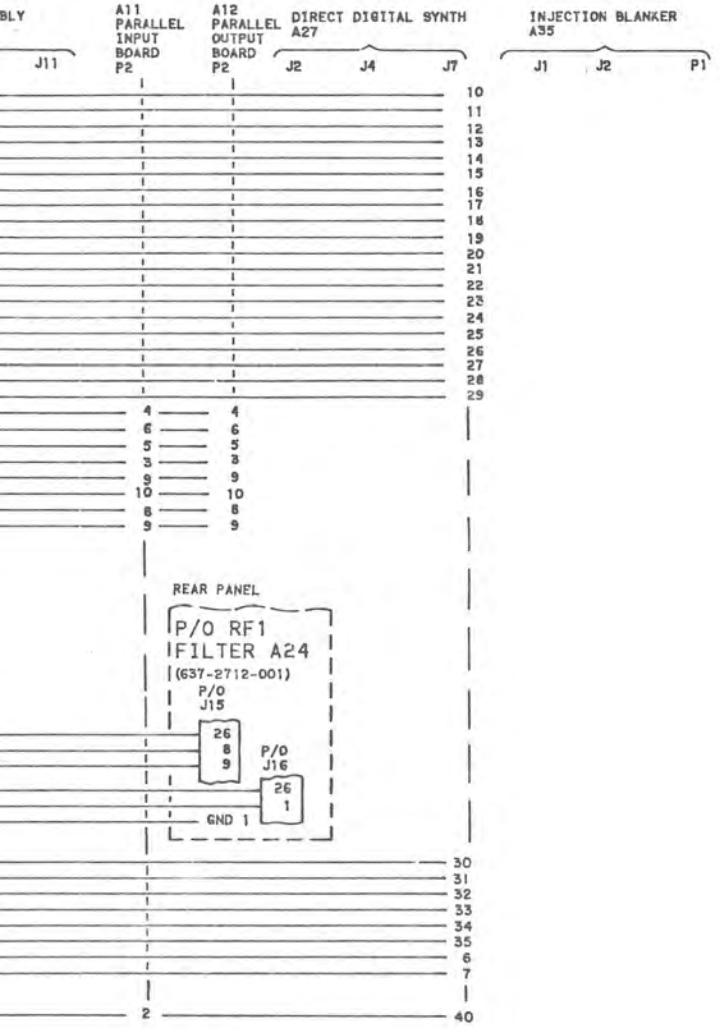
074-5228-082
NEXT ASSY:

TYPE NO:

DWG NO. 659-7089 | SH 8

REVISIONS			
LTR	DESCRIPTION	DATE	APVD
	SEE SHEET 1		



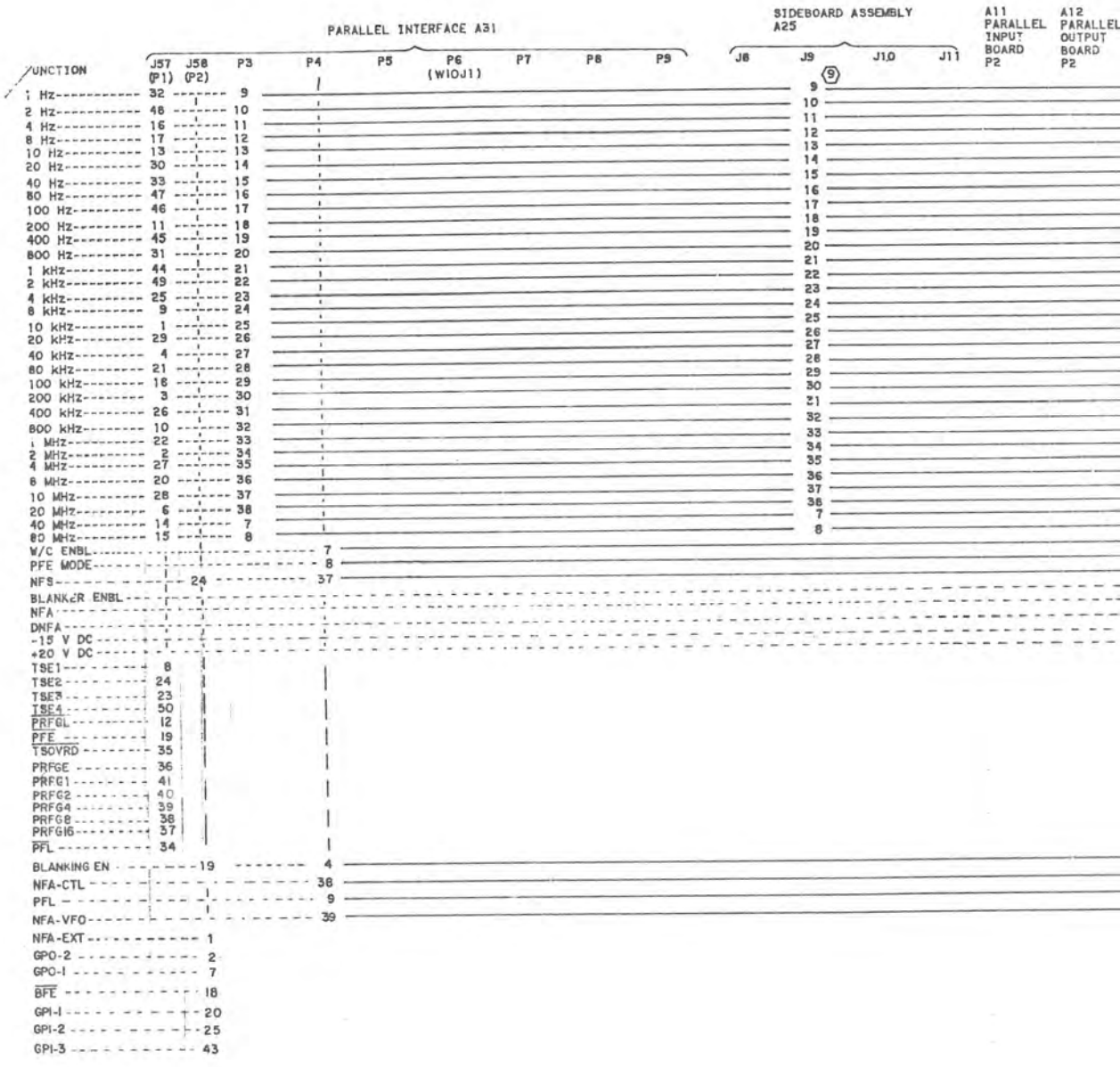
659-7089

-001

MATERIAL: NONE	UNLESS OTHERWISE SPECIFIED, DUAL DIMENSIONED DWGS ARE IN MILLIMETRES [INCHES]. SINGLE DIMENSIONED DWGS ARE IN INCHES.	CONTRACT NO.	ROCKWELL INTERNATIONAL CORPORATION COLLINS GROUPS DALLAS, TEX 75207 NEWPORT BEACH, CALIF 92663 CEDAR RAPIDS, IA 52406		
PCT	METRIC: TOL ON METRIC DIM .X=±0.5, .XX=±0.2; HOLE DIAMETERS: UNDER 6.38=+0.13-0.13, 6.38 TO 12.76=+0.15-0.13, OVER 12.76=+0.20-0.13; ANGLES: ±1.0°; CONCENTRICITY BETWEEN DIA ON A COMMON AXIS TO BE WITHIN 0.25 Ø.	PREP G. MESPLAY 84/8/31	INTERCONNECT DIAGRAM- HF-8014/14A EXCITER CHASSIS SIDEBOARD AND RIBBON CABLE (622-3473-211)	METRIC	
FINISH: NONE	US CUSTOMARY[ ]: TOL ON [ ] DIM .XX=±.02, .XXX=±.008; HOLE DIAMETERS: UNDER .251=+.005-.005, .251 TO .500=+.006-.005, OVER .500=+.008-.005; ANGLES: ±1.0°; CONCENTRICITY BETWEEN DIA ON A COMMON AXIS TO BE WITHIN .010 Ø.	CH J. WITMER 84/8/31			
	PART SHALL COMPLY TO 580-5400-001--THIRD ANGLE PROJECTION	APVD C. ERRINGTON	SIZE D / FSCM 13499 / DWG NO. 659-7089	REV LTR B	
ONLY			SCALE NONE	SHEET 8	

FRO ☐ NFP ☐ REL ☐ CR 2 NE 0 DL 0 TO 1

NOTES:



-001

MATERIAL	
	NONE
FINISH	
	NONE

IMAGE AREA W x H	LTR SIZE	PAGE INCR	PCT
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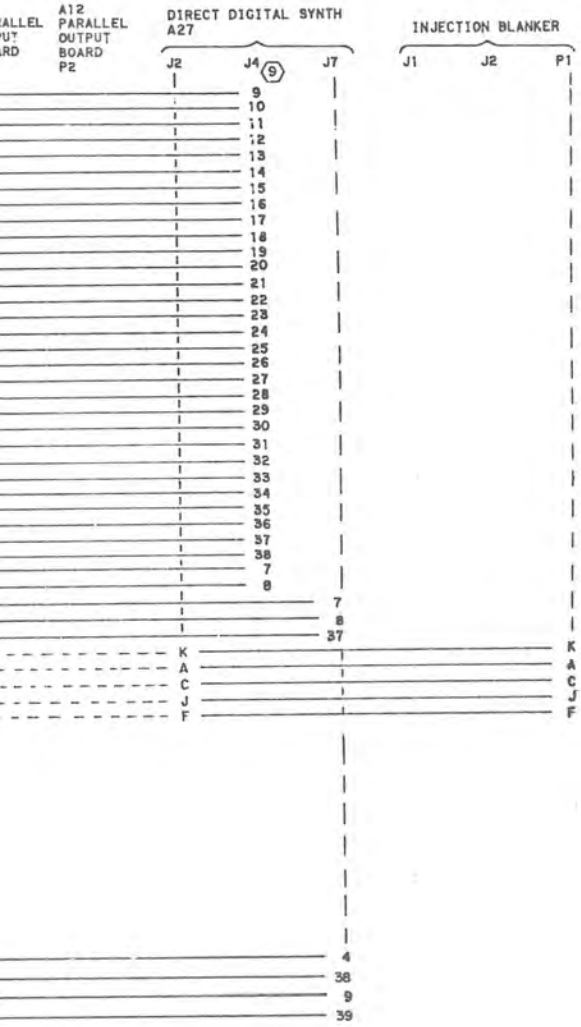
074-5228-002
NEXT ASSY:

TYPE NO:

DWG NO 659-7089 SH 9

REVISIONS			
LTR	DESCRIPTION	DATE	APVD
	SEE SHEET 1		



659-7089

MATERIAL: NONE	UNLESS OTHERWISE SPECIFIED, DUAL DIMENSIONED DWGS ARE IN MILLIMETRES (INCHES). SINGLE DIMENSIONED DWGS ARE IN INCHES.	CONTRACT NO.	ROCKWELL INTERNATIONAL CORPORATION COLLINS GROUPS	
FINISH: NONE	METRIC: TOL ON METRIC DIM: .X=±0.5, .XX=±0.2; HOLE DIAMETERS UNDER 6.38Ø=+0.13-0.13, 6.36 TO 12.7Ø=+0.15-0.13, OVER 12.7Ø=+0.20-0.13; ANGLES: ±1.0°; CONCENTRICITY BETWEEN DIA ON A COMMON AXIS TO BE WITHIN 0.25 Ø.	PREP G. MESPLAY 84/6/31	DALLAS, TEX 75207 NEWPORT BEACH, CALIF 92663 CEDAR RAPIDS, IA 52406	
N	US CUSTOMARY[ ]: TOL ON [ ] DIM: .XX=±.02, .XXX=±.008; HOLE DIAMETERS: UNDER .25Ø=+.005-.005, .25Ø TO .500Ø=+.006-.005, OVER .500Ø=+.008-.005; ANGLES: ±1.0°; CONCENTRICITY BETWEEN DIA ON A COMMON AXIS TO BE WITHIN .010 Ø.	CHK J. WITMER 84/6/31	INTERCONNECT DIAGRAM-HF-8014/114A EXCITER CHASSIS, MAIN SIDEBOARD, AND RIBBON CABLE (622-3473-211)	METRIC SI
	PART SHALL COMPLY TO 580-5400-001--THIRD ANGLE PROJECTION	APVD C. ERRINGTON	SIZE D / FSCM 13499 / DWG NO. 659-7089 / REV LTR B	
			SCALE NONE / SHEET 9	

FRO ☐ NFP ☐ REL ☐ CR 2 NB 0 DL 0 TO 1