

KUSTOM'S T1201

VOR, ADF, ILS DFIU

OVERHAUL MANUAL

T1201 P/N 062-1201-00

O/M P/N 006-1201-00

ATA 31-41-1

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T1201 VOR, ADF, ILS DFIU - DESCRIPTION AND OPERATION

1. GENERAL

A. PURPOSE OF MANUAL

The purpose of this manual is to describe the operation and maintenance of the T1201 DFIU (Discrete Function Interface Unit) as it applies to the ARINC characteristic 700 Series ADF, VOR, and ILS systems.

This manual will also describe interface between the T1200 Control Display Unit and the T1201 DFIU.

B. PURPOSE OF EQUIPMENT

The T1201 DFIU is specifically designed to interface the T1200 CDU and the ARINC characteristic 700 Series Line Replacement Unit (LRU), also referred to as the Unit Under Test (UUT), and provide functional testing and monitoring. The T1201 DFIU also provides an ATE interface port and a special Collins Radio Interface similar to RS-232.

C. ACCESSORIES AVAILABLE

(1) Antenna Simulator Alignment Accessory	062-5001-00
(2) Collins ADF Test Point Overlay	057-1169-00
(3) Collins VOR Test Point Overlay	057-1169-01
(4) Collins ILS Test Point Overlay	057-1169-02
(5) Bendix VOR Test Point Overlay	057-1169-04
(6) Bendix ADF Test Point Overlay	057-1169-05
(7) Bendix ILS Test Point Overlay	057-1169-07

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2. SPECIFICATIONS

A. T1201 DFIU--GENERAL

- (1) The T1201 DFIU front panel measures 19" x 12.15" for rack mounting. The rear enclosure measures 16" x 8" x 11.5".
- (2) Internal wiring is accomplished by using mass termination flat cable and discrete wiring.
- (3) The discrete functions provided are designed to emulate functions of the aircraft control panels, and provide testing variables for some active circuits in the LRU's.
- (4) Phone and banana jacks are used to provide monitoring ports for the 429 data bus, audios, and input current, and ATE functions.

B. T1201 DFIU--ADF ANTENNA SIMULATOR

- | | |
|--|--|
| (1) Frequency Range | 190-1750 KHz |
| (2) Input Impedance | 50 Ohm, unbalanced |
| (3) Output Impedance | 78 Ohm <u>+5%</u> |
| (4) Sense Channel Output
Amplitude Attenuation
Factor (effective height) | .03 times the input |
| (5) Loop Channel Outputs
Attenuation Attenuation
Factor | .023 times input at 190 KHz
.038 times input at 577 KHz
.023 times input at 1750 KHz |
| Accuracy | <u>+2</u> dB |
| (6) Loop Output Amplitude
Matching at 45° Relative
Bearing | <u>±.25</u> dB |
| (7) Antenna Mount Top/Bottom
Function | Top--Sine & Cosine in phase
first quadrant
Bottom--Sine & Cosine 180° out
of phase first quadrant |

To verify the ADF Antenna Simulator, refer to Steps 1 through 4, 6, 15 through 19, and 24 through 28 of the Test Procedure.

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C. ADF, VOR, AND ILS INTERFACE CABLES

- (1) Each cable has an approximate overall length of six feet.
- (2) Each cable is designed for use with its specific LRU and cannot be interchanged.
- (3) Each cable provides all 60 test point connections and all ARINC defined MP connections.

3. EQUIPMENT DESCRIPTION

The T1201 consists of a main interface panel that has the capabilities of providing interface between T1200 CDU and any of the LRU's ADF, VOR, and/or ILS via the interface cables.

The T1201 unit is divided into the following sections:

1. ADF Antenna Simulator and Discrete Functions
2. Marker Audio and Indicators and Discrete Functions
3. ILS Discrete Functions
4. ADF, VOR, and ILS common Discrete Functions and Audio Monitor
5. Power ON/OFF and Current Monitor
6. LRU Interface Connector
7. 429 Bus Monitors
8. ATE Test Point section
9. ATE Interface (rear panel)
10. Collins Interface (rear panel)
11. T1200 Interface (rear panel)

4. THEORY OF OPERATION

A. CIRCUIT DESCRIPTIONS

- (1) In most cases, the discrete functions of the T1201 are merely presenting either an open or grounded termination to the LRU.
- (2) The audio load switches for the Marker Audio and the RCVR audio provide load selection as desired.
- (3) The antenna mount switch serves two functions: It provides an open or grounded circuit to the LRU, and it inverts the output signal of the sine signal from the antenna simulator.
- (4) The current monitor jacks actually provide a voltage monitor point. This point has a 1 Ohm 1% resistor in series with the 115VAC input to the LRU. Therefore, $I = V/1$.

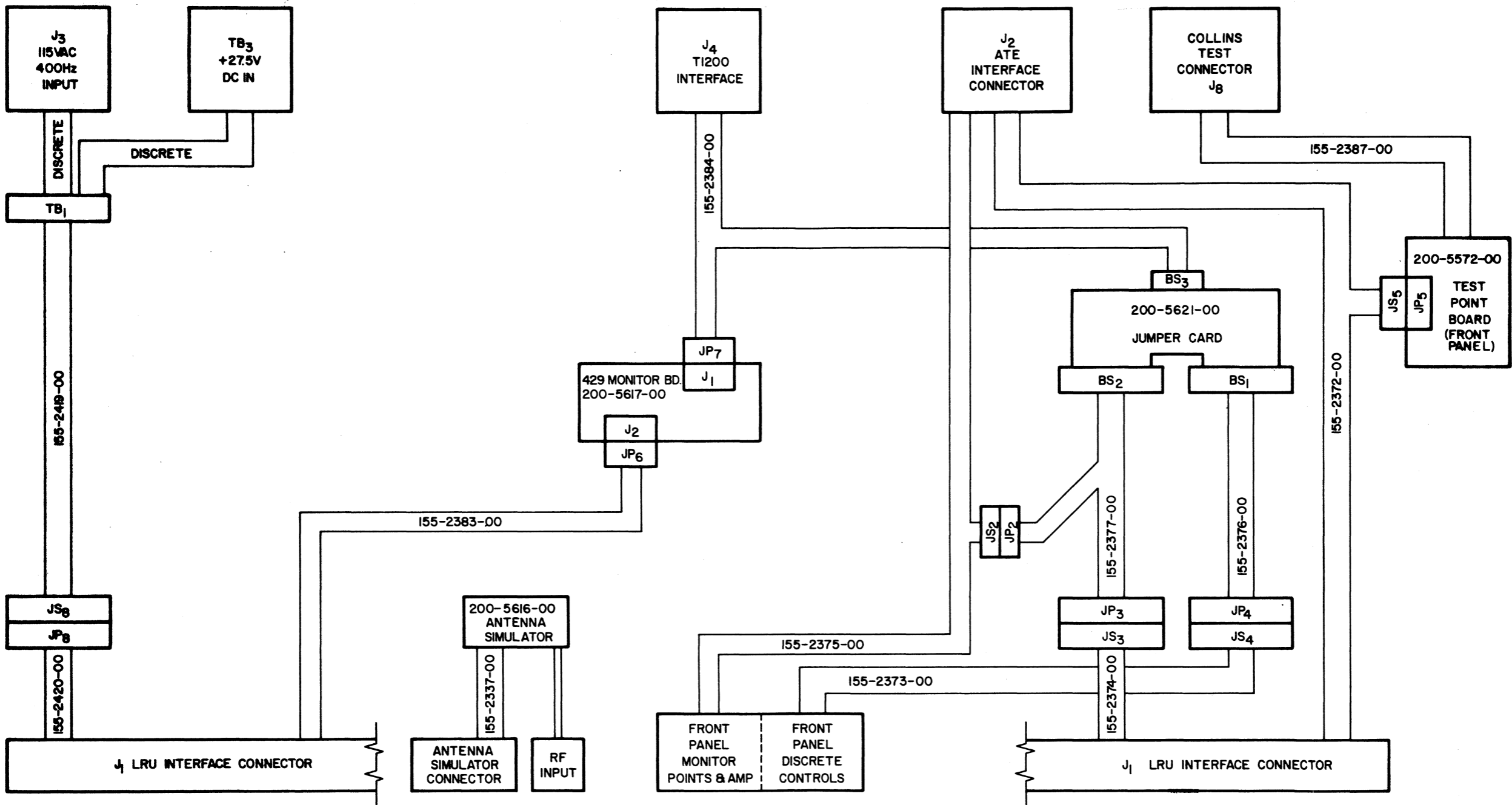


Figure 1

UNIT: T1201		QTY	PART NUMBER	DESCRIPTION	REV
DRN	2/2	DATE	1/28	KUSTOM ELECTRONICS INC 1010 WEST CHESTNUT, CHAMPAIGN, ILLINOIS 61820	
CHK	RRE	DATE	1-28-82		
ENGR	RRE	DATE			TOLERANCES UNLESS NOTED
MFG ENGR		DATE			LINEAR XXX: .010 HOLES: .005
					XX ± .03 ANGLES: 2°
QUAL CONT		DATE		NAME	DFIU WIRING
SCALE		SHT	1	PART NUMBER	006-0311-00
		OF			

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- (5) The 429 monitor jacks provide easy monitoring of the 429 words with an oscilloscope.
- (6) The ATE test points provide test personnel with easy access to the LRU test points and are also accessible for ATE interface by a connector on the rear panel.

B. SPECIFIC FUNCTIONS--Refer to the T1201 Test Procedure section.

C. BLOCK DIAGRAM THEORY

Refer to Fig. 1, T1201 Block Diagram (006-0311-00).

- (1) The 115 VAC 400 Hz source is provided from an external source at J3 to J1 through TB1, JS8, and JP8. This source is used only by the LRU.
- (2) The 27.5 VDC source is provided at TB3 from an external source and provides DC power at TB1 for the following:
 1. Remote Control Board
 2. Marker Lamps
 3. Marker and RCVR Audio Amp
- (3) The T1200 is interfaced to the T1201 by J4 on the rear panel.
 - (a) The 429 words to the LRU are routed to the 429 monitor board (200-5617-00) then paralleled to the LRU interface connector J1 on the front panel. The LRU 429 output words are routed to the T1200 in a manner reverse to that above. Refer to Fig. 504, T1201 Schematic & Wiring Diagram (002-0289-00) for details.
 - (b) The Remote Control data from the T1200 to the T1201 is also interfaced at J4. The control signals are routed to the control (jumper) card through BS3. Refer to Fig. 504, Sheet 2, for details.
- (4) The Automatic Test Equipment (ATE) interface connector, J2, on the T1201 rear panel, provides connection of ATE to the DFIU. The specific signals present at this connector at any time are relative to the LRU that is interfaced to the DFIU. By following the cable paths, it can be seen that monitor points (lamps, audios, and current monitor) on the front panel are present at J2 as well as the ATE test points of the LRU. All of these are interfaced to the DFIU from the LRU by the respective LRU interface cable.

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The Test Point board (220-5572-00) is paralleled to J2, providing manual test capability of the LRU. This board also has another cable paralleled from it to J8 (Collins interface connector) on the rear panel.

- (5) The discrete control functions of the front panel are routed through the jumper card (or remote control board, if installed), and then out to the LRU interface connector J1. When the operation switch on the rear panel is in the Remote position and a remote control board is installed, all discrete functions are controlled by the T1200 CDU and any manual operation of the discretes will have no effect on the LRU. More information on this operation will be provided as it becomes available.
- (6) The ADF Antenna Simulator input, outputs, and power are not routed through the LRU connector J1, as can be observed on the block diagram (Fig. 1)

The RF input is a BNC connector for interfacing to an external RF source.

The circuit power is provided by the LRU and the outputs are directly cabled to the LRU by the ADF LRU interface cable. The cable is designed with the ARINC characteristic circular connector which will permit direct coupling to an actual antenna, if desired.

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D. INTERFACE CONNECTORS AND THEIR FUNCTIONS

(1) LRU Interface Connector J1

<u>PIN #</u>	<u>FUNCTION</u>
A1	ADF QEC MSB
A2	ADF QEC SIGN
A3	ADF QEC BIT B
A4	ADF QEC BIT C
A5	ADF QEC Common
A6	ADF QEC LSB
B1	MARKER SENSE
B2	ADF ANTENNA MOUNT
B3	ADF/VOR/ILS FUNCTIONAL TEST
B4	MARKER BEACON INHIBIT
B5	ADF/VOR/ILS 429 DATA SOURCE SELECT
B6	ADF/VOR/ILS AIR/GROUND LOGIC
C1	ILS SPARE
C2	ADF/VOR/ILS TUNE FUNCTION TEST
C3	ILS SPARE
C4	ILS SPARE
C5	ILS LOC/GS CONTINUOUS
C6	ILS LOC/GS CONTROL
D1	ADF/VOR/ILS SDI CODE
D2	ILS LOC/GS INTERRUPTED
D3	ADF/VOR/ILS SDI CODE COMMON

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<u>PIN #</u>	<u>FUNCTION</u>
D4	ADF/VOR/ILS SDI CODE
D5	ADF Spare
D6	ADF Spare
E1	SPARE
E2	SPARE
E3	MARKER AUDIO LO
E4	MARKER AUDIO HI
E5	MARKER AUDIO SHIELD
E6	VOR SPARE
F1	RCVR AUDIO LO
F2	RCVR AUDIO HI
F3	VOR SPARE
F4	RCVR AUDIO SHIELD
F5	SPARE
F6	OUTER MARKER LAMP CONTROL LINE
G1	MIDDLE MARKER LAMP CONTROL LINE
G2	F/M MARKER LAMP CONTROL LINE
G3	SPARE
G4	SPARE
G5	SPARE
G6	SPARE
H1	SPARE
H2	SPARE
H3	SPARE
H4	SPARE

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<u>PIN #</u>	<u>FUNCTION</u>
L1	RCV PORT A HI
L2	RCV PORT B HI
L3	XMIT PORT B HI
L4	XMIT PORT B HI
L5	LRU 115 VAC HOT OUTPUT
L6	115 VAC COLD
M1	RCV PORT A LO
M2	RCV PORT B LO
M3	XMIT PORT A LO
M4	XMIT PORT B LO
M5	LRU 115 VAC OUT COLD
M6	115 VAC HOT SOURCE
N1	SHIELD GROUND
N2	SHIELD GROUND
N3	SHIELD GROUND
N4	SHIELD GROUND
N5	CHASSIS GROUND
N6	CHASSIS GROUND
T1	(TEST POINT) TPC2
T2	TPA3
T3	TPC3
T4	TPB4
T5	TPA5
T6	TPC5

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<u>PIN #</u>	<u>FUNCTION</u>
U1	TPD7
U2	TPD4
U3	TPB6
U4	TPC7
U5	TPA7
U6	TPD6
V1	TPD8
V2	TPC8
V3	TPB8
V4	TPA8
V5	TPD10
V6	TPC9
W1	TPC11
W2	TPB10
W3	TPA9
W4	TPA11
W5	TPD13
W6	TPD15
X1	TPB12
X2	TPC13
X3	TPA13
X4	TPC14
X5	TPB14
X6	TPB14

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<u>PIN #</u>	<u>FUNCTION</u>
Y1	TPB2
Y2	TPA3
Y3	TPB3
Y4	TPA4
Y5	TPC4
Y6	TPB5
Z1	TPD1
Z2	TPD3
Z3	TPA6
Z4	TPC6
Z5	TPB7
Z6	TPD5
a1	TPD7
a2	TPA1
a3	TPB1
a4	TPC1
a5	TPD9
a6	TPD11
b1	TPC10
b2	TPB9
b3	TPB11
b4	TPA10
b5	TPD12
b6	TPD14

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<u>PIN #</u>	<u>FUNCTION</u>
c1	TPA12
c2	TPC12
c3	TPB13
c4	TPC15
c5	TPB15
c6	TPA15

(2) ATE Interface Connector J2

<u>PIN #</u>	<u>FUNCTION</u>
L7	CURRENT MONITOR
L8	CURRENT MONITOR $V_{RMS}/I = I_{RMS}$
M1	115 VAC HOT LRU OUTPUT
M2	115 VAC COLD LRU OUTPUT
M3	SPARE
M4	SPARE
M5	SPARE
M6	SPARE
M7	SPARE
M8	SPARE
N1	SPARE
N2	SPARE
N3	F/M MARKER LAMP CONTROL LINE
N4	MIDDLE MARKER LAMP CONTROL LINE
N5	OUTER MARKER LAMP CONTROL LINE
N6	SPARE
N7	RCVR AUDIO SHIELD

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(2) ATE Interface Connector J2

<u>PIN #</u>	<u>FUNCTION</u>
N8	VOR SPARE
P1	RCVR AUDIO HI
P2	RCVR AUDIO LO
P3	VOR SPARE
P4	MARKER AUDIO SHIELD
P5	MARKER AUDIO HI
P6	MARKER AUDIO LO
P7	SPARE
P8	SPARE

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(3) Collins Test Interface Connector J3

<u>PIN #</u>	<u>TEST POINT</u>
1	A3
2	B3
3	C3
4	D3
5	A4
6	B4
7	C4
8	D4
9	A5
10	B5
11	C5
12	D5
13	A6
14	B6
15	C6
16	D6
18	A7
20	D10
25	D2

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(4) T1200 CDU Interface Connector J4

<u>PIN #</u>	<u>FUNCTION</u>
1	GND
20	$\overline{\text{ACK}}$
2	$\overline{\text{DATA STEP}}$
21	PD0
3	PD1
22	PD2
4	PD3
23	PD4
5	PD5
24	PD6
6	PD7
25	SPARE
7	SPARE
26	RCV PORT A HI
8	RCV PORT A LO
27	GND
9	RCV PORT B HI
28	RCV PORT B LO
10	GND
29	XMIT PORT A HI
11	XMIT PORT A LO
30	GND
12	XMIT PORT B HI
31	XMIT PORT B LO
13	GND

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(4) T1200 CDU Interface Connector J4 (con't)

<u>PIN #</u>	<u>TEST POINT</u>
32	N/A
14	N/A
33	N/A
15	N/A
34	N/A
16	N/A
35	N/A
17	N/A
36	N/A
18	N/A
37	N/A
19	N/A

T1201 VOR, ADF, ILS DFIU - TESTING

1. GENERAL

A. RECOMMENDED TEST EQUIPMENT

- (1) Digital Voltmeter
- (2) Oscilloscope
- (3) Audio Frequency Signal Generator
- (4) 100-1800 KHz Signal Generator

B. DEFINITIONS

- (1) Short Circuit or Zero Ohms: When checking for zero Ohms, use a DVM (Digital Voltmeter) set on the RX1 scale and check for absolute zero \pm .2 Ohms.
- (2) Open Circuit: When checking for open circuits, use a DVM set on the RX10K scale and check for an infinite resistance reading.

C. CAUTIONS

During functional test procedures, do not connect or apply power sources to the DFIU until instructed to do so.

2. T1201 GENERAL TEST PROCEDURES

A. TEST POINTS INTERNAL WIRING

<u>ATE Connector</u> <u>J2 Pin #</u>	<u>LRU Connector</u> <u>J1 Pin #</u>	<u>Test Point</u>
A1	T1	TP C2
A2	T2	TP A3
A3	T3	TP C3
A4	T4	TP B4
A5	T5	TP A5
A6	T6	TP C5
A7	U1	TP D2
A8	U2	TP D4
B1	U3	TP B6
B2	U4	TP C7
B3	U5	TP A7
B4	U6	TP D6

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<u>ATE Connector</u> <u>J2 Pin #</u>	<u>LRU Connector</u> <u>J1 Pin #</u>	<u>Test Point</u>
B5	V1	TP D8
B6	V2	TP C8
B7	V3	TP B8
B8	V4	TP A8
C1	V5	TP D10
C2	V6	TP C9
C3	W1	TP C11
C4	W2	TP B10
C5	W3	TP A9
C6	W4	TP A11
C7	W5	TP D13
C8	W6	TP D15
D1	X1	TP B12
D2	X2	TP C13
D3	X3	TP A13
D4	X4	TP C14
D5	X5	TP B14
D6	X6	TP A14
D7	Y1	TP B2
D8	Y2	TP A2
E1	Y3	TP B3
E2	Y4	TP A4
E3	Y5	TP C4
E4	Y6	TP B5
E5	Z1	TP D1
E6	Z2	TP D3
E7	Z3	TP A6
E8	Z4	TP C6
F1	Z5	TP B7
F2	Z6	TP D5
F7	a1	TP D7
F8	a2	TP A1
G1	a3	TP B1
G2	a4	TP C1
G7	a5	TP D9
G8	a6	TP D11
H1	b1	TP C10
H2	b2	TP B9
H7	b3	TP B11
H8	b4	TP A10
J1	b5	TP D12
J2	b6	TP D14
J7	c1	TP A12
J8	c2	TP C12
K1	c3	TP B13
K2	c4	TP C15
K7	c5	TP B15
K8	c6	TP A15

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B. TEST POINTS

- (1) Refer to T1201 Test Points Internal Wiring List (Sec. A, preceding) and check for zero Ohms from the ATE Interface Connector J2 (rear panel) to the LRU Connector J1 (front panel)
Example: J2 Pin A1 to J1 Pin T1
- (2) Refer to the T1201 Test Points Internal Wiring List and check for zero Ohms from the LRU Connector J1 to the Test Points.
Example: J1 pin T1 to Test Point C2
- (3) Check for zero Ohms between the ground pins of the Test Point board and chassis.

C. T1200 INTERFACE

- (1) Check for zero Ohms between the T1200 Interface Connector (rear panel) and the LRU Connector J1, per the following list:

T1200 Interface Connector Pin #	LRU Connector Pin #
26	L1
8	M1
27	N1
9	L2
28	M2
10	N2
29	L3
11	M3
30	N3
12	L4
31	M4
13	N4

- (2) Using a ¼" 3-conductor phone jack, check the 429 bus input and output jacks on the front panel for zero Ohms to the LRU connector per the following list:

	LRU Connector Pin #
INPUT A	
Tip	L1
Ring	M1
Sleeve	N1
INPUT B	
Tip	L2
Ring	M2
Sleeve	N2

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	Pin #
OUTPUT A	
Tip	L3
Ring	M3
Sleeve	N3
OUTPUT B	
Tip	L4
Ring	M4
Sleeve	N4

- (3) Check for zero Ohms between chassis and pins N1 through N6 of the LRU connector.
- (4) Check for zero Ohms between the T1200 Interface Connector (rear panel) and the Remote Control Board connector BS3 (20-position board edge connector, inside) as follows:

T1200 Interface Conn. Pin No.	BS3 Pin #
1	1
20	2
2	3
21	4
3	5
22	6
4	7
23	8
5	9
24	10
6	11
25	12
7	13

D. COLLINS INTERFACE

- (1) Check for zero Ohms between the Collins Test Connector (rear panel) and the Test Points on the front panel per the following list:

Collins Test Conn. Pin #	Test Point
1	A3
2	B3
3	C3
4	D3
5	A4
6	B4
7	C4
8	D4

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<u>Collins Test Conn.</u> <u>Pin #</u>	<u>Test Point</u>
9	A5
10	B5
11	C5
12	D5
13	A6
14	B6
15	C6
16	D6
18	A7
20	D10
25	D2

E. MONITOR POINTS

- (1) Check for zero Ohms between the ATE Interface Connector (rear panel) and the LRU Connector (front panel) per the following list:

<u>LRU Interface</u> <u>Conn. Pin #</u>	<u>ATE Interface</u> <u>Conn. Pin #</u>
E1	P8
E2	P7
E3	P6
E4	P5
E5	P4
E6	P3
F1	P2
F2	P1
F3	N8
F4	N7
F5	N6
F6	N5
G1	N4
G2	N3
G3	N2
G4	N1
G5	M8
G6	M7
H1	M6
H2	M5
H3	M4
H4	M3
M5	M2
L5	M1

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- (2) Check for zero Ohms between the ATE Interface connector and the associated monitor jacks as called out in the following list:

<u>ATE Connector Pin No.</u>	<u>Monitor Jack Name/Color</u>
L7	Current Monitor Jack/Top
L8	Current Monitor Jack/Bottom
P1	RCVR Audio Hi/White
P2	RCVR Audio Lo/Black
P5	MKR Audio Hi/White
P6	MKR Audio Lo/Black
M1	LRU AC Out Hot/J14 (Top Plug)
M2	LRU AC Out Cold/J15 (Bottom Plug)

- (3) Check for 1 Ohm $\pm 1\%$ between the current monitor jacks.

F. AC POWER SECTION

- (1) Check for zero Ohms between the AC receptacle (J5, Rear Panel) and the terminal block and the connector floor inside the unit.

<u>AC Receptacle Terminal</u>	<u>TB1 Term.</u>	<u>Function</u>
Center Conductor W	1	GND
Large Contact X	2	AC Hot
Small Contact Y	3	AC Cold

- (2) Check for zero Ohms between TB1 Term. 1 and chassis.
- (3) Check the operation of the UUT power switch by the following table:

<u>Sw Position</u>	<u>TB1 Term #</u>	<u>to</u>	<u>LRU Connector Term #</u>	<u>Resistance in Ohms</u>
OFF	1		N5 & N6	0
OFF	2		M6	∞
OFF	3		L6	0
OFF	3		M6	∞
ON	2		M6	1 Ohm $\pm 1\%$

- (4) With the UUT Power Switch in the ON position, check for zero Ohms between TB1 Term. 2 and one of the current monitor jacks. There should be 1 Ohm $\pm 1\%$ resistance from TB1 Term 2 to the remaining jack.

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G. DC POWER SECTION

- (1) Check for zero Ohms between the DC power receptacle and TB1 as follows:

<u>Receptacle Term.</u>	<u>TB1 Term.</u>
+ Red	4
- Black	5 & 1

- (2) Check for zero Ohms between TB1 Term. 1 and chassis.
- (3) With the DFIU power switch in the indicated position, check for the indicated resistance from TB1 Term. 4 to each indicated point.

<u>Switch Position</u>	<u>Indicated Point</u>	<u>Resistance</u>
ON	TB1 Term. 6	0
ON	Term. 1 of marker indicator lamps	0
ON	TB1 Term. 5	Approx. 70 Ohms
OFF	TB1 Term. 5	∞
OFF	TB1 Term. 6	∞

H. SWITCH FUNCTIONS

The following procedures involve checking the discrete function of the front panel switches. Most of the switches are performing a grounding or open circuit function and are checked in Section (1). The switches having other functions will be checked in additional sections.

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- (1) Check the following switch operations with an Ohmmeter having one lead inserted in one of the ground jacks of the test point section (A,B,C, or D16) and having the remaining lead in contact with the designated pin of the LRU Interface Connector.

The following table gives the related information to perform this test.

<u>Switch</u>	<u>Switch Position</u>	<u>Resistance In Ohms</u>	<u>LRU Connector Contact #</u>
Antenna Mount	Top/Bottom	0/∞	B2
Marker Sense	Hi/Lo	0/∞	B1
Marker Inhibit	On/Off	0/∞	B4
ILS Tune Funct. Test	On/Off	0/∞	C2
Funct. Test Disc.	On/Off	0/∞	B3
A/G Logic	Air/Gnd	0/∞	B6
Data Source	A/B	0/∞	B5

- (2) Check the ADF QEC switches, using contact A5 of the LRU Connector as reference, per the following table:

<u>QEC Switch</u>	<u>Switch Position</u>	<u>Resistance In Ohms</u>	<u>LRU Connector Contact #</u>
A	Down/Up	0/∞	A6
B	Down/Up	0/∞	A3
C	Down/Up	0/∞	A4
D	Down/Up	0/∞	A1
E	Down/Up	0/∞	A2

- (3) SDI codes are checked by using an Ohmmeter with one lead in contact with contact D3 of the LRU Interface Connector and the remaining lead in contact with either D1 or D4 of the LRU Interface Connector.

<u>Switch Position</u>	<u>Contact D3 to Contact</u>	
	<u>D1</u>	<u>D4</u>
0	Open Circuit	Open Circuit
1	Open Circuit	Short
2	Short	Open Circuit
3	Short	Short

- (4) ILS, AFS LOC/GS Switch Test

With one lead of an Ohmmeter at contact C6 of the LRU connector and the remaining lead at either C5 or D2, observe the resistance readings as indicated in the following table:

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3. ADF ANTENNA SIMULATOR ALIGNMENT PROCEDURE

For the following procedure, it is recommended that the ADF Antenna Simulator Alignment Accessory (KPN 062-5001-00) is utilized. The Accessory provides easy connection of a power source, loading of the output lines, and easy connections for test equipment.

1. Connect a dual power source to the Simulator I/O Connector or the alignment Accessory as follows:

I/O Connector Pin #	Power Source
K	+12VDC \pm .2V
M	GND
L	-12VDC \pm .2V

2. Load all three outputs (Sense, Sine, Cosine) with a 78 Ohm \pm 3 Ohms load.

Output	Pins	
	Hi	Lo
Sense	A	B
Sine	G	H
Cosine	D	E

3. Apply a 577 KHz signal at 1.0 VRMS \pm .02V to the RF input jack on the front panel.
4. Apply power to the circuit and monitor the sine output signal with one channel of a scope and the cosine output with a second channel of the scope. (SYNC the scope on the RF input using the external SYNC for the entire procedure.)
5. Operate the antenna mount switch and observe that in the TOP position the signal inverting relay K1 is not energized and that in the BOTTOM position the relay is energized.
6. Place the antenna mount switch in the TOP position and maintain this position until instructed to change it.
7. Loosen the screws that secure the goniometer to the planetary drive unit. Do not loosen the set screw on the shaft coupler.
8. Position the planetary drive unit for a bearing of 45° by rotating the dial and ensure that this setting is maintained until instructed to change the bearing.
9. Rotate the goniometer until both the sine and cosine output signals are in phase and roughly the same amplitude.

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NOTE: If either signal is not present, then adjust R13 or R14 respectively.

10. Having completed Step 9, now check the phase relationship of the sine, cosine, and sense output signals.

NOTE: If the sine and cosine signals are not in phase with the sense signal, then rotate the goniometer 180° and return to Step 9.

STATEMENT: Once Step 9 and 10 are satisfied, the rough positioning of the planetary drive on the goniometer is completed and it is now possible to fine-tune the circuit.

11. Rotate the planetary drive dial to a bearing of exactly 0° and maintain this setting until instructed to change the bearing.

12. Monitor the sine output signal and observe a null or near null output.

NOTE: A more precise null may be observed by use of an analog RF voltmeter.

13. Gently rotate the goniometer to obtain the best null, making sure that the planetary drive remains stationary at 0°

14. With the three preceding steps satisfied, and making sure that the goniometer and the planetary drive remain stationary, so as not to detune the circuit, tighten the screws that secure the goniometer to the drive unit.

15. Rotate the planetary drive dial 360° and observe that the sine output signal is null at 180° and 0° bearing $\pm .4^\circ$.

16. Monitor the cosine channel output signal. Rotating the drive dial, verify nulls at 90° $\pm .4^\circ$ and at 270° $\pm .4^\circ$.

17. Rotate the drive dial to 45°.

18. While monitoring the sense and sine output signals, place the Antenna Mount switch in the BOTTOM position and observe that the sine signal is 180° out of phase with the sense signal.

19. Return the Antenna Mount switch to the TOP position.

20. Rotate the drive dial to 0.0°.

21. Monitor the cosine output signal and adjust R13 for an amplitude of 38 mVRMS ± 1 mV.

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Switch Position	Contact C6 to <u>C5</u>	to <u>D2</u>
Continuous	0	∞
Off	∞	∞
Interrupted	∞	0

(5) Audio Load Switches Test

With an Ohmmeter, monitor the receiver and marker audio jacks, not sequential, and observe the various position readings as given in the following chart:

Switch Position	Resistance In Ohms
200	200+5%
400	402+5%
600	604+5%
4.7K	4700+5%
10K	10000+5%
EXT	∞
AMP	604+1%

I. DFIU POWER UP

- (1) Connect a 28 VDC source to the DFIU DC power connector and apply power.
- (2) Observe the DFIU power indicator illuminating when the DFIU switch is in the ON position ONLY.
- (3) Check for +28VDC at Pins 2 and 3 of J1 on the Audio Amp board.
- (4) Check the press-to-test lamps in the marker section to ensure illumination.

J. AUDIO AMP TEST

- (1) Leave the DFIU power source connected and the DFIU power switch ON for the following test.
- (2) Place the appropriate audio load switch in the AMP position.
- (3) Apply a 1 KHz sine wave of 7V P-P to the monitor jacks.
- (4) The signal should be clear and not distorted.
- (5) After the RCVR and MKR audio circuits have been checked individually, apply a signal to each input simultaneously and observe that the audio is summed.

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22. Rotate the drive dial to 90.0°.
23. Monitor the sine output signal and adjust R14 for an amplitude of 38 mVRMS \pm 1 mV.
24. Rotate the drive dial to 45.0°.
25. Compare the sine and cosine output signals, verifying that they differ by no more than .25 dB.
26. Measure the sense output. Verify 30 mVRMS \pm 1.5 mV @ 0° thru 360°.
27. Change the input frequency to 190 KHz, keeping the signal at 1 VRMS \pm .02V. Verify the following:

<u>Output</u>	<u>Dial Setting</u>	<u>Measure</u>
Sine	90°	23 mVRMS \pm 4 mV .032 Vpp
Cosine	0°	23 mVRMS \pm 4 mV
Sense	0° thru 360°	30 mVRMS \pm 1.5 mV

28. Change the input frequency to 1750 KHz, keeping the signal at 1 VRMS \pm .02V. Verify the following:

<u>Output</u>	<u>Dial Setting</u>	<u>Measure</u>
Sine	90°	23 mVRMS \pm 4 mV
Cosine	0°	23 mVRMS \pm 4 mV
Sense	0° thru 360°	30 mVRMS \pm 1.5 mV

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4. VOR LRU CABLE (KPN 062-1201-01) TEST PROCEDURE

- A. With an Ohmmeter on the RX1 scale, check for zero resistance between opposite ends of the cable per the following list:

<u>DFIU CONNECTOR</u> <u>PIN #</u>	<u>LRU CONNECTOR</u> <u>PIN #</u>
B1	MP D9
B3	MP D6
B4	MP D2
B5	MP A11
B6	MP A15
D1	MP A6
D3	MP C6
D4	MP B6
F6	MP A2
G1	MP B2
G2	MP C2
M5	MP C15
L5	MP D15
E6	MP B3
F3	MP C3
E3	MP D4
E4	MP C4
F1	MP C7
F2	MP B7
L1	MP B9
M1	MP C9
L2	MP B11
M2	MP C11
L3	MP A4
M3	MP B4
L4	MP B13
M4	MP C13
<hr/>	
M6	BP 2
L6	BP 3
N1-N6	BP 4
<hr/>	
T1	TP C2
T2	TP A3
T3	TP C3
T4	TP B4
T5	TP A5
T6	TP C5
U1	TP D2
U2	TP D4
U3	TP B6
U4	TP C7
U5	TP A7
U6	TP D6

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DFIU CONNECTOR
PIN #

V1
V2
V3
V4
V5
V6
W1
W2
W3
W4
W5
W6
X1
X2
X3
X4
X5
X6
Y1
Y2
Y3
Y4
Y5
Y6
Z1
Z2
Z3
Z4
Z5
Z6
a1
a2
a3
a4
a5
a6
b1
b2
b3
b4
b5
b6
c1
c2
c3
c4
c5
c6

LRU CONNECTOR
PIN #

TP D8
TP C8
TP B8
TP A8
TP D10
TP C9
TP C11
TP B10
TP A9
TP A11
TP D13
TP D15
TP B12
TP C13
TP A13
TP C14
TP B14
TP A14
TP B2
TP A2
TP B3
TP A4
TP C4
TP B5
TP D1
TP D3
TP A6
TP C6
TP B7
TP D5
TP D7
TP A1
TP B1
TP C1
TP D9
TP D11
TP C10
TP B9
TP B11
TP A10
TP D12
TP D14
TP A12
TP C12
TP B13
TP C15
TP B15
TP A15

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- B. With an Ohmmeter set on the RX1 scale, check for zero Ohms between opposite ends of the cable as follows:
- (1) Center conductor of the MKR Cable BNC Connector to the center conductor of BP 5 in the LRU Connector.
 - (2) Center conductor of the VOR Cable BNC Connector to the center conductor of BP 1 in the LRU Connector.
 - (3) Case of both the above BNC Connectors to their respective cases in the LRU Connector.
- C. Check for and ensure an open circuit, with the Ohmmeter set on the RX10 scale, between the center conductor and the case of both the VOR Cable BNC Connector and the MKR Cable BNC Connector.
- D. With an Ohmmeter set on the RX1 scale, check for zero Ohms between the points on the following list:

<u>DFIU CONNECTOR</u> <u>PIN #</u>	<u>LRU CONNECTOR</u> <u>PIN #</u>
E5	BP 4
F4	BP 4
N1-N6	BP 4

- E. Remove the connector housing from the LRU Connector. Locate the MKR Audio Cable and the RCVR Audio Cable. Ensure that the shields of both these cables are not terminated at this end.
- F. Refer back to Step A and check for zero Ohms (shorts) between random points that are in close physical proximity to each other on the DFIU Connector.

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5. ILS CABLE TEST PROCEDURE

- A. With an Ohmmeter set on the RX1 scale, check for zero Ohms between the LRU Connector and the DFIU Connector per the following point to point list:

<u>DFIU CONNECTOR</u> <u>PIN #</u>	<u>LRU CONNECTOR</u> <u>PIN #</u>
T1	TP C2
T2	TP A3
T3	TP C3
T4	TP B4
T5	TP A5
T6	TP C5
U1	TP D2
U2	TP D4
U3	TP B6
U4	TP C7
U5	TP A7
U6	TP D6
V1	TP D8
V2	TP C8
V3	TP B8
V4	TP A8
V5	TP D10
V6	TP C9
W1	TP C11
W2	TP B10
W3	TP A9
W4	TP A11
W5	TP D13
W6	TP D15
X1	TP B12
X2	TP C13
X3	TP A13
X4	TP C14
X5	TP B14
X6	TP A14
Y1	TP B2
Y2	TP A2
Y3	TP B3
Y4	TP A4
Y5	TP C4
Y6	TP B5
Z1	TP D1
Z2	TP D3
Z3	TP A6
Z4	TP C6
Z5	TP B7
Z6	TP D5

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DFIU CONNECTOR
PIN #

a1
a2
a3
a4
a5
a6
b1
b2
b3
b4
b5
b6
c1
c2
c3
c4
c5
c6

LRU CONNECTOR
PIN #

TP D7
TP A1
TP B1
TP C1
TP D9
TP D11
TP C10
TP B9
TP B11
TP A10
TP D12
TP D14
TP A12
TP C12
TP B13
TP C15
TP B15
TP A15

- B. With an Ohmmeter set on the RX1 scale, check for zero Ohms between the LRU Connector and the DFIU Connector per the following point to point list:

DFIU CONNECTOR
PIN #

B3
B5
B6
C1
C2
C3
C4
C5
C6
D1
D2
D3
D4
M5
L5
F1
F2
L1
M1
L2
M2

LRU CONNECTOR
PIN #

MP D1
MP A13
MP D15
MP B5
MP C1
MP A5
MP C5
MP C3
MP B3
MP A7
MP A3
MP A11
MP A9
MP B15
MP C15
MP B1
MP A1
MP B9
MP C9
MP B13
MP C13

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DFIU CONNECTOR
PIN #

M2
L3
M3
L4
M4
M6
L6
N1-N6
F4

LRU CONNECTOR
PIN #

MP C13
MP B7
MP C7
MP B11
MP C11
BP 2
BP 3
BP 4
BP 4

- C. With an Ohmmeter set on the RX1 scale, check for zero Ohms between the center conductor of the G/S Cable BNC Connector and the center conductor in BP 5 of the LRU Connector.
- D. With an Ohmmeter set on the RX1 scale, check for zero Ohms between the center conductor of the LOC Cable BNC Connector and the center conductor in BP 1 of the LRU Connector.
- E. With an Ohmmeter set on the RX1 scale, check for zero Ohms between the BNC Connector cases and their respective cases in the LRU Connector.
- F. With an Ohmmeter set on the RX10K scale, check for and ensure an open circuit between each of the BNC Connector center conductors and their respective cases.
- G. Remove the connector housing cover from the LRU Connector. Locate the RCVR Audio cable and ensure that the shield is not terminated on this end of the cable.

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6. ADF LRU CABLE TEST PROCEDURE

- A. With an Ohmmeter set on the RX1 scale, check for zero Ohms between the LRU Connector and the DFIU Connector per the following list:

<u>DFIU CONNECTOR</u> <u>PIN #</u>	<u>LRU CONNECTOR</u> <u>PIN #</u>
T1	TP C2
T2	TP A3
T3	TP C3
T4	TP B4
T5	TP A5
T6	TP C5
U1	TP D2
U2	TP D4
U3	TP B6
U4	TP C7
U5	TP A7
U6	TP D6
V1	TP D8
V2	TP C8
V3	TP B8
V4	TP A8
V5	TP D10
V6	TP C9
W1	TP C11
W2	TP B10
W3	TP A9
W4	TP A11
W5	TP D13
W6	TP D15
X1	TP B12
X2	TP C13
X3	TP A13
X4	TP C14
X5	TP B14
X6	TP A14
Y1	TP B2
Y2	TP A2
Y3	TP B3
Y4	TP A4
Y5	TP C4
Y6	TP B5
Z1	TP D1
Z2	TP D3
Z3	TP A6
Z4	TP C6
Z5	TP B7
Z6	TP D5

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DFIU CONNECTOR
PIN #

a1
a2
a3
a4
a5
a6
b1
b2
b3
b4
b5
b6
c1
c2
c3
c4
c5
c6

LRU CONNECTOR
PIN #

TP D7
TP A1
TP B1
TP C1
TP D9
TP D11
TP C10
TP B9
TP B11
TP A10
TP D12
TP D14
TP A12
TP C12
TP B13
TP C15
TP B15
TP A15

3. With an Ohmmeter set on the RX1 scale, check for zero Ohms between opposite ends of the LRU cable per the following point-to-point list:

DFIU CONNECTOR
PIN #

A1
A2
A3
A4
A5
A6
B2
B3
B5
B6
D1
D3
D4
F1
F2
L1
L2
L3
L4
L6
M1

LRU CONNECTOR
PIN #

MP C5
MP C4
MP C7
MP C6
MP C9
MP C8
MP C13
MP A13
MP B3
MP B15
MP C1
MP C3
MP C2
MP B2
MP B1
MP B4
MP B7
MP B10
MP B13
BP 4
MP B5

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DFIU CONNECTOR
PIN #

M2
M3
M4
M6
D5
D6
F4
N1-N6

LRU CONNECTOR
PIN #

MP B8
MP B11
MP B14
BP 2
MP A14
MP A15
BP 3
BP 3

- C. With an Ohmmeter set on the RX1 scale, check for zero Ohms between the LRU Connector and the antenna connector (circular) per the following point-to-point list:

CIRCULAR CONN.
PIN #

k
L
M
A
B
D
E
G
H
m

LRU CONNECTOR
PIN #

MP C10
MP C11
MP C12
MP D1
MP D2
MP D7
MP D8
MP D14
MP D15
BP 3

- D. With an Ohmmeter set on the RX10K scale, check for shorts between pins that are in close physical proximity of each other in the DFIU Connector.
- D. Remove the Connector housing cover on the LRU Connector and locate the RCVR Audio cable. Ensure that the shield of this cable is not terminated at the LRU end of the cable.

31-41-1

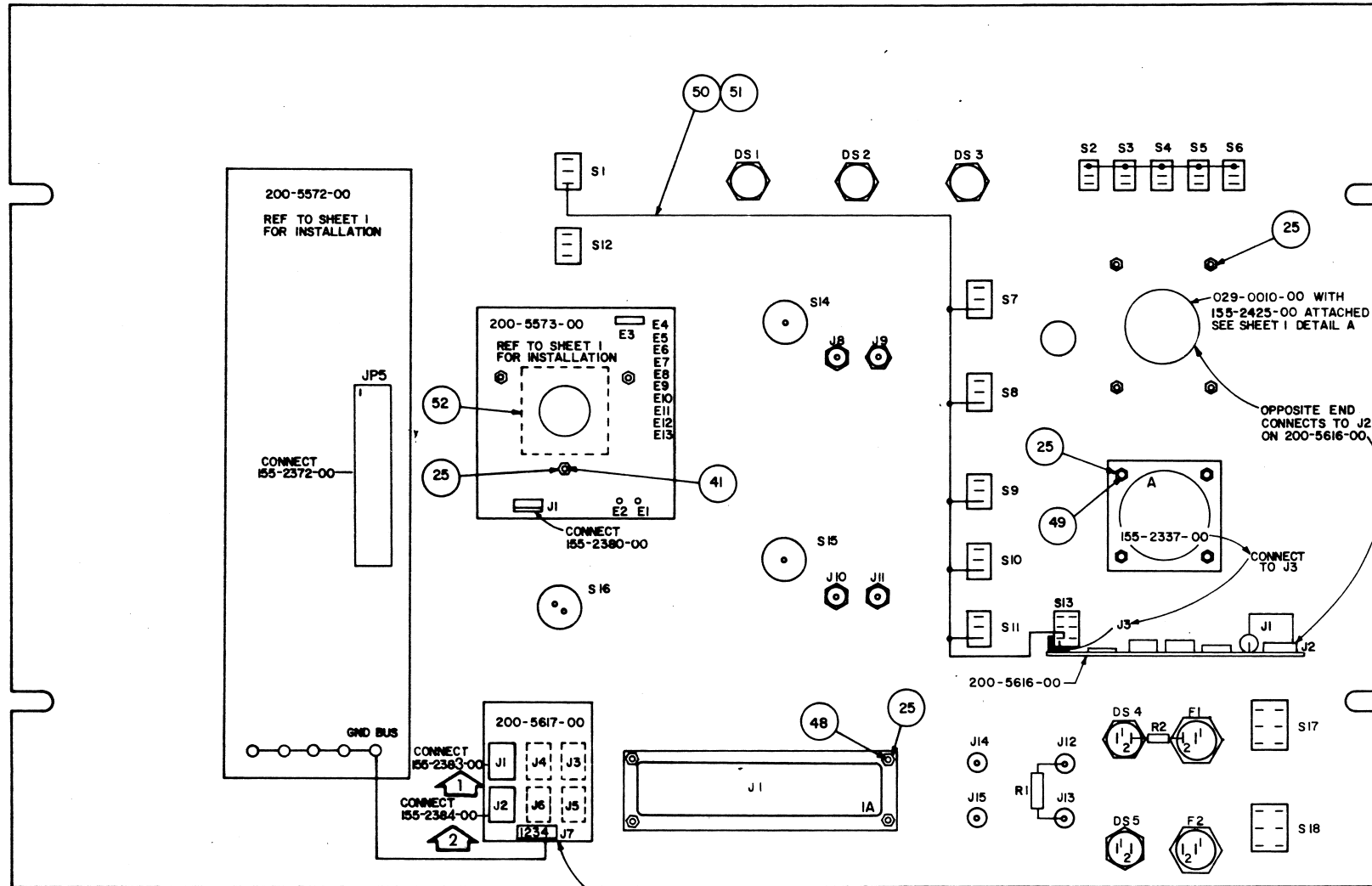
KUSTOM ELECTRONICS, INC.
Overhaul Manual
T1201 - Part No. 062-1201-00

7. DRAWINGS

To assist in maintenance of the T1201, assembly drawings and schematics are included in this section. For your convenience, a parts list for each assembly is included with the drawings, as well as in the Parts List section. They are arranged as follows:

<u>Fig. #</u>	<u>Drawing No.</u>	<u>Description</u>	<u>Page No.</u>
501	300-0300-00	T1201 Final Assembly	523
502	300-5573-00	T1201 Audio Amp Bd Assy Dwg	532
503	300-5617-00	T1201 429 Bd Assy Dwg	532
504	002-0289-00	T1201 Schematic & Wiring Diagram	533
505	300-5616-00	T1201 ADF Antenna Simulator Assy	540
506	002-5616-00	T1201 ADF Antenna Simulator Schem	541
507	300-5572-00	T1201 Test Pt Bd Assy Dwg	546
508	002-0290-00	T1201 ATE Int Wiring	547
509	155-2347-00	ADF LRU Cable	551
510	155-2348-00	VOR LRU Cable	555
511	155-2349-00	ILS LRU Cable	559

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1. Was 155-2384-00
2. Was 155-2385-00

LOCK WASHERS TO BE MOUNTED
BEHIND FRONT PANEL

#	Part Number	Quantity Required	Description
1	012-0020-00	2 ft.	Brown Vynal Tape
2	047-1736-00	1	Front Panel
3	047-1739-00	1	Rear Panel
4	047-1740-00	2	Enclosure Top/Bottom
5	047-1741-00	2	Side Panel
6	047-1742-00	1	Connector Floor
7	047-1743-00	1	U Bracket
8	047-1744-00	1	L Bracket
9	047-1746-00	1	Antenna Simulator Enclosure
10	047-1814-00	1	P.C. Bd Hold Bracket
11	047-1815-01	6	Connector Hold Bracket
12	089-5062-06	24	Screw PHP 6-32 x 3/8
13	090-0424-90	2	Mounting Rail Modified
14	090-0431-05	2	Handle
16	200-5621-00	1	T-1201 Jumper Card
17	089-5473-08	4	Screw PHP Self Top # 6-32 x 1/4
18	030-2215-00	1	DL 2-96 Connector Recept.
19	030-2149-00	1	Power Connector
20	031-0188-00	1	Slide Switch
21	047-1739-00	1	Rear Panel
22	090-0354-00	1	Dual Binding Post
23	155-2384-00	1	Data Bus Cable
24	155-2387-00	1	Collins Interface Cable
25	089-2304-22	20	Nut, Elastic Stop 4-40
26	089-2306-22	4	Nut, Elastic Stop 6-32
27	089-5058-04	6	Screw PHP #4-40 x 3/16
28	089-5058-07	13	Screw PHP #4-40 x 1/4
29	089-2210-22	17	Nut Clinch 6-32
30	089-5058-10	1	Screw PHP #4-40 x 5/8
31	089-5062-10	4	PHP Screw 6-32 x 5/8
32	090-0073-00	1	6 pos Term Block
33	155-2376-00	1	B51 Cable Assembly
34	155-2377-00	1	B52 Cable Assembly
35	090-0256-44	2	Card Guide
36	012-0015-00	.500 SF	Fish Paper
37	200-5616-00	1	Antenna Simulator P.C. Board Assembly
38	200-5573-00	1	Audio Amp Assy.
39	200-5572-00	1	ATE Test Point Assy
40	089-5158-03	6	Screw PHP 4-40 x 3/16
41	089-5504-12	5	Screw PHP 4-40 x 3/4 Black
42	089-2058-21	5	Nut 4-40 KEPS
43	092-0004-03	3	Spacer 4-40 x 5/16
44	090-0137-00	2	Rubber Foot
45	090-0401-00	2	Rubber Foot
46	029-0010-00	1	Dual Speed Drive
47	155-2425-00	1	Goniometer and Cable Assembly
48	089-5504-08	1	Screw PHP 4-40 x 1/2 Black
49	089-5504-06	1	Screw PHP 4-40 x 3/8 Black
50	025-1001-00	1	Bus Wire
51	150-0001-04	1	Teflon Tubing
52	041-0888-08	1	#111 Clinch

Part	KPM	Description
S12	031-0186-01	MTF 106E SPDT
S1-S11	031-0186-00	MTF 106D Switch SPDT
S13	031-0186-05	MTF 206N Switch DPDT
S14, S15	031-0184-90	MRS 1-12 S Rotary Switch
S16	031-0184-91	MRS 2-6S Rotary Switch
S17, S18	031-0124-00	20 Amp Switch
J1	030-2214-00	DL1-156 Connector Receptacle
J8, J10, J11	030-1039-01	Black Banana Jack
J12-J15	030-1039-02	White Banana Jack
J9, J11	030-1039-02	White Banana Jack
R1	132-0017-00	1 Ohm 1% 5W Resistor
R2	130-0223-23	22K 1/4W Resistor
DS1	037-0075-00	Press to Test Lamp, Clear w/037-0070-00 Lamp
DS2	037-0075-01	Press to Test Lamp, Amber w/037-0070-00 Lamp
DS3	037-0075-02	Press to Test Lamp, Blue w/037-0070-00 Lamp
DS4	037-0069-01	Lamp Holder with Red Lens w/037-0070-00 Lamp
DS5	037-0069-01	Lamp Holder with Red Lens w/037-0066-01 Lamp

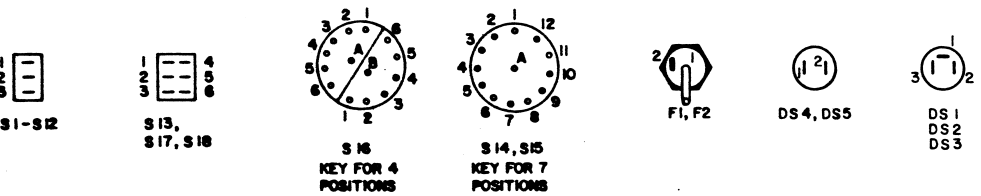
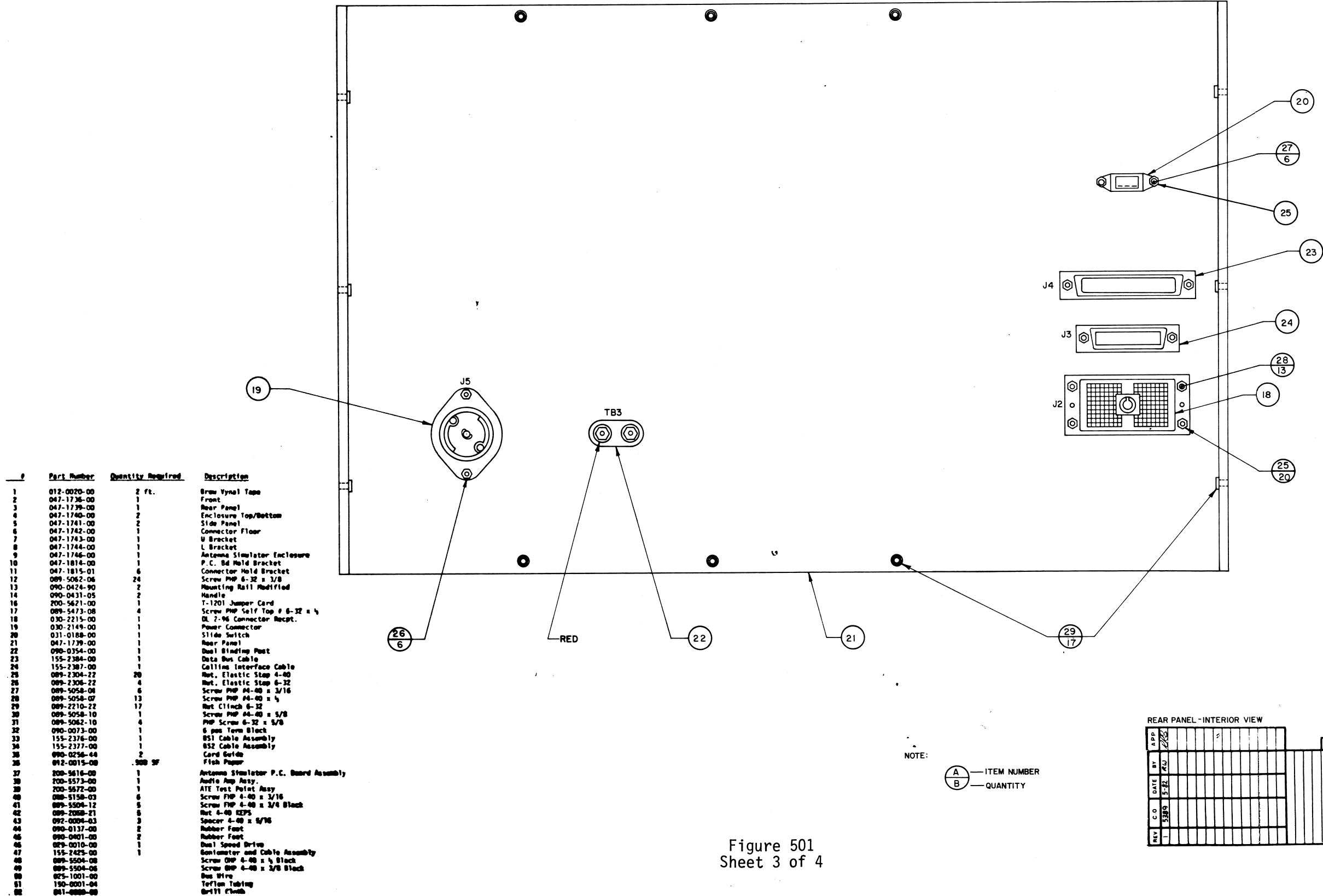


Figure 501
Sheet 2 of 4

DATE	BY	APP	QTY	PART NUMBER	DESCRIPTION	ITEM
12-81	WJG	WJG			KUSTOM ELECTRONICS, INC.	
12-81					100 WEST CHESTER, CHANULA, LANHAM MD 20630	
12-81					TOLERANCES UNLESS NOTED:	
12-81					LINEAR: .XX:5.00 HOLES: .005	
12-81					.XX: .005 ANGLES: .1°	
					NAME T1201	SIZE
					FINAL ASSY	D
					SCALE	
					OF 2	
					PART NUMBER	
					300-0300-00	

KUSTOM ELECTRONICS, INC.
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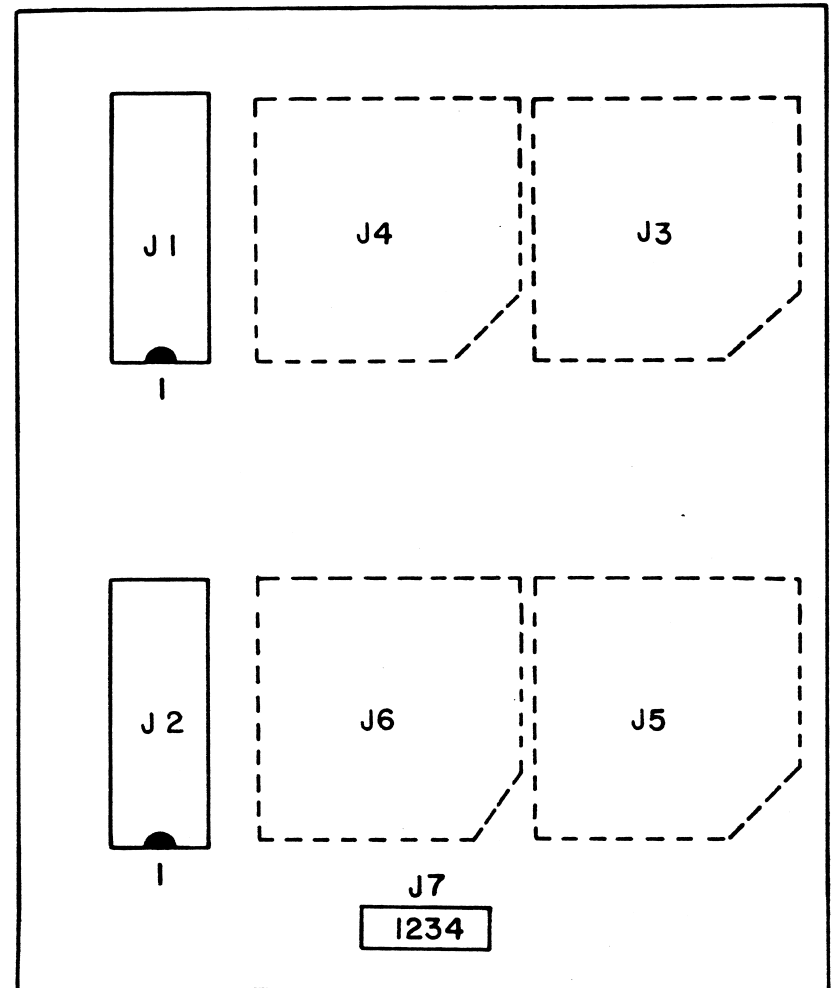
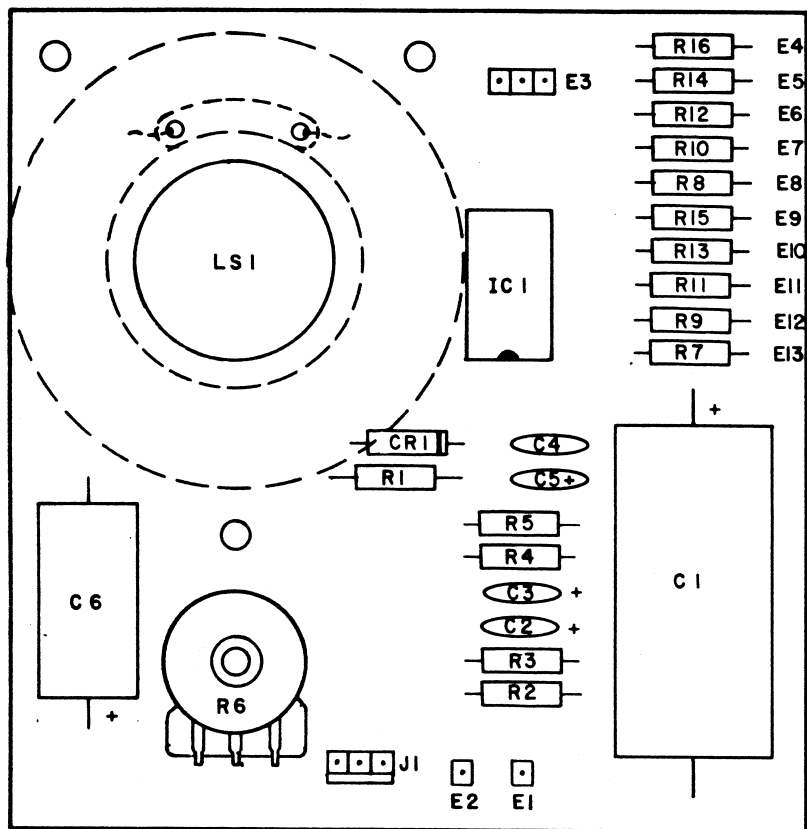


QTY	Part Number	Quantity Required	Description
1	012-0020-00	2 ft.	Brown Vinyl Tape
2	047-1736-00	1	Front
3	047-1739-00	1	Rear Panel
4	047-1740-00	2	Enclosure Top/Bottom
5	047-1741-00	2	Side Panel
6	047-1742-00	1	Connector Floor
7	047-1743-00	1	U Bracket
8	047-1744-00	1	L Bracket
9	047-1746-00	1	Antenna Simulator Enclosure
10	047-1814-00	1	P.C. Bd Hold Bracket
11	047-1815-01	6	Connector Hold Bracket
12	089-5062-06	24	Screw PMP 6-32 x 3/8
13	090-0424-90	2	Mounting Rail Modified
14	090-0431-05	2	Handle
16	200-5621-00	1	T-1201 Jumper Card
17	089-5473-08	4	Screw PMP Self Top # 6-32 x 1/4
18	030-2215-00	1	DL 7-96 Connector Recept.
19	030-2149-00	1	Power Connector
20	031-0188-00	1	Slide Switch
21	047-1739-00	1	Rear Panel
22	090-0354-00	1	Dual Binding Post
23	155-2384-00	1	Data Bus Cable
24	155-2387-00	1	Colline Interface Cable
25	089-2304-22	20	Ret. Elastic Strap 4-40
26	089-2306-22	4	Ret. Elastic Strap 6-32
27	089-5058-06	6	Screw PMP #4-40 x 3/16
28	089-5058-07	13	Screw PMP #4-40 x 1/4
29	089-2210-22	17	Ret Clinch 6-32
30	089-5058-10	1	Screw PMP #4-40 x 5/8
31	089-5062-10	4	PMP Screw 6-32 x 5/8
32	090-0073-00	1	6 pos Term Block
33	155-2376-00	1	BS1 Cable Assembly
34	155-2377-00	1	BS2 Cable Assembly
35	090-0258-44	2	Cord Guide
36	012-0015-00	500 SF	Fish Paper
37	200-5616-00	1	Antenna Simulator P.C. Board Assembly
38	200-5573-00	1	Audio Amp Assy.
39	200-5572-00	1	ATE Test Point Assy
40	089-5150-03	6	Screw PMP 4-40 x 3/16
41	089-5504-12	5	Screw PMP 4-40 x 3/4 Black
42	089-2088-21	6	Ret 4-40 KEPS
43	092-0009-03	3	Spacer 4-40 x 3/16
44	090-0137-00	2	Rubber Feet
45	090-0401-00	2	Rubber Feet
46	089-0010-00	1	Dual Speed Drive
47	155-2425-00	1	Goniometer and Cable Assembly
48	089-5504-08	1	Screw PMP 4-40 x 1/4 Black
49	089-5504-06	1	Screw PMP 4-40 x 3/8 Black
50	025-1001-00	1	Bus Wire
51	150-0001-04	1	Teflon Tubing
52	041-0888-00	1	Drill Clinch

NOTE:
 (A) — ITEM NUMBER
 (B) — QUANTITY

REAR PANEL - INTERIOR VIEW				PART NUMBER				DESCRIPTION			
APP	BY	DATE	REV	DRN	URG	DATE	DATE	KUSTOM ELECTRONICS			
								150 WEST CHESTNUT CHANUTE, ILLINOIS			
								TOLERANCES UNLESS NOTED			
								LINEAR .XXX ± .010 HOLES ± .01			
								XX ± .03 ANGLES ± .01			
								NAME T1201			
								FINAL ASSY			
								PART NUMBER			
								300-0300-00			
								SCALE			
								SHY 3 OF 4			

Figure 501
Sheet 3 of 4



REV	C.O.	DATE	BY	APP
1	EWB	1-82	EA	
2	STO	3-82	LV	
3	SSB	5-82	EW	

QTY	PART NUMBER	DESCRIPTION	ITEM
	DWN TS	DATE 6-81	
	CHK	DATE 7-7	
	ENGR	DATE 9-71	
	MFG ENGR	DATE 1-82	
	QUAL CONT	DATE 1-82	
	SCALE 2:1	SMT OF 1	
		NAME T1201	SIZE B
		DESCRIPTION AUDIO AMP BD.	
		PART NUMBER 300-5573-00	

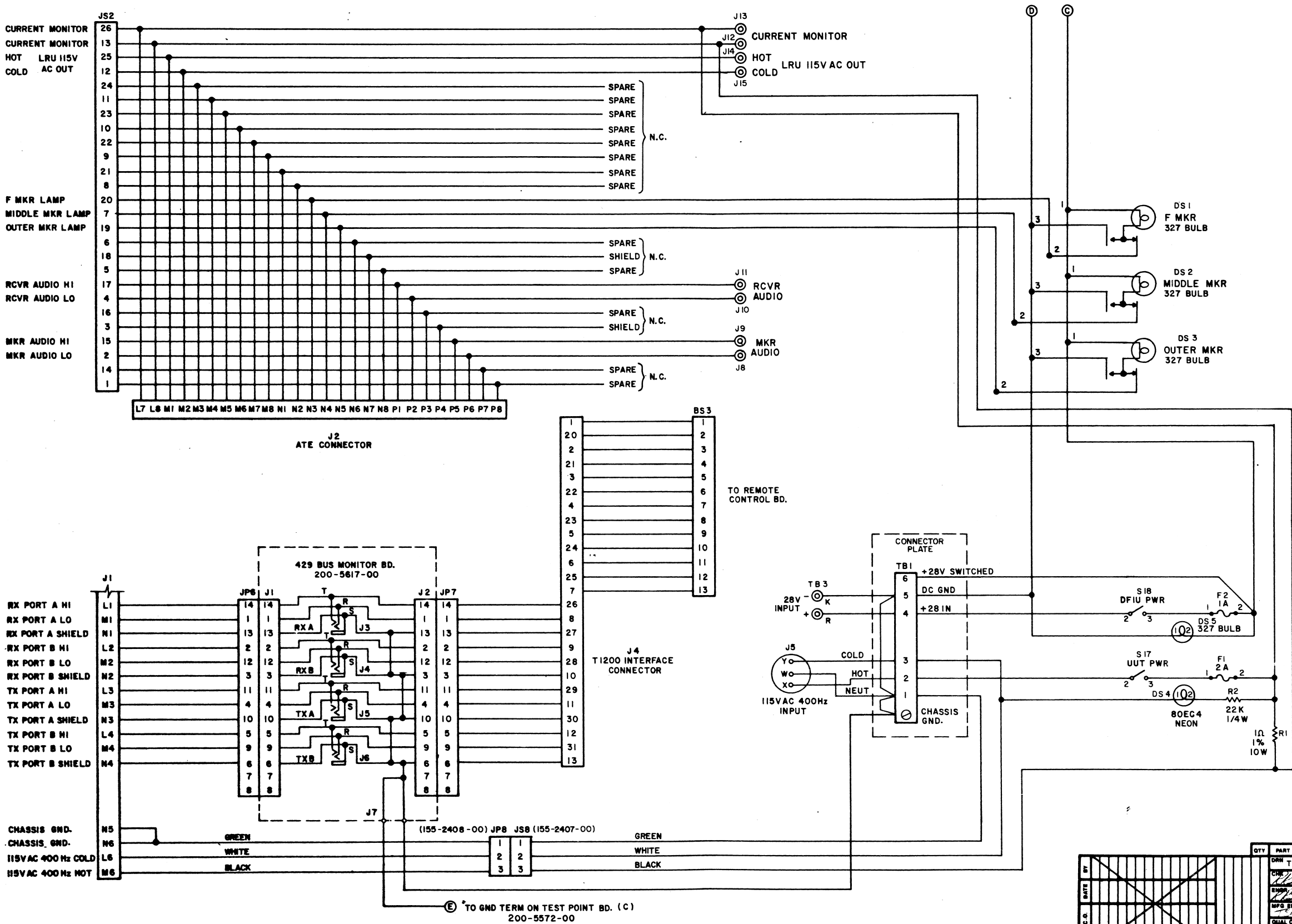
Figure 502

REV	C.O.	DATE	BY	APP
1	SSB	5-82	LV	

QTY	PART NUMBER	DESCRIPTION	ITEM
	DWN	DATE 12-81	
	CHK	DATE	
	ENGR	DATE 12-81	
	MFG ENGR	DATE 1-82	
	QUAL CONT	DATE 1-82	
	SCALE 2:1	SMT OF 1	
		NAME T1201 429 BD.	SIZE A
		DESCRIPTION	
		PART NUMBER 300-5617-00	

Figure 503

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DATE	BY	QTY	PART NUMBER	DESCRIPTION	ITEM
5-81	TS			KUSTOM ELECTRONICS, INC.	
7/79	TS			1979 REVISION, CHANGE LAMP 0629	
7/79	TS			TOLERANCES UNLESS NOTED:	
				LINEAR: .XXX: .010 HOLES: .005	
				XX: 2.00 ANGLES: 5°	
				NAME T1201 SCHEMATIC	SIZE D
				SCALE 8 WIRING DIAGRAM	
				REV 2	
				PART NUMBER	
				002-0289-00	

Figure 504
Sheet 2 of 2

ASSEMBLY NO: 200-5573-00
DESCRIPTION: AUDIO AMP BD
ASSY DWG NO: 300-5573-00

<u>QTY/</u> <u>REF NO</u>	<u>DESCRIPTION</u>	<u>KPN</u>
C1	CAPACITOR ALUM 1000 UF 50V	095-0024-12
C2,3	CAPACITOR TANT 100 UF 20V 20%	096-1007-17
C4	CAPACITOR D/C .001 UF Z5F 20%	109-1021-16
C5	CAPACITOR TANT 33 UF 25V 20%	096-1007-31
C6	CAPACITOR ELECT 100 UF 25V	095-0024-07
CR1	DIODE ZENER 1N4746	007-5079-18
E1-13	CONTACT STRIP	030-2078-14
I1	IC LM380N	007-7316-00
J1	POST HEADER 3 PIN	030-2144-01
LS1	SPEAKER 2 IN	038-0023-01
R1	RESISTOR FLM 200 OHM 1/2W 5%	130-0221-13
R2,3	RESISTOR MFLM 604 OHM 1/8W 1%	125-6040-01
R4,5	RESISTOR FLM 470K 1/4W 5%	130-0474-23
R6	POT 10K A TAPER	133-0079-00
R7,8	RESISTOR MFLM 200 OHM 1/8W 1%	125-2000-01
R9,10	RESISTOR MFLM 402 OHM 1/4W 1%	125-4020-11
R11,12	RESISTOR MFLM 604 OHM 1/8W 1%	125-6040-01
R13,14	RESISTOR FLM 4.7K 1/4W 5%	130-0472-23
R15,16	RESISTOR FLM 10K 1/4W 5%	130-0103-23
1	AUDIO AMP PC BD	009-5573-00
1	CUSHION SPEAKER	187-0012-00

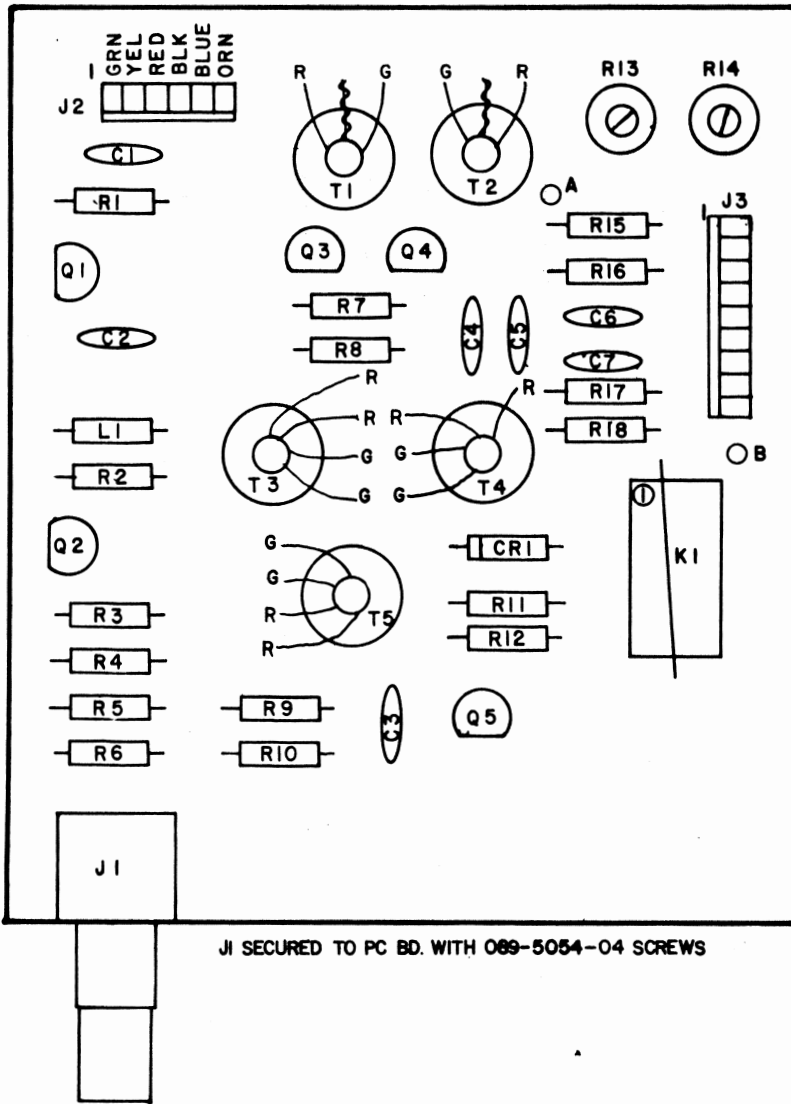
ASSEMBLY NO: 200-5617-00
DESCRIPTION: ARINC 429 MONITOR BD
ASSY DWG NO: 300-5617-00

<u>QTY/</u> <u>REF NO</u>	<u>DESCRIPTION</u>	<u>KPN</u>
J1,2	LOW PROFILE DIP SOCKET 14 PIN	033-0008-02
J3-6	PCB MTG PHONE JACK	030-1038-01
J7	CONTACT STRIP 4 PIN	030-2078-04
1	429 MONITOR BD T1201	009-5617-00

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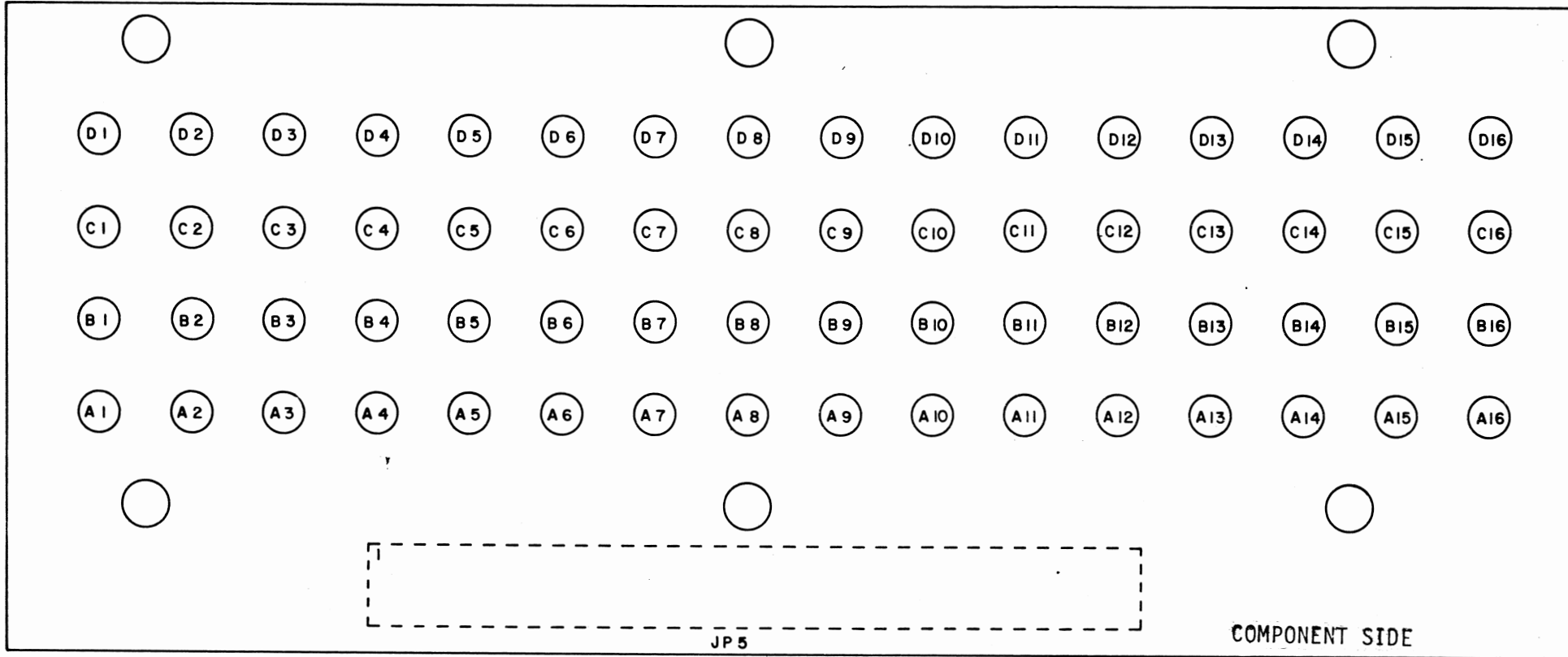
REV	C.A.	DATE	BY	APP	QTY	PART NUMBER	DESCRIPTION	ITEMS
1	5190	3-82	JCV					
						DRAWN TS	DATE 6-81	
						CHK	DATE	KUSTOM ELECTRONICS, INC.
						ENGR RRG	DATE 12-81	100 WEST OGDEN, OMAHA, KANSAS 68102
						MR. ENGR	DATE 1-82	TOLERANCES UNLESS NOTED:
						CHK. CONT.	DATE 1-82	LINEAR: .XXX: ±.010 HOLES: ±.008
						SCALE	DATE 1-82	.XX: ±.03 ANGLES: ±1°
						OF 1		NAME ADF ANT. SIMULATOR
								PART NUMBER 300-5616-00

Figure 505

KUSTOM ELECTRONICS, INC.
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T1201 - Part No. 062-1201-00

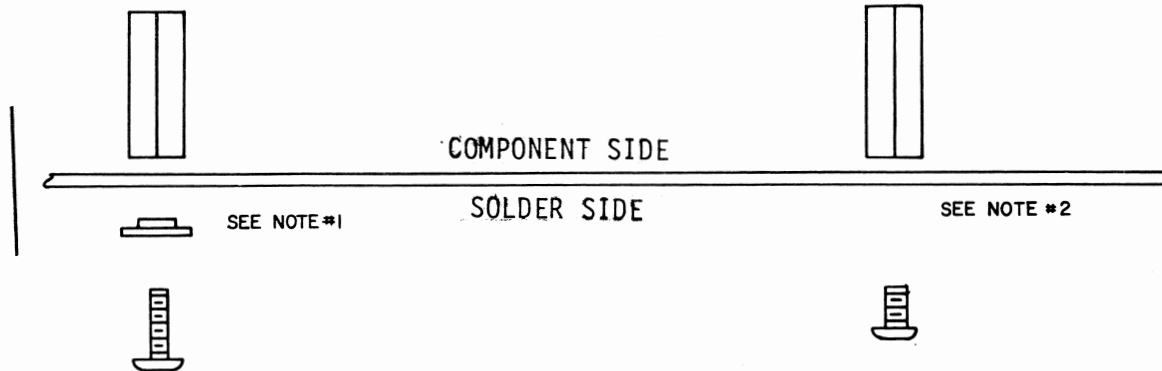
ASSEMBLY NO: 200-5616-00
DESCRIPTION: ADF ANTENNA SIMULATOR ASSY
ASSY DWG NO: 300-5616-00

<u>QTY/ REF NO</u>	<u>DESCRIPTION</u>	<u>KPN</u>
C1	CAPACITOR M/C .47 UF 100V	107-0000-23
C2	CAPACITOR MICA 150 PF	100-0003-19
C3-5	CAPACITOR M/C .1 UF 100V 10%	107-0000-18
C6,7	CAPACITOR M/C .47 UF 100V	107-0000-23
CR1	DIODE 1N4148	007-6016-00
J1	BNC PCB MTG CONN	030-0042-00
J2	POST HEADER 6 PIN	030-2144-04
J3	POST HEADER 9 PIN	030-2144-07
K1	RELAY DPDT 12V W/DUST COVER	032-0006-01
L1	INDUCTOR 470 UH 10%	019-2016-42
Q1-5	TRANSISTOR PN 2222A	007-0132-00
R1	RESISTOR FLM 2.2K 1/4W 5%	130-0222-23
R2	RESISTOR MFLM 866 OHM 1/4W 1%	125-8660-11
R3	RESISTOR FLM 2.2K 1/4W 5%	130-0222-23
R4	RESISTOR FLM 100 OHM 1/4W 5%	130-0101-23
R5	RESISTOR MFLM 52.3 OHM 1/4W 1%	125-0523-11
R6	RESISTOR FLM 100 OHM 1/4W 5%	130-0101-23
R7,8	RESISTOR FLM 2.2K 1/4W 5%	130-0222-23
R9	RESISTOR MFLM 52.3 OHM 1/4W 1%	125-0523-11
R10	RESISTOR MFLM 221 OHM 1/8W 1%	125-2210-01
R11	RESISTOR FLM 68 OHM 1/4W 5%	130-0681-23
R12	RESISTOR FLM 2.2K 1/4W 5%	130-0222-23
R13,14	POT 5K 4T 20% 3339	133-0063-01
R15,16	RESISTOR FLM 10 OHM 1/4W 5%	130-0100-23
R17,18	RESISTOR FLM 68 OHM 1/4W 5%	130-0680-23
T1,2	TRANSFORMER 1:1	019-7075-00
T3-5	TRANSFORMER 3:1	019-7076-00
1	ADF ANTENNA SIMULATOR PCB	009-5616-00
2	CONTACT STRIP 1 PIN	030-2078-01
1	LOW PROFILE DIP SOCKET 16 PIN	033-0008-04
2	SCREW PHP 2-56 X 1/4	089-5054-04



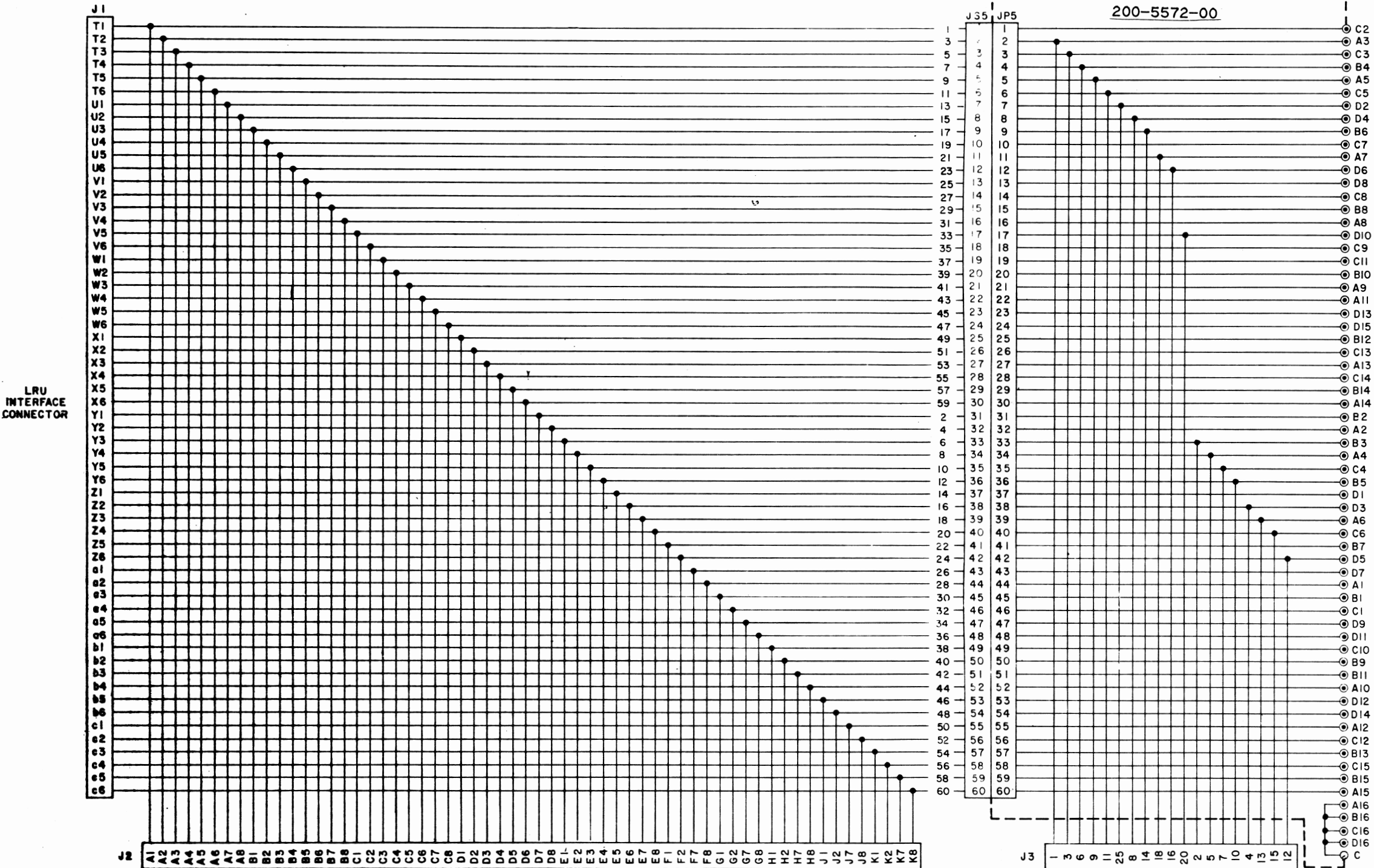
NOTES:

- 076-0001-46 HEX SPACER (ONE EACH) TO BE SECURED WITH ONE 090-0004-07 SHOULDER WASHER AND ONE 089-5026-04 SCREW.
- 076-0001-46 HEX SPACER (FIVE EACH) TO BE SECURED WITH FIVE 089-5026-03 SCREWS.



REV	C.O.	DATE	BY	APP	QTY	PART NUMBER	DESCRIPTION	ITEM
1	5/81	3-82	JLV				KUSTOM ELECTRONICS, INC. 1010 WEST CHESTNUT, CHAMBERLAIN, KANSAS 64720	
2	6/29/82	5-85	GL					TOLERANCES UNLESS NOTED: LINEAR: .XXX: ±.010 HOLES: ±.005 .XX: ±.03 ANGLES: ±1°
							NAME T1201/2	SIZE C
							TEST PT. BD.	
							PART NUMBER	
							300-5572-00	
							SCALE 2:1	
							SMT 1 OF 1	

Figure 507



QTY	PART NUMBER	DESCRIPTION	TEM
		KUSTOM ELECTRONICS, INC.	
		TOLERANCES UNLESS NOTED	
		LINEAR DIMENSIONS	
		ANGLE	
		NAME	
		DATE	
		SCALE	
		SHEET	
		PART NUMBER	062-1201-00

Figure 508

KUSTOM ELECTRONICS, INC.
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T1201 - Part No. 062-1201-00

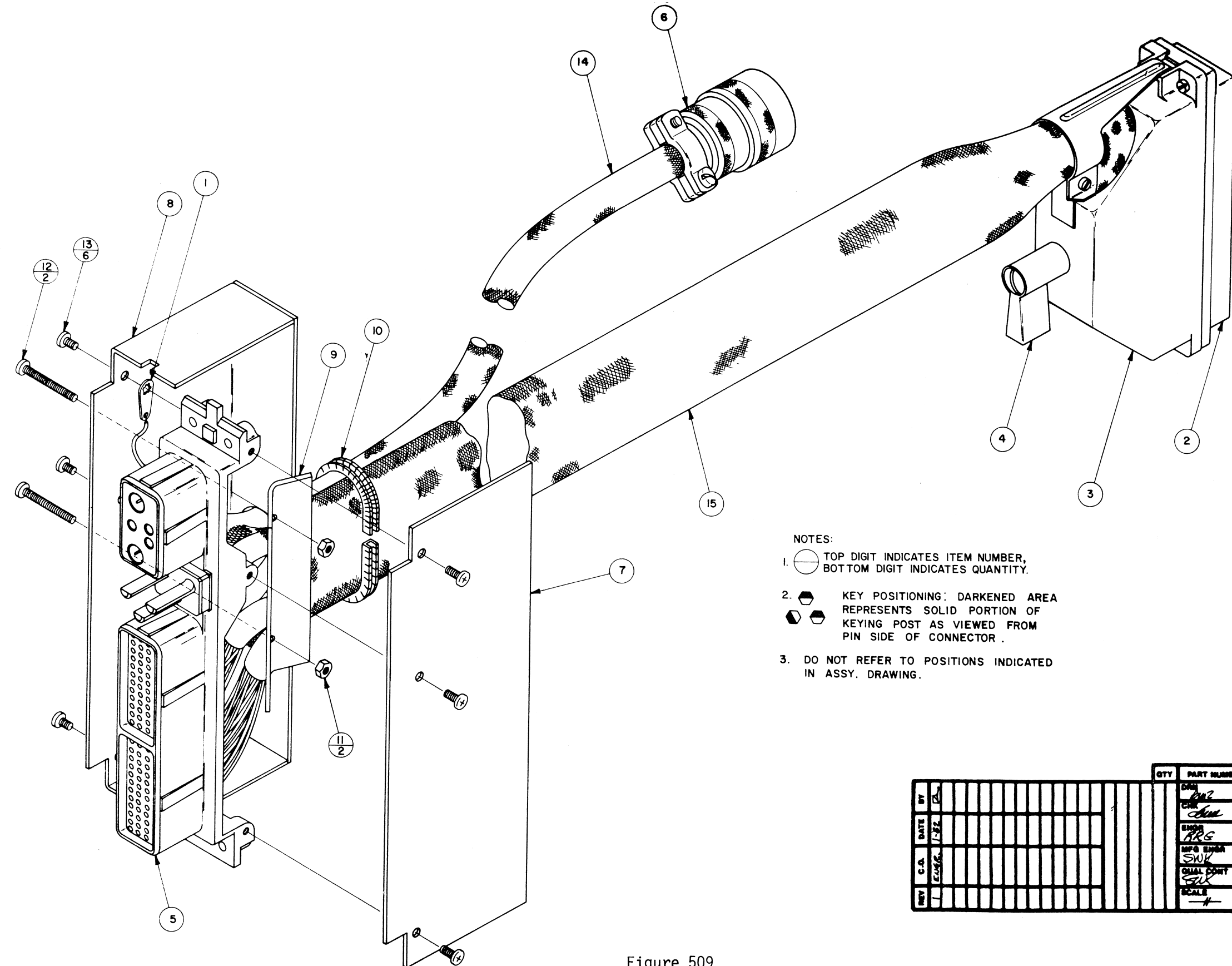
ASSEMBLY NO: 200-5572-00
DESCRIPTION: ATE TEST POINT BD
ASSY DWG NO: 300-5572-00

<u>QTY/ REF NO</u>	<u>DESCRIPTION</u>	<u>KPN</u>
A1-D16	TEST JACK	030-0043-00
JP5	STRAIGHT HEADER	030-2216-00
1	ATE TEST POINT BD	009-5572-00
6	SPACER .25 X 3/16	076-0001-46
R5	SCREW PHP 4-40 X 3/16 SEMS	089-5026-03
1	SHOULDER WASHER FBR #4	090-0004-07
R1	SCREW PHP 4-40 X 1/4 SEMS	089-5026-04

KUSTOM ELECTRONICS, INC.
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ASSEMBLY NO: 062-1201-03
DESCRIPTION: T1201 ADF CABLE
ASSY DWG NO: 155-2347-00

<u>QTY/ REF NO</u>	<u>DESCRIPTION</u>	<u>KPN</u>
1	LUG GND #6	008-0000-00
2	PLUG DL156	030-2201-00
3	CONN COVER DL 156	030-2202-00
4	DL CAM HANDLE	030-2202-01
5	PLUG ARINC 600	030-2207-00
6	PLUG STRAIGHT KPSE	030-2208-00
7	BKAD 125 SHELL CASE COVER	047-1737-00
8	BKAD 125 SHELL CASE	047-1738-00
9	STRAIN RELIEF BRKT SIZE 1	147-1748-00
10	EXTRUD GROMT NYTRIM .085	088-0098-01
11	NUT HEX #4-40 KEPS	089-2058-21
12	SCREW PHP 4-40 X 1 1/8	089-5058-18
13	SCREW PHP 8-32 X 3/8	089-5064-06
14	CABLE JACKET EXPANDO 1/2	150-0008-02
15	CABLE JACKET EXPANDO 1 1/4	150-0008-04
1	CAP CONN DL 156	030-2203-00
1	CONTACT DL 3 PR	030-2204-02
3	CONTACT DL #18	030-2205-00
86	CONTACT DL #22 & 24	030-2206-00
9	16 PIN KPSE SOCKET	030-2221-00
90	PINS #22 ARINC 600	030-2223-00
2	ARINC 600 #16 SOCKET	030-2224-02
1	ARINC 600 #12 SOCKET	030-2224-03



- NOTES:
1. TOP DIGIT INDICATES ITEM NUMBER, BOTTOM DIGIT INDICATES QUANTITY.
 2. KEY POSITIONING: DARKENED AREA REPRESENTS SOLID PORTION OF KEYING POST AS VIEWED FROM PIN SIDE OF CONNECTOR.
 3. DO NOT REFER TO POSITIONS INDICATED IN ASSY. DRAWING.

REV	DATE	BY	QTY	PART NUMBER	DESCRIPTION	ITEM
1	1-82	EMR				
2	1-82	EMR				
3	1-82	EMR				
4	1-82	EMR				
5	1-82	EMR				
6	1-82	EMR				
7	1-82	EMR				
8	1-82	EMR				
9	1-82	EMR				
10	1-82	EMR				
11	1-82	EMR				
12	1-82	EMR				
13	1-82	EMR				
14	1-82	EMR				
15	1-82	EMR				
16	1-82	EMR				
17	1-82	EMR				
18	1-82	EMR				
19	1-82	EMR				
20	1-82	EMR				
21	1-82	EMR				
22	1-82	EMR				
23	1-82	EMR				
24	1-82	EMR				
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99	1-82	EMR				
100	1-82	EMR				

Figure 509

KUSTOM ELECTRONICS, INC.
Overhaul Manual
T1201 - Part No. 062-1201-00

ASSEMBLY NO: 062-1201-01
DESCRIPTION: T1201 VOR/MB CABLE
ASSY DWG NO: 155-2348-00

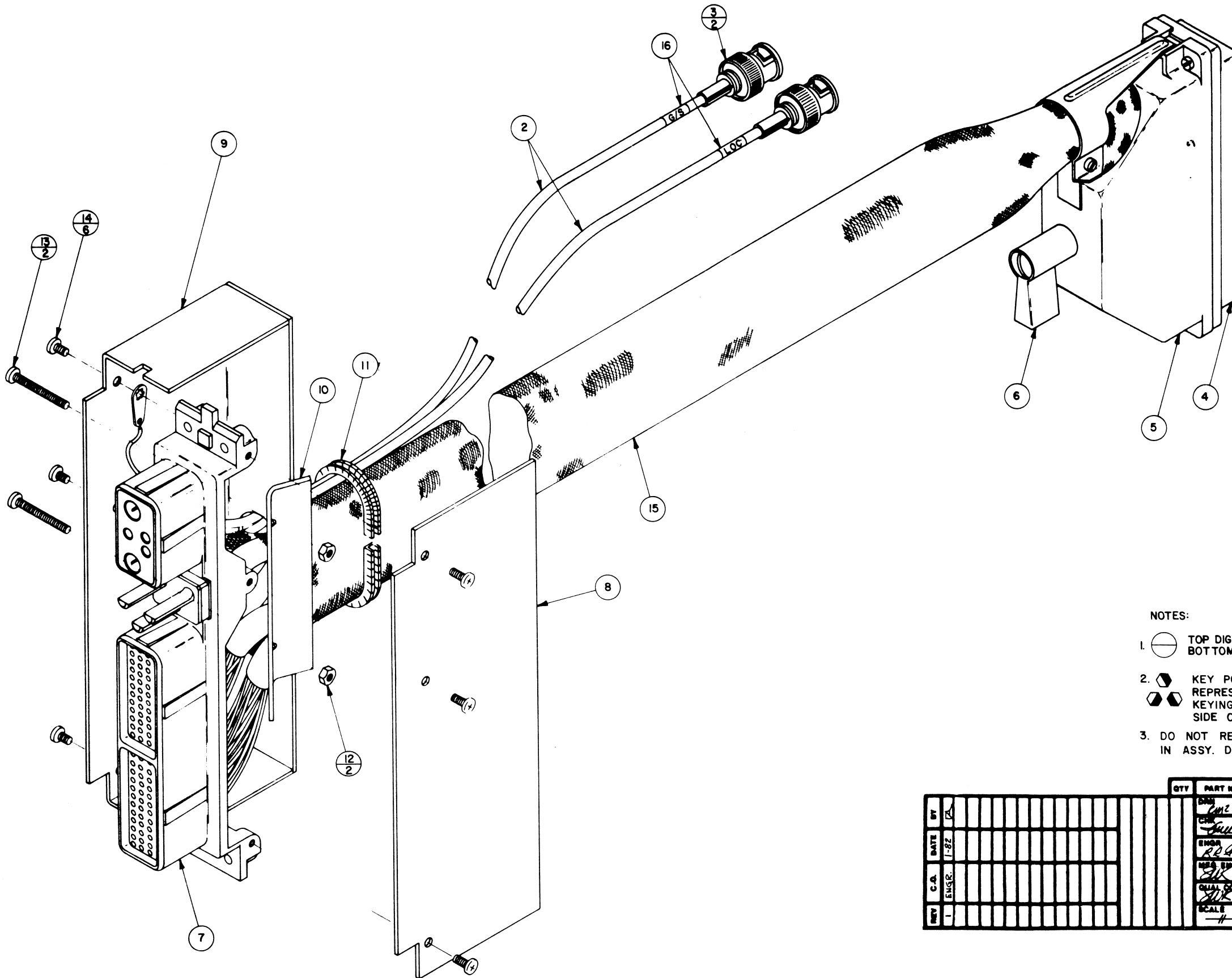
<u>QTY/ REF NO</u>	<u>DESCRIPTION</u>	<u>KPN</u>
1	LUG GND #6	008-0000-00
2	COAX RG58	024-0000-00
3	PLUG BNC CRIMP RG 58	030-0038-02
4	PLUG DL 156	030-2201-00
5	CONN COVER DL 156	030-2202-00
6	DL CAM HANDLE	030-2202-01
7	PLUG ARINC 600	030-2207-00
8	BKAD 125 SHELL CASE COVER	047-1737-00
9	BKAD 125 SHELL CASE	047-1738-00
10	STRAIN RELIEF BRKT SIZE 1	047-1748-00
11	EXTRUD GROMT NYTRIM .085	088-0098-01
12	NUT HEX 4-40 KEPS	089-2058-21
13	SCREW PHP 4-40 X 1 1/8	089-5058-18
14	SCREW PHP 8-32 X 3/8	089-5064-06
15	CABLE JACKET EXPANDO 1 1/4	150-0008-04
16	RNF 100 SHRINK TUBING 1/2	150-0010-07
2	#5 COAX CONTACT	030-0047-00
1	CAP CONN DL 156	030-2203-00
1	CONTACT DL 3 PR	030-2204-02
2	CONTACT DL #18	030-2205-00
91	CONTACT DL #22 & 24	030-2206-00
87	PINS #22 ARINC 600	030-2223-00
2	ARINC 600 #16 SOCKET	030-2224-02
1	ARINC 600 #12 SOCKET	030-2224-03

KUSTOM ELECTRONICS, INC.
Overhaul Manual
T1201 - Part No. 062-1201-00

ASSEMBLY NO: 062-1201-02
DESCRIPTION: T1201 ILS CABLE
ASSY DWG NO: 155-2349-00

<u>QTY/ REF NO</u>	<u>DESCRIPTION</u>	<u>KPN</u>
1	LUG GND #6	008-0000-00
2	COAX RG58	024-0000-00
3	PLUG BNC CRIMP RG58	030-0038-02
4	PLUG DL 156	030-2201-00
5	CONN COVER DL 156	030-2202-00
6	DL CAM HANDLE	030-2202-01
7	PLUG ARINC 600	030-2207-00
8	BKAD 125 SHELL CASE COVER	047-1737-00
9	BKAD 125 SHELL CASE	047-1738-00
10	STRAIN RELIEF BRKT SIZE 1	047-1748-00
11	EXTRUD GROMT NYTRIM .085	088-0098-01
12	NUT HEX 4-40 KEPS	089-2058-21
13	SCREW PHP 4-40 X 1 1/8	089-5058-18
14	SCREW PHP 8-32 X 3/8	089-5064-06
15	CABLE JACKET EXPANDO 1 1/4	150-0008-04
16	RNF 100 SHRINK TUBING 1/2	150-0010-07
2	#5 COAX CONTACT	030-0047-00
1	CAP CONN DL 156	030-2203-00
3	CONTACT DL #18	030-2205-00
88	CONTACT DL #22 & 24	030-2206-00
96	PINS #22 ARINC 600	030-2223-00
2	ARINC 600 #16 SOCKET	030-2224-02
1	ARINC 600 #12 SOCKET	030-2224-03

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NOTES:

1. TOP DIGIT INDICATES ITEM NUMBER, BOTTOM DIGIT INDICATES QUANTITY.
2. KEY POSITIONING: DARKENED AREA REPRESENTS SOLID PORTION OF KEYING POST AS VIEWED FROM PIN SIDE OF CONNECTOR.
3. DO NOT REFER TO POSITIONS INDICATED IN ASSY. DRAWING.

REV	C.A.	DATE	ENGR.	BY	DATE	SCALE	QTY	PART NUMBER	DESCRIPTION	ITEM
1		1-82			1-82		1	155-2349-00	KUSTOM ELECTRONICS, INC. 100 NEW GERRARD, GERRARD, LONDON, ONTARIO	
									TOLERANCES UNLESS NOTED: LINEAR: MAX: ±.010 HOLES: ±.005 XX: ±.005 ANGLES: ±.1°	
									NAME ILS LRU CABLE	SIZE "C"
									PART NUMBER	
									155-2349-00	

Figure 511

KUSTOM ELECTRONICS, INC.
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T1201 - Part No. 062-1201-00

T1201 ADF, VOR, ILS DFU - WIRE LIST

1. VOR LRU CABLE (KPN 062-1201-01)

FUNCTION	DFIU CONNECTOR PIN #	WIRE COLOR	LRU CONNECTOR PIN #
MARKER SENSE CONTROL	B1	BLK	MP D9
FUNCTION TEST DISCRETE	B3	WHT	MP D6
MARKER BEACON INHIBIT	B4	RED	MP D2
DATA SOURCE CONTROL	B5	GRN	MP A11
AIR/GROUND LOGIC	B6	ORN	MP A15
SDI 1	D1	BLU	MP A6
SDI 2	D3	WHT/BLK	MP C6
SDI 3	D4	RED/BLK	MP B6
OUTER MARKER	F6	GRN/BLK	MP A2
MIDDLE MKR	G1	ORN/BLK	MP B2
F MKR	G2	BLU/BLK	MP C2
PANEL PWR 115 VAC HOT (OUTPUT)	M5	BLK/WHT	MP C15
PANEL PWR 115 VAC COLD	L5	RED/WHT	MP D15
SPARE	E6	GRN/WHT	MP B3
SPARE	F3	BLU/WHT	MP C3
MKR AUDIO LO	E3	RED	MP D4
MKR AUDIO HI	E4	BLK	MP C4
MKR AUDIO SHIELD	E5	SHIELD	N/A
AUDIO LO	F1	RED	MP C7
AUDIO HI	F2	BLK	MP B7
AUDIO SHIELD	F4	SHIELD	N/A
429 BUSS PORT A INPUT A	L1	RED	MP B9
429 BUSS PORT A INPUT B	M1	BLK	MP C9
429 BUSS PORT A SHIELD	Row N	SHIELD	BP 4
429 BUSS PORT B INPUT A	L2	RED	MP B11
429 BUSS PORT B INPUT B	M2	BLK	MP C11
429 BUSS PORT B SHIELD	Row N	SHIELD	BP 4
OMNI BEARING #1 OUTPUT A	L3	RED	MP A4
OMNI BEARING #1 OUTPUT B	M3	BLK	MP B4
OMNI BEARING #1 OUTPUT SHIELD	Row N	SHIELD	BP 4
OMNI BEARING #2 OUTPUT A	L4	RED	MP B13
OMNI BEARING #2 OUTPUT B	M4	BLK	MP C13
OMNI BEARING #2 OUTPUT SHIELD	Row N	SHIELD	BP 4
UUT POWER 115 VAC HOT	M6	BLK	BP 2
UUT POWER 115 VAC COLD	L6	WHT	BP 3
UUT CHASSIS GROUND	Row N	GRN	BP 4
VOR MARKER ANTENNA	BNC	N/A	BP 5
VOR ANTENNA	BNC	N/A	BP 1

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<u>FUNCTION</u>	<u>DFIU CONNECTOR PIN #</u>	<u>WIRE COLOR</u>	<u>LRU CONNECTOR PIN #</u>
ATE POINT C2	T1	BLK	TP C2
ATE POINT A3	T2	WHT	TP A3
ATE POINT C3	T3	RED	TP C3
ATE POINT B4	T4	GRN	TP B4
ATE POINT A5	T5	ORN	TP A5
ATE POINT C5	T6	BLU	TP C5
ATE POINT D2	U1	WHT/BLK	TP D2
ATE POINT D4	U2	RED/BLK	TP D4
ATE POINT B6	U3	GRN/BLK	TP B6
ATE POINT C7	U4	ORN/BLK	TP C7
ATE POINT A7	U5	BLU/BLK	TP A7
ATE POINT D6	U6	BLK/WHT	TP D6
ATE POINT D8	V1	RED/WHT	TP D8
ATE POINT C8	V2	GRN/WHT	TP C8
ATE POINT B8	V3	BLU/WHT	TP B8
SHIELD	none	SHIELD	case
ATE POINT A8	V4	BLK	TP A8
ATE POINT D10	V5	WHT	TP D10
ATE POINT C9	V6	RED	TP C9
ATE POINT C11	W1	GRN	TP C11
ATE POINT B10	W2	ORN	TP B10
ATE POINT A9	W3	BLU	TP A9
ATE POINT A11	W4	WHT/BLK	TP A11
ATE POINT D13	W5	RED/BLK	TP D13
ATE POINT D15	W6	GRN/BLK	TP D15
ATE POINT B12	X1	ORN/BLK	TP B12
ATE POINT C13	X2	BLU/BLK	TP C13
ATE POINT A13	X3	BLK/WHT	TP A13
ATE POINT C14	X4	RED/WHT	TP C14
ATE POINT B14	X5	GRN/WHT	TP B14
ATE POINT A14	X6	BLU/WHT	TP A14
SHIELD	none	SHIELD	case
ATE POINT B2	Y1	BLK	TP B2
ATE POINT A2	Y2	WHT	TP A2
ATE POINT B3	Y3	RED	TP B3
ATE POINT A4	Y4	GRN	TP A4
ATE POINT C4	Y5	ORN	TP C4
ATE POINT B5	Y6	BLU	TP B5
ATE POINT D1	Z1	WHT/BLK	TP D1
ATE POINT D3	Z2	RED/BLK	TP D3
ATE POINT A6	Z3	GRN/BLK	TP A6
ATE POINT C6	Z4	ORN/BLK	TP C6
ATE POINT B7	Z5	BLU/BLK	TP B7
ATE POINT D5	Z6	BLK/WHT	TP D5
ATE POINT D7	a1	RED/WHT	TP D7
ATE POINT A1	a2	GRN/WHT	TP A1

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<u>FUNCTION</u>	<u>DFIU CONNECTOR PIN #</u>	<u>WIRE COLOR</u>	<u>LRU CONNECTOR PIN #</u>
ATE POINT B1	a3	BLU/WHT	TP B1
SHIELD	none	SHIELD	case
ATE POINT C1	a4	BLK	TP C1
ATE POINT D9	a5	WHT	TP D9
ATE POINT D11	a6	RED	TP D11
ATE POINT C10	b1	GRN	TP C10
ATE POINT B9	b2	ORN	TP B9
ATE POINT B11	b3	BLU	TP B11
ATE POINT A10	b4	WHT/BLK	TP A10
ATE POINT D12	b5	RED/BLK	TP D12
ATE POINT D14	b6	GRN/BLK	TP D14
ATE POINT A12	c1	ORN/BLK	TP A12
ATE POINT C12	c2	BLU/BLK	TP C12
ATE POINT B13	c3	BLK/WHT	TP B13
ATE POINT C15	c4	RED/WHT	TP C15
ATE POINT B15	c5	GRN/WHT	TP B15
ATE POINT A15	c6	BLU/WHT	TP A15
SHIELD	none	SHIELD	case

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2. ILS LRU CABLE (KPN 062-1201-02)

<u>FUNCTION</u>	<u>DFIU CONNECTOR PIN #</u>	<u>WIRE COLOR</u>	<u>LRU CONNECTOR PIN #</u>
FUNCTIONAL TEST DISCRETE	B3	BLK	MP D1
DATA SOURCE CONTROL	B5	WHT	MP A13
AIR/GROUND LOGIC	B6	RED	MP D15
SPARE	C1	GRN	MP B5
TUNE FUNCTION TEST	C2	ORN	MP C1
SPARE	C3	BLU	MP A5
SPARE	C4	WHT/BLK	MP C5
AFS LOC CONTROL LINE	C5	RED/BLK	MP C3
AFS LOC CONTINUOUS	C6	GRN/BLK	MP B3
SDI 1	D1	ORN/BLK	MP A7
AFS LOC INTERRUPTED	D2	BLU/BLK	MP A3
SDI COMMON	D3	BLK/WHT	MP A11
SDI 2	D4	RED/WHT	MP A9
CONTROL PANEL POWER HOT	M5	GRN/WHT	MP B15
CONTROL PANEL POWER COLD	L5	BLU/WHT	MP C15
AUDIO LO	F1	BLK	MP B1
AUDIO HI	F2	RED	MP A1
AUDIO SHIELD	F4	SHIELD	N/A
429 BUSS PORT A INPUT A	L1	RED	MP B9
429 BUSS PORT A INPUT B	M1	BLK	MP C9
429 BUSS PORT A SHIELD	Row N	SHIELD	BP 4
429 BUSS PORT B INPUT A	L2	RED	MP B13
429 BUSS PORT B INPUT B	M2	BLK	MP C13
429 BUSS PORT B SHIELD	Row N	SHIELD	BP 4
RECEIVER PORT #1 OUTPUT A	L3	RED	MP B7
RECEIVER PORT #1 OUTPUT B	M3	BLK	MP C7
RECEIVER PORT #1 SHIELD	Row N	SHIELD	BP 4
RECEIVER PORT #2 OUTPUT A	L4	RED	MP B11
RECEIVER PORT #2 OUTPUT B	M4	BLK	MP C11
RECEIVER PORT #2 SHIELD	Row N	SHIELD	BP 4
UUT POWER 115 VAC HOT	M6	BLK	BP 2
UUT POWER 115 VAC COLD	L6	WHT	BP 3
UUT CHASSIS GROUND	Row N	GRN	BP 4
ILS ANTENNA GLIDE SLOPE	BNC	N/A	BP 5
ILS LOCALIZER ANTENNA	BNC	N/A	BP 1
ATE POINT C2	T1	BLK	TP C2
ATE POINT A3	T2	WHT	TP A3
ATE POINT C3	T3	RED	TP C3
ATE POINT B4	T4	GRN	TP B4
ATE POINT A5	T5	ORN	TP A5
ATE POINT C5	T6	BLU	TP C5
ATE POINT D2	U1	WHT/BLK	TP D2
ATE POINT D4	U2	RED/BLK	TP D4
ATE POINT B6	U3	GRN/BLK	TP B6

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<u>FUNCTION</u>	<u>DFIU CONNECTOR PIN #</u>	<u>WIRE COLOR</u>	<u>LRU CONNECTOR PIN #</u>
ATE POINT C7	U4	ORN/BLK	TP C7
ATE POINT A7	U5	BLU/BLK	TP A7
ATE POINT D6	U6	BLK/WHT	TP D6
ATE POINT D8	V1	RED/WHT	TP D8
ATE POINT C8	V2	GRN/WHT	TP C8
ATE POINT B8	V3	BLU/WHT	TP B8
SHIELD	none	SHIELD	case
ATE POINT A8	V4	BLK	TP A8
ATE POINT D10	V5	WHT	TP D10
ATE POINT C9	V6	RED	TP C9
ATE POINT C11	W1	GRN	TP C11
ATE POINT B10	W2	ORN	TP B10
ATE POINT A9	W3	BLU	TP A9
ATE POINT A11	W4	WHT/BLK	TP A11
ATE POINT D13	W5	RED/BLK	TP D13
ATE POINT D15	W6	GRN/BLK	TP D15
ATE POINT B12	X1	ORN/BLK	TP B12
ATE POINT C13	X2	BLU/BLK	TP C13
ATE POINT A13	X3	BLK/WHT	TP A13
ATE POINT C14	X4	RED/WHT	TP C14
ATE POINT B14	X5	GRN/WHT	TP B14
ATE POINT A14	X6	BLU/WHT	TP A14
SHIELD	none	SHIELD	case
ATE POINT B2	Y1	BLK	TP B2
ATE POINT A2	Y2	WHT	TP A2
ATE POINT B3	Y3	RED	TP B3
ATE POINT A4	Y4	GRN	TP A4
ATE POINT C4	Y5	ORN	TP C4
ATE POINT B5	Y6	BLU	TP B5
ATE POINT D1	Z1	WHT/BLK	TP D1
ATE POINT D3	Z2	RED/BLK	TP D3
ATE POINT A6	Z3	GRN/BLK	TP A6
ATE POINT C6	Z4	ORN/BLK	TP C6
ATE POINT B7	Z5	BLU/BLK	TP B7
ATE POINT D5	Z6	BLK/WHT	TP D5
ATE POINT D7	a1	RED/WHT	TP D7
ATE POINT A1	a2	GRN/WHT	TP A1
ATE POINT B1	a3	BLU/WHT	TP B1
SHIELD	none	SHIELD	case
ATE POINT C1	a4	BLK	TP C1
ATE POINT D9	a5	WHT	TP D9
ATE POINT D11	a6	RED	TP D11
ATE POINT C10	b1	GRN	TP C10
ATE POINT B9	b2	ORN	TP B9
ATE POINT B11	b3	BLU	TP B11
ATE POINT A10	b4	WHT/BLK	TP A10

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<u>FUNCTION</u>	<u>DFIU CONNECTOR PIN #</u>	<u>WIRE COLOR</u>	<u>LRU CONNECTOR PIN #</u>
TEST POINT D12	b5	RED/BLK	TP D12
TEST POINT D14	b6	GRN/BLK	TP D14
TEST POINT A12	c1	ORN/BLK	TP A12
TEST POINT C12	c2	BLU/BLK	TP C12
TEST POINT B13	c3	BLK/WHT	TP B13
TEST POINT C15	c4	RED/WHT	TP C15
TEST POINT B15	c5	GRN/WHT	TP B15
TEST POINT A15	c6	BLU/WHT	TP A15
SHIELD	none	SHIELD	case

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3. ADF LRU CABLE (KPN 062-1201-03)

<u>FUNCTION</u>	<u>DFIU CONNECTOR PIN #</u>	<u>WIRE COLOR</u>	<u>LRU CONNECTOR PIN #</u>
QEC MSB D	A1	BLK	MP C5
QEC SIGN E	A2	WHT	MP C4
QEC BIT B	A3	RED	MP C7
QEC BIT C	A4	GRN	MP C6
QEC COMMON	A5	ORN	MP C9
QEC LSB	A6	BLU	MP C8
ANTENNA MOUNT CONTROL	B2	WHT/BLK	MP C13
FUNCTION TEST DISCRETE	B3	RED/BLK	MP A13
DATA SOURCE CONTROL	B5	GRN/BLK	MP B3
A/G LOGIC	B6	ORN/BLK	MP B15
SDI 1	D1	BLU/BLK	MP C1
SDI COMMON	D3	BLK/WHT	MP C3
SDI 2	D4	RED/WHT	MP C2
AUDIO LO	F1	BLK	MP B2
AUDIO HI	F2	RED	MP B1
AUDIO SHIELD	F4	SHIELD	N/A
429 BUSS PORT A HI	L1	RED	MP B4
429 BUSS PORT A LO	M1	BLK	MP B5
429 BUSS PORT A SHIELD	Row N	SHIELD	BP 3
429 BUSS PORT B HI	L2	RED	MP B7
429 BUSS PORT B LO	M2	BLK	MP B8
429 BUSS PORT B SHIELD	Row N	SHIELD	BP 3
BEARING OUTPUT 1 HI	L3	RED	MP B10
BEARING OUTPUT 1 LO	M3	BLK	MP B11
BEARING OUTPUT 1 SHIELD	Row N	SHIELD	BP 3
BEARING OUTPUT 2 HI	L4	RED	MP B13
BEARING OUTPUT 2 LO	M4	BLK	MP B14
BEARING OUTPUT 2 SHIELD	Row N	SHIELD	BP 3
UUT POWER 115 VAC HOT	M6	BLK	BP 2
UUT POWER 115 VAC COLD	L6	WHT	BP 4
CHASSIS GROUND	Row N	GRN	BP 3
SPARE	D5	GRN/WHT	MP A14
SPARE	D6	BLU/WHT	MP A15

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<u>FUNCTION</u>	<u>ANTENNA CONNECTOR PIN #</u>	<u>WIRE COLOR</u>	<u>LRU CONNECTOR PIN #</u>
ANTENNA POWER +12 VDC	K	RED	MP C10
ANTENNA POWER -12 VDC	L	BLK	MP C11
ANTENNA POWER GROUND	M	SHIELD	MP C12
SENSE ANT INPUT HI	A	RED	MP D1
SENSE ANT INPUT LO	B	BLK	MP D2
SHIELD	M	SHIELD	BP 3
LONG LOOP HI	D	RED	MP D7
LONG LOOP LO	E	BLK	MP D8
SHIELD	M	SHIELD	BP 3
LAT LOOP HI	G	RED	MP D14
LAT LOOP LO	H	BLK	MP D15
SHIELD	M	SHIELD	BP 3

<u>FUNCTION</u>	<u>DFIU CONNECTOR PIN #</u>	<u>WIRE COLOR</u>	<u>LRU CONNECTOR PIN #</u>
ATE POINT C2	T1	BLK	TP C2
ATE POINT A3	T2	WHT	TP A3
ATE POINT C3	T3	RED	TP C3
ATE POINT B4	T4	GRN	TP B4
ATE POINT A5	T5	ORN	TP A5
ATE POINT C5	T6	BLU	TP C5
ATE POINT D2	U1	WHT/BLK	TP D2
ATE POINT D4	U2	RED/BLK	TP D4
ATE POINT B6	U3	GRN/BLK	TP B6
ATE POINT C7	U4	ORN/BLK	TP C7
ATE POINT A7	U5	BLU/BLK	TP A7
ATE POINT D6	U6	BLK/WHT	TP D6
ATE POINT D8	V1	RED/WHT	TP D8
ATE POINT C8	V2	GRN/WHT	TP C8
ATE POINT B8	V3	BLU/WHT	TP B8
SHIELD	none	SHIELD	case
ATE POINT A8	V4	BLK	TP A8
ATE POINT D10	V5	WHT	TP D10
ATE POINT C9	V6	RED	TP C9
ATE POINT C11	W1	GRN	TP C11
ATE POINT B10	W2	ORN	TP B10
ATE POINT A9	W3	BLU	TP A9
ATE POINT A11	W4	WHT/BLK	TP A11
ATE POINT D13	W5	RED/BLK	TP D13
ATE POINT D15	W6	GRN/BLK	TP D15
ATE POINT B12	X1	ORN/BLK	TP B12
ATE POINT C13	X2	BLU/BLK	TP C13
ATE POINT A13	X3	BLK/WHT	TP A13
ATE POINT C14	X4	RED/WHT	TP C14
ATE POINT B14	X5	GRN/WHT	TP B14
ATE POINT A14	X6	BLU/WHT	TP A14
SHIELD	none	SHIELD	case

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<u>FUNCTION</u>	<u>DFIU CONNECTOR PIN #</u>	<u>WIRE COLOR</u>	<u>LRU CONNECTOR PIN #</u>
ATE POINT B2	Y1	BLK	TP B2
ATE POINT A2	Y2	WHT	TP A2
ATE POINT B3	Y3	RED	TP B3
ATE POINT A4	Y4	GRN	TP A4
ATE POINT C4	Y5	ORN	TP C4
ATE POINT B5	Y6	BLU	TP B5
ATE POINT D1	Z1	WHT/BLK	TP D1
ATE POINT D3	Z2	RED/BLK	TP D3
ATE POINT A6	Z3	GRN/BLK	TP A6
ATE POINT C6	Z4	ORN/BLK	TP C6
ATE POINT B7	Z5	BLU/BLK	TP B7
ATE POINT D5	Z6	BLK/WHT	TP D5
ATE POINT D7	a1	RED/WHT	TP D7
ATE POINT A1	a2	GRN/WHT	TP A1
ATE POINT B1	a3	BLU/WHT	TP B1
SHIELD	none	SHIELD	case
ATE POINT C1	a4	BLK	TP C1
ATE POINT D9	a5	WHT	TP D9
ATE POINT D11	a6	RED	TP D11
ATE POINT C10	b1	GRN	TP C10
ATE POINT B9	b2	ORN	TP B9
ATE POINT B11	b3	BLU	TP B11
ATE POINT A10	b4	WHT/BLK	TP A10
ATE POINT D12	b5	RED/BLK	TP D12
ATE POINT D14	b6	GRN/BLK	TP D14
ATE POINT A12	c1	ORN/BLK	TP A12
ATE POINT C12	c2	BLU/BLK	TP C12
ATE POINT B13	c3	BLK/WHT	TP B13
ATE POINT C15	c4	RED/WHT	TP C15
ATE POINT B15	c5	GRN/WHT	TP B15
ATE POINT A15	c6	BLU/WHT	TP A15
SHIELD	none	SHIELD	case

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T1201 ADF, VOR, ILS DFIU - PARTS LIST

ASSEMBLY NO: 200-0856-00
DESCRIPTION: T1201 FINAL ASSEMBLY
ASSY DWG NO: 300-0300-00

<u>QTY/ REF NO</u>	<u>DESCRIPTION</u>	<u>KPN</u>
DS1	PRESS TO TEST LAMP, CLEAR	037-0075-00
DS2	PRESS TO TEST LAMP, AMBER	037-0075-01
DS3	PRESS TO TEST LAMP, BLUE	037-0075-02
DS4,5	LAMP HOLDER WITH RED LENS	037-0069-01
J1	DL1-156 CONNECTOR RECEPTACLE	030-2214-00
J2	DL 2-96 CONNECTOR RECEPTACLE	030-2215-00
J3	ITT CANNON DBM 255	030-2072-01*
J4	CONN D 37 CONTACT	030-2188-01*
J5	POWER CONNECTOR	030-2149-00
J6,7	NOT USED	
J8	BLACK BANANA JACK	030-1039-01
J9	WHITE BANANA JACK	030-1039-02
J10	BLACK BANANA JACK	030-1039-01
J11	WHITE BANANA JACK	030-1039-02
J12-15	BLACK BANANA JACK	030-1039-01
F1,2	FUSE 2 AMP 250V SLO-BLO	036-0003-00
R1	RESISTOR W/W 1 OHM 5W 1%	132-0017-00
R2	RESISTOR FLM 22K 1/4W 5%	130-0223-23
S1-11	TOGGLE SWITCH MTF 106D SPDT	031-0186-00
S12	TOGGLE SWITCH SPDT MTF 106E	031-0186-01
S13	TOGGLE SWITCH MTF 206N DPDT	031-0186-05
RS14,15	ROTARY SWITCH MRS 1-12 S	031-0184-90
RS16	ROTARY SWITCH MRS 2-6S	031-0184-91
S17,18	SWITCH POWER DPST 20 AMP	031-0124-00
1	BROWN VINYL TAPE	012-0020-00
2	FRONT PANEL	047-1736-00
3	REAR PANEL	047-1739-00
4	ENCLOSURE TOP/BOTTOM	047-1740-00
5	SIDE PANEL	047-1741-00
6	CONNECTOR PLATE	047-1742-00
7	U-BRACKET	047-1743-02
8	L-BRACKET	047-1744-00
9	ANTENNA SIMULATOR ENCLOSURE	047-1746-00
10	PC BD HOLD BRACKET	047-1814-00
11	CONNECTOR HOLD BRACKET	047-1815-01
12	SCREW PHP 6-32 X 1/4	089-5062-04
13	MOUNTING RAIL MODIFIED	090-0424-90
14	HANDLE	090-0431-05

*CONNECTORS ARE CONSIDERED PART OF THEIR RESPECTIVE CABLE ASSY'S

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200-0856-00

<u>QTY/</u> <u>REF NO</u>	<u>DESCRIPTION</u>	<u>KPN</u>
15	NOT USED	
16	T1201 JUMPER CARD	009-5621-00
17	SCREW PHP 6-32 X 1/2 ST	089-5473-08
18	SEE J2	
19	SEE J5	
20	SLIDE SWITCH	031-0188-00
21	REAR PANEL (SEE 3)	
22	DUAL BINDING POST	090-0354-00
23	DATA BUS CABLE	155-2384-00
24	COLLINS INTERFACE CABLE	155-2387-00
25	NUT ELASTIC STOP 4-40 CAD	089-2304-22
26	NUT ELASTIC STOP 6-32	089-2306-22
27	SCREW PHP 4-40 X 1/4	089-5058-04
28	SCREW PHP 4-40 X 7/16	089-5058-07
29	NUT CLINCH 6-32	089-2210-22
30	SCREW PHP 4-40 X 5/8	089-5058-10
31	SCREW PHP 6-32 X 5/8	089-5062-10
32	TERMINAL BLOCK 600 KULKA	090-0073-00
33	BS1 CABLE ASSEMBLY	155-2376-00
34	BS2 CABLE ASSEMBLY	155-2377-00
35	CARD GUIDE	090-0256-04
36	FISH PAPER	012-0015-00
37	ANTENNA SIMULATOR PC BD ASSY	200-5616-00
38	AUDIO AMP PC BD ASSY	200-5573-00
39	ATE TEST POINT BD ASSY	200-5572-00
40	SCREW FHP 4-40 X 3/16	089-5158-03
41	SCREW DHP 4-40 X 3/4 BLK	089-5504-12
42	NUT 4-40 KEPS	089-2058-21
43	STANDOFF 4-40 X 5/16	092-0004-03
44	RUBBER FEET W/WASHER	090-0173-00
45	FEET SQUARE DT	090-0401-00
46	DUAL SPEED DRIVE	029-0010-00
47	GONIOMETER & CABLE ASSY	155-2425-00
48	SCREW DHP 4-40 X 1/2 BLK	089-5504-08
49	SCREW DHP 4-40 X 3/8 BLK	089-5504-06
50	BUS WIRE	025-1001-00
51	TEFLON TUBING	150-0001-04
52	GRILL CLOTH	041-0009-00
2	LUG GND #6	008-0000-00
17	SPADE TERMINAL	010-0015-00
17	PIN RECP 48812 BERG	030-2127-00
1	CONN HOUSING 3 PIN 26 GA	030-2143-10
208	CONTACT DL #22 & 24	030-2206-00
1	BULB T 1 3/4 NEON	037-0006-01
4	LAMP T 1 3/4 28V 327	037-0070-00
3	SPACER .375 X 4-40	076-0001-38

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200-0856-00

<u>QTY/ REF NO</u>	<u>DESCRIPTION</u>	<u>KPN</u>
10	SCREW PHP 4-40 X 1/2	089-5058-08
2	FUSE HOLDER	090-0080-00
3	KNOB RB-67-1-SK-7-MX	090-0277-04
1	KNOB RB 670 DCMX	090-0277-06
3	SHAFT REDUCER 1/4 TO 1/8	090-0425-00
2	MOUNT CABLE TIE	090-0432-00
1	I/O CABLE ANT SIM	155-2337-00
1	JS5 CABLE ASSY	155-2372-00
1	JS4 CABLE ASSY	155-2373-00
1	JS3 CABLE ASSY	155-2374-00
1	JS2 CABLE ASSY	155-2375-00
1	429 MON BD TO LRU CON	155-2383-00
1	INTERNAL POWER CABLE 1201	155-2407-00
1	INTERNAL PWR CABLING	155-2408-00
1	ARINC 429 MON BD	200-5617-00

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INTERNAL CABLING

ASSEMBLY NO: 155-2337-00
DESCRIPTION: I/O CABLE ANTENNA SIMULATOR

<u>QTY</u>	<u>DESCRIPTION</u>	<u>KPN</u>
	WIRE 26 GA TFE CW VID	025-0006-77
3	CONN HOUSING 9 PIN 26 GA	030-2143-16
1	BOX MTG RECEPTACLE	030-2210-00
9	16 PIN KPSE PLUG	030-2220-00
	LACING CORD	090-0020-00

ASSEMBLY NO: 155-2372-00
DESCRIPTION: JS5 CABLE ASSY

<u>QTY</u>	<u>DESCRIPTION</u>	<u>KPN</u>
	FLAT CABLE RND/60 COND	025-0076-09
1	SOCKET CONN 60 PIN	030-2111-32
120	CONTACT DL #22 & 24	030-2206-00

ASSEMBLY NO: 155-2373-00
DESCRIPTION: JS4 CABLE ASSY

<u>QTY</u>	<u>DESCRIPTION</u>	<u>KPN</u>
	FLAT CABLE RND/50 COND	025-0076-08
1	SOCKET CONN 50 PIN W/SR	030-2111-31

ASSEMBLY NO: 155-2374-00
DESCRIPTION: JS3 CABLE ASSY

<u>QTY</u>	<u>DESCRIPTION</u>	<u>KPN</u>
	FLAT CABLE RND/50 COND	025-0076-08
1	SOCKET CONN 50 PIN W/SR	030-2111-31
50	CONTACT DL #22 & 24	030-2206-00

ASSEMBLY NO: 155-2375-00
DESCRIPTION: JS2 CABLE ASSY

<u>QTY</u>	<u>DESCRIPTION</u>	<u>KPN</u>
	FLAT CABLE RND/26 COND	025-0076-05
1	SOCKET CONN 26 PIN W/SR	030-2111-17
26	CONTACT DL #22 & 24	030-2206-00

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ASSEMBLY NO: 155-2376-00
DESCRIPTION: INTERNAL CABLE BS-1

<u>QTY</u>	<u>DESCRIPTION</u>	<u>KPN</u>
1	FLAT CABLE RND/50 COND	025-0076-08
1	SOCKET CONN 16	030-2211-08
1	CONN PLUG 50 COND	030-2225-10

ASSEMBLY NO: 155-2377-00
DESCRIPTION: BS2 CABLE ASSY

<u>QTY</u>	<u>DESCRIPTION</u>	<u>KPN</u>
1	FLAT CABLE RND/50 COND	025-0076-08
1	SOCKET CONN 16	030-2211-08
1	PLUG CONNECTOR	030-2225-04
1	CONN PLUG 50 COND	030-2225-10

ASSEMBLY NO: 155-2383-00
DESCRIPTION: 429 MONITOR BD TO LRU CONN

<u>QTY</u>	<u>DESCRIPTION</u>	<u>KPN</u>
1	CABLE FLAT RND/14 COND	025-0076-01
12	DIP CONN 14 PIN	030-2103-00
12	CONTACT DL #22 & 24	030-2206-00

ASSEMBLY NO: 155-2384-00
DESCRIPTION: DATA INPUT CABLE

<u>QTY</u>	<u>DESCRIPTION</u>	<u>KPN</u>
1	FLAT CABLE RND/26 COND	025-0076-05
1	DIP CONN 14 PIN	030-2103-00
1	CONN D 37 CONTACT	030-2188-01
1	EDGE CARD CONN 20 PIN	030-2211-01

ASSEMBLY NO: 155-2387-00
DESCRIPTION: COLLINS ATE INTER CABLE

<u>QTY</u>	<u>DESCRIPTION</u>	<u>KPN</u>
1	FLAT CABLE RND/26 COND	025-0076-05
1	ITT CANNON DBM 255	030-2072-01

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ASSEMBLY NO: 155-2407-00
DESCRIPTION: INTERNAL POWER CABLE 1201

<u>QTY</u>	<u>DESCRIPTION</u>	<u>KPN</u>
	WIRE 22 GA TFE BLK	025-0003-00
	WIRE 22 GA TFE GRN	025-0003-05
	WIRE 22 GA TFE WHT	025-0003-09
3	PIN TERMINAL .093 DIA FEMALE	030-2038-01
1	CONN PLUG 3 PIN	030-2119-00
1	CONTACT DL 3 PR	030-2204-02
2	CONTACT DL #18	030-2205-00

ASSEMBLY NO: 155-2408-00
DESCRIPTION: INTERNAL POWER CABLING

<u>QTY</u>	<u>DESCRIPTION</u>	<u>KPN</u>
	WIRE 22 GA TFE BLK	025-0003-00
	WIRE 22 GA TFE GRN	025-0003-05
	WIRE 22 GA TFE WHT	025-0003-09
1	RECEP 3 PIN MOLEX	030-2033-00
3	PIN TERMINAL .093 DIA MALE	030-2038-00
2	SPADE TERMINAL	010-0015-00

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ASSEMBLY NO: 200-5572-00
DESCRIPTION: ATE TEST POINT BD
ASSY DWG NO: 300-5572-00

<u>QTY/</u> <u>REF NO</u>	<u>DESCRIPTION</u>	<u>KPN</u>
A1-D16	TEST JACK	030-0043-00
JP5	STRAIGHT HEADER	030-2216-00
1	ATE TEST POINT BOARD	009-5562-00
6	SPACER .25 X 3/16	076-0001-46
R 5	SCREW PHP 4-40 X 3/16 SEMS	089-5026-03
R 1	SCREW PHP 4-40 X 1/4 SEMS	089-5026-04
1	SHOULDER WASHER FBR #4	090-0004-07

ASSEMBLY NO: 200-5573-00
DESCRIPTION: AUDIO AMP BD
ASSY DWG NO: 300-5573-00

<u>QTY/</u> <u>REF NO</u>	<u>DESCRIPTION</u>	<u>KPN</u>
C1	CAPACITOR ALUM 1000 UF 50V	095-0024-12
C2,3	CAPACITOR TANT 100 UF 20V 20%	096-1007-17
C4	CAPACITOR D/C .001 UF Z5F 20%	109-1021-16
C5	CAPACITOR TANT 33 UF 25V 20%	096-1007-31
C6	CAPACITOR ELECT 100 UF 25V	095-0024-07
CR1	DIODE ZENER 1N4746	007-5079-18
E1-13	CONTACT STRIP	030-2078-14
I1	IC LM380N	007-7316-00
J1	POST HEADER 3 PIN	030-2144-01
LS1	SPEAKER 2 IN	038-0023-01
R1	RESISTOR FLM 220 OHM 1/2W 5%	130-0221-13
R2,3	RESISTOR MFLM 604 OHM 1/8W 1%	125-6040-01
R4,5	RESISTOR FLM 470K 1/4W 5%	130-0474-23
R6	POT 10K A TAPER	133-0079-00
R7,8	RESISTOR MFLM 200 OHM 1/8W 1%	125-2000-01
R9,10	RESISTOR MFLM 402 OHM 1/4W 1%	125-4020-11
R11,12	RESISTOR MFLM 604 OHM 1/8W 1%	125-6040-01
R13,14	RESISTOR FLM 4.7K 1/4W 5%	130-0472-23
R15,16	RESISTOR LFM 10K 1/4W 5%	130-0103-23
1	AUDIO AMP PC BD	009-5573-00
1	CUSHION SPEAKER	187-0012-00

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ASSEMBLY NO: 200-5616-00
DESCRIPTION: ADF ANTENNA SIMULATOR ASSY
ASSY DWG NO: 300-5616-00

<u>QTY/</u> <u>REF NO</u>	<u>DESCRIPTION</u>	<u>KPN</u>
C1	CAPACITOR M/C .47 UF 100V	107-0000-23
C2	CAPACITOR MICA 150 PF	100-0003-19
C3-5	CAPACITOR M/C .1 UF 100V 10%	107-0000-18
C6,7	CAPACITOR M/C .47 UF 100V	107-0000-23
CR1	DIODE 1N4148	007-6016-00
J1	BNC PCB MTG CONN	030-0042-00
J2	POST HEADER 6 PIN	030-2144-04
J3	POST HEADER 9 PIN	030-2144-07
K1	RELAY DPDT 12V W/DUST COVER	032-0006-01
L1	INDUCTOR 470 UH 10%	019-2016-42
Q1-5	TRANSISTOR PN 2222A	007-0132-00
R1	RESISTOR FLM 2.2K 1/4W 5%	130-0222-23
R2	RESISTOR MFLM 866 OHM 1/4W 1%	125-8660-11
R3	RESISTOR FLM 2.2K 1/4W 5%	130-0222-23
R4	RESISTOR FLM 100 OHM 1/4W 5%	130-0101-23
R5	RESISTOR MFLM 52.3 OHM 1/4W 1%	125-0523-11
R6	RESISTOR FLM 100 OHM 1/4W 5%	130-0101-23
R7,8	RESISTOR FLM 2.2K 1/4W 5%	130-0222-23
R9	RESISTOR MFLM 52.3 OHM 1/4W 1%	125-0523-11
R10	RESISTOR MFLM 221 OHM 1/8W 1%	125-2210-01
R11	RESISTOR FLM 68 OHM 1/4W 5%	130-0681-23
R12	RESISTOR FLM 2.2K 1/4W 5%	130-0222-23
R13,14	POT 5K 4T 20% 3339	133-0063-01
R15,16	RESISTOR FLM 10 OHM 1/4W 5%	130-0100-23
R17,18	RESISTOR FLM 68 OHM 1/4W 5%	130-0680-23
T1,2	TRANSFORMER 1:1	019-7075-00
T3-5	TRANSFORMER 3:1	019-7076-00
1	ADF ANTENNA SIMULATOR PCB	009-5616-00
2	CONTACT STRIP 1 PIN	030-2078-01
1	LOW PROFILE DIP SOCKET 16 PIN	033-0008-04
2	SCREW PHP 2-56 X 1/4	089-5054-04

ASSEMBLY NO: 200-5617-00
DESCRIPTION: ARINC 429 MONITOR BOARD
ASSY DWG NO: 300-5617-00

<u>QTY/</u> <u>REF NO</u>	<u>DESCRIPTION</u>	<u>KPN</u>
J1,2	LOW PROFILE DIP SOCKET 14 PIN	033-0008-02
J3-6	PCB MTG PHONE JACK	030-1038-01
J7	CONTACT STRIP 4 PIN	030-2078-04
1	429 MONITOR BD T1201	009-5617-00

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ASSEMBLY NO: 062-1201-01
DESCRIPTION: T1201 VOR/MB CABLE
ASSY DWG NO: 155-2348-00

<u>QTY/ REF NO</u>	<u>DESCRIPTION</u>	<u>KPN</u>
1	LUG GND #6	008-0000-00
2	COAX RG58	024-0000-00
3	PLUG BNC CRIMP RG 58	030-0038-02
4	PLUG DL 156	030-2201-00
5	CONN COVER DL 156	030-2202-00
6	DL CAM HANDLE	030-2202-01
7	PLUG ARINC 600	030-2207-00
8	BKAD 125 SHELL CASE COVER	047-1737-00
9	BKAD 125 SHELL CASE	047-1738-00
10	STRAIN RELIEF BRKT SIZE 1	047-1748-00
11	EXTRUD GROMT NYTRIM .085	088-0098-01
12	NUT HEX 4-40 KEPS	089-2058-21
13	SCREW PHP 4-40 X 1 1/8	089-5058-18
14	SCREW PHP 8-32 X 3/8	089-5064-06
15	CABLE JACKET EXPANDO 1 1/4	150-0008-04
16	RNF 100 SHRINK TUBING 1/2	150-0010-07
2	#5 COAX CONTACT	030-0047-00
1	CAP CONN DL 156	030-2203-00
1	CONTACT DL 3 PR	030-2204-02
2	CONTACT DL #18	030-2205-00
91	CONTACT DL #22 & 24	030-2206-00
87	PINS #22 ARINC 600	030-2223-00
2	ARINC 600 #16 SOCKET	030-2224-02
1	ARINC 600 #12 SOCKET	030-2224-03

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T1201 - Part No. 062-1201-00

ASSEMBLY NO: 062-1201-02
DESCRIPTION: T1201 ILS CABLE
ASSY DWG NO: 155-2349-00

<u>QTY/ REF NO</u>	<u>DESCRIPTION</u>	<u>KPN</u>
1	LUG GND #6	008-0000-00
2	COAX RG58	024-0000-00
3	PLUG BNC CRIMP RG58	030-0038-02
4	PLUG DL 156	030-2201-00
5	CONN COVER DL 156	030-2202-00
6	DL CAM HANDLE	030-2202-01
7	PLUG ARINC 600	030-2207-00
8	BKAD 125 SHELL CASE COVER	047-1737-00
9	BKAD 125 SHELL CASE	047-1738-00
10	STRAIN RELIEF BRKT SIZE 1	047-1748-00
11	EXTRUD GROMT NYTRIM .085	088-0098-01
12	NUT HEX 4-40 KEPS	089-2058-21
13	SCREW PHP 4-40 X 1 1/8	089-5058-18
14	SCREW PHP 8-32 X 3/8	089-5064-06
15	CABLE JACKET EXPANDO 1 1/4	150-0008-04
16	RNF 100 SHRINK TUBING 1/2	150-0010-07
2	#5 COAX CONTACT	030-0047-00
1	CAP CONN DL 156	030-2203-00
3	CONTACT DL #18	030-2205-00
88	CONTACT DL #22 & 24	030-2206-00
96	PINS #22 ARINC 600	030-2223-00
2	ARINC 600 #16 SOCKET	030-2224-02
1	ARINC 600 #12 SOCKET	030-2224-03

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T1201 - Part No. 062-1201-00

ASSEMBLY NO: 062-1201-03
DESCRIPTION: T1201 ADF CABLE
ASSY DWG NO: 155-2347-00

QTY/ REF NO	DESCRIPTION	KPN
1	LUG GND #6	008-0000-00
2	PLUG DL156	030-2201-00
3	CONN COVER DL 156	030-2202-00
4	DL CAM HANDLE	030-2202-01
5	PLUG ARINC 600	030-2207-00
6	PLUG STRAIGHT KPSE	030-2208-00
7	BKAD 125 SHELL CASE COVER	047-1737-00
8	BKAD 125 SHELL CASE	047-1738-00
9	STRAIN RELIEF BRKT SIZE 1	147-1748-00
10	EXTRUD GROMT NYTRIM .085	088-0098-01
11	NUT HEX #4-40 KEPS	089-2058-21
12	SCREW PHP 4-40 X 1 1/8	089-5058-18
13	SCREW PHP 8-32 X 3/8	089-5064-06
14	CABLE JACKET EXPANDO 1/2	150-0008-02
15	CABLE JACKET EXPANDO 1 1/4	150-0008-04
1	CAP CONN DL 156	030-2203-00
1	CONTACT DL 3 PR	030-2204-02
3	CONTACT DL #18	030-2205-00
86	CONTACT DL #22 & 24	030-2206-00
9	16 PIN KPSE SOCKET	030-2221-00
90	PINS #22 ARINC 600	030-2223-00
2	ARINC 600 #16 SOCKET	030-2224-02
1	ARINC 600 #12 SOCKET	030-2224-03