

## CHAPTER 14

## ELECTRICAL AND AVIONICS SYSTEMS

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**CHAPTER 14****ELECTRICAL AND AVIONICS SYSTEMS**14.000 Electrical and Avionics Systems

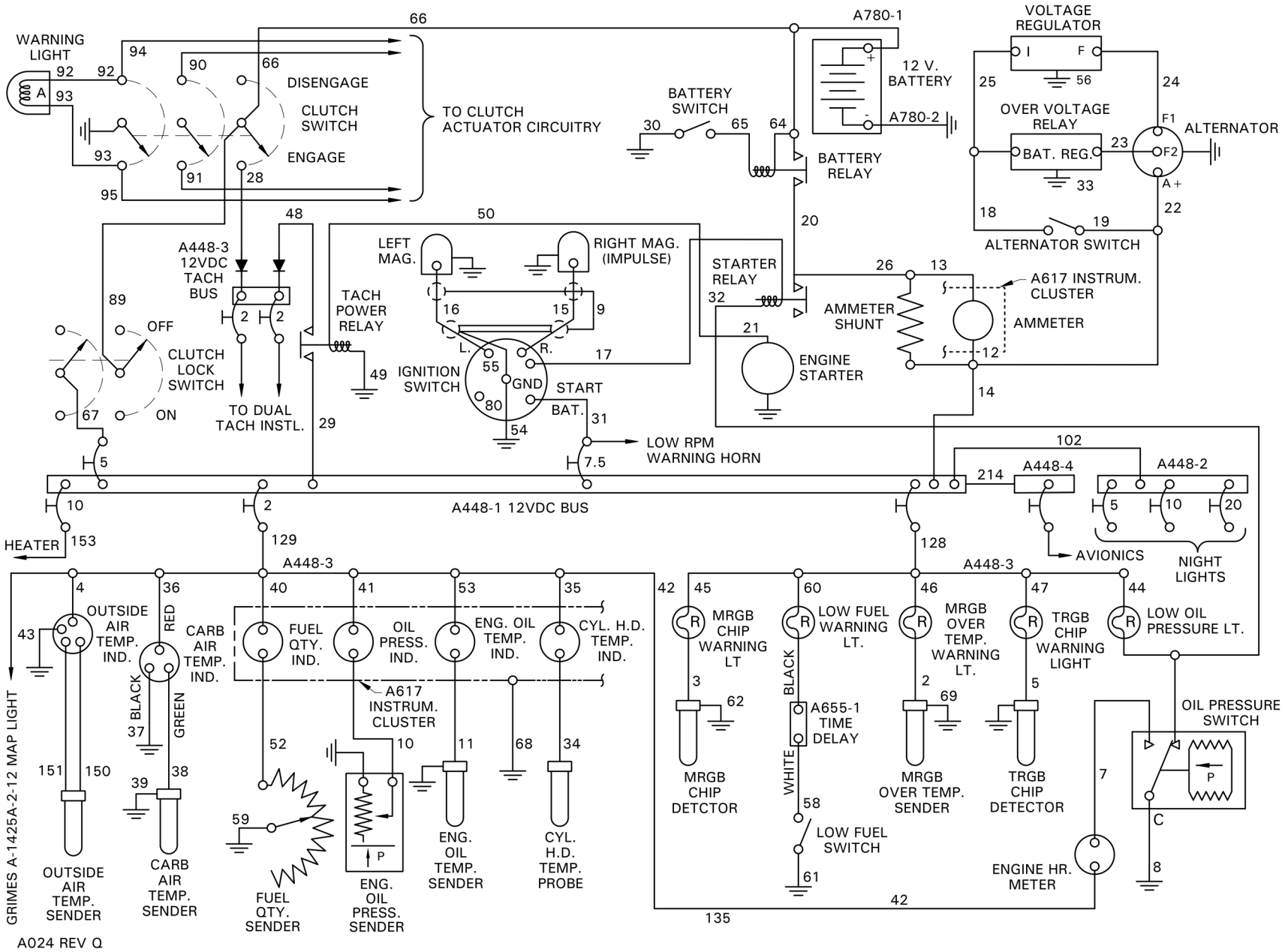
Electrical System information has been moved to Chapter 33.

Avionics System information has been moved to Chapter 34.

[Pages 14.3 thru 14.11A have been deleted, are no longer effective, and should be discarded.]

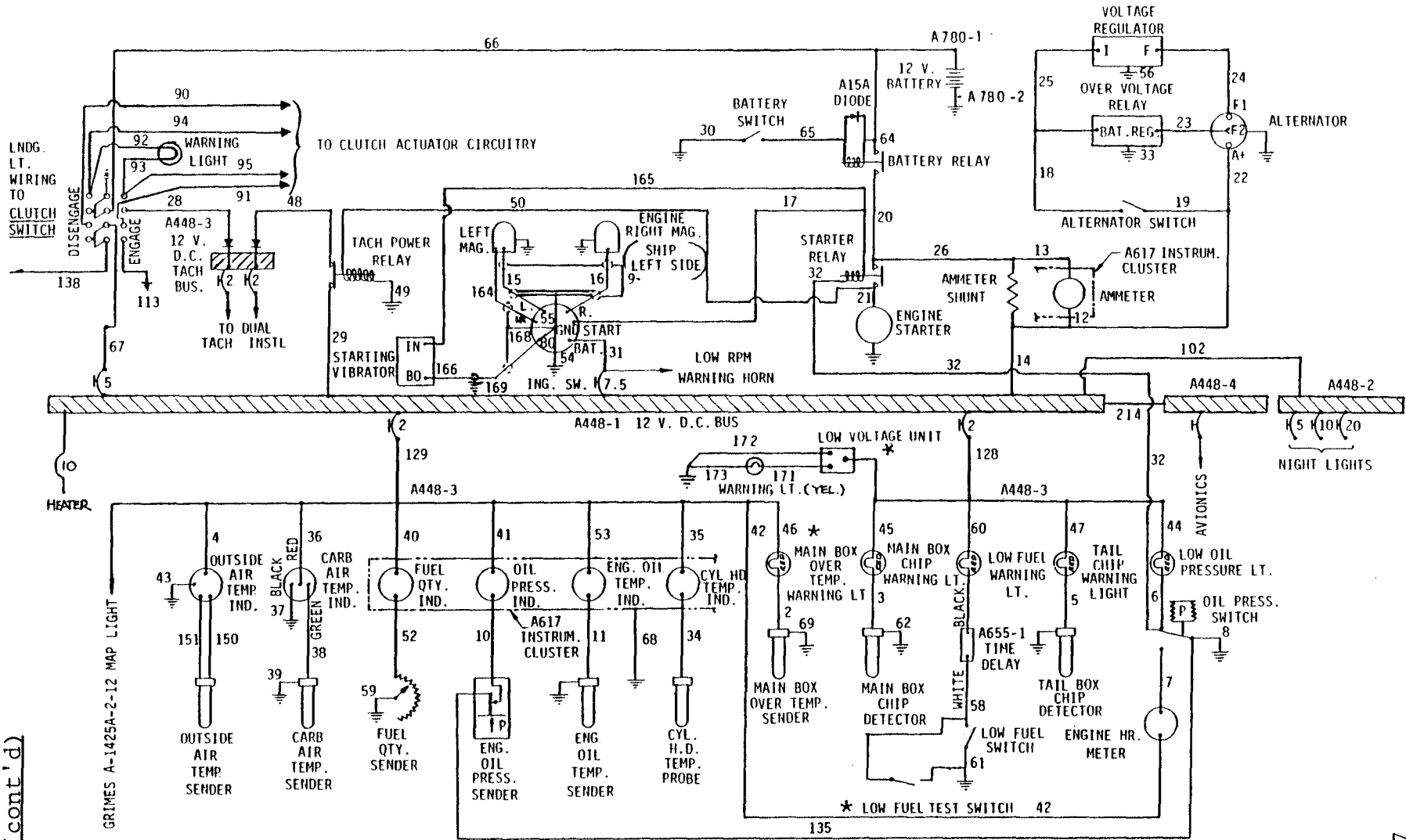
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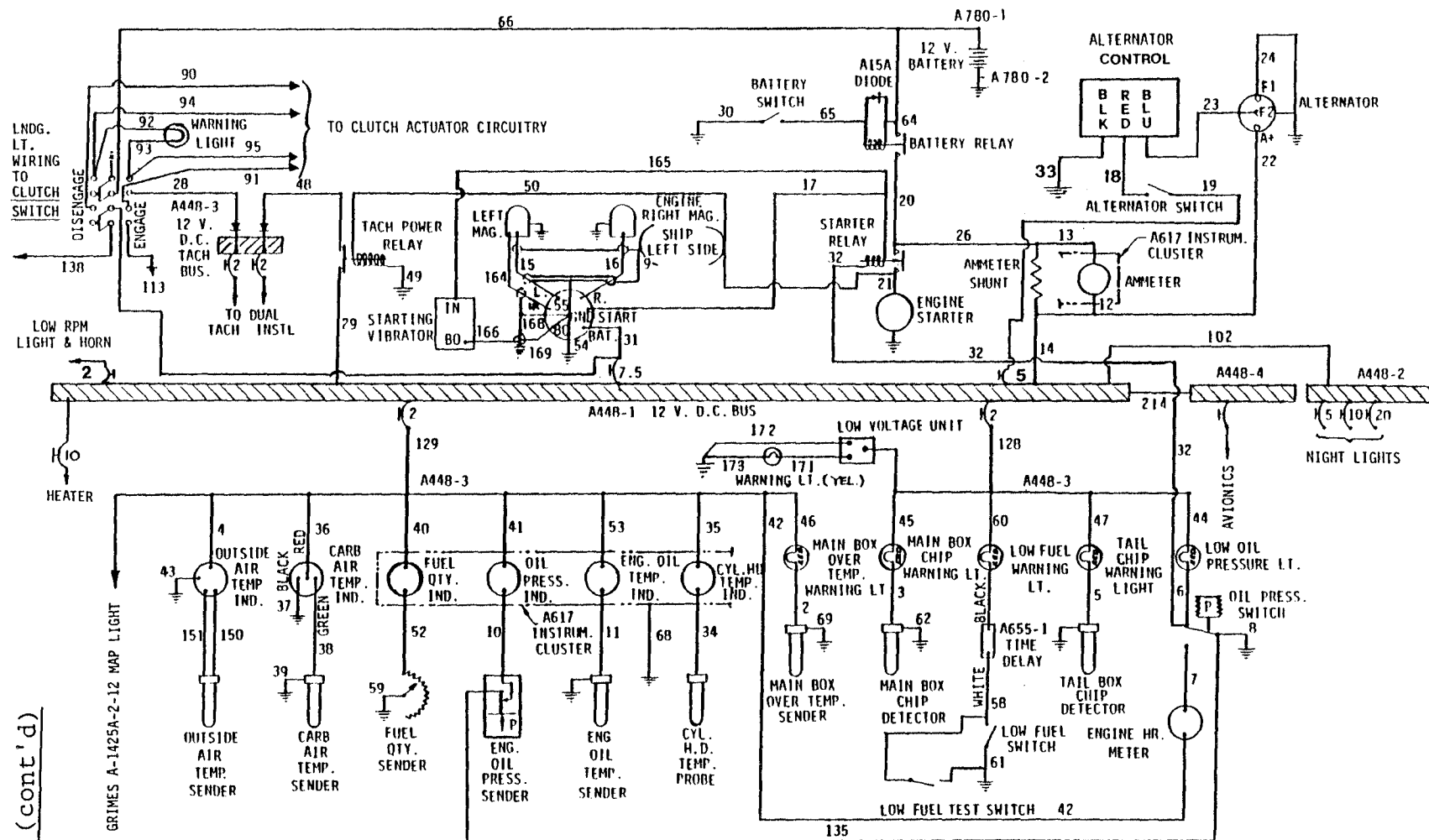
**FIGURE 14-1 ELECTRICAL SYSTEM SCHEMATIC (S/N 0001 thru 0077)**  
(Impulse coupling ignition; 9/21/79 thru 12/1/80)

14.600 (cont'd)



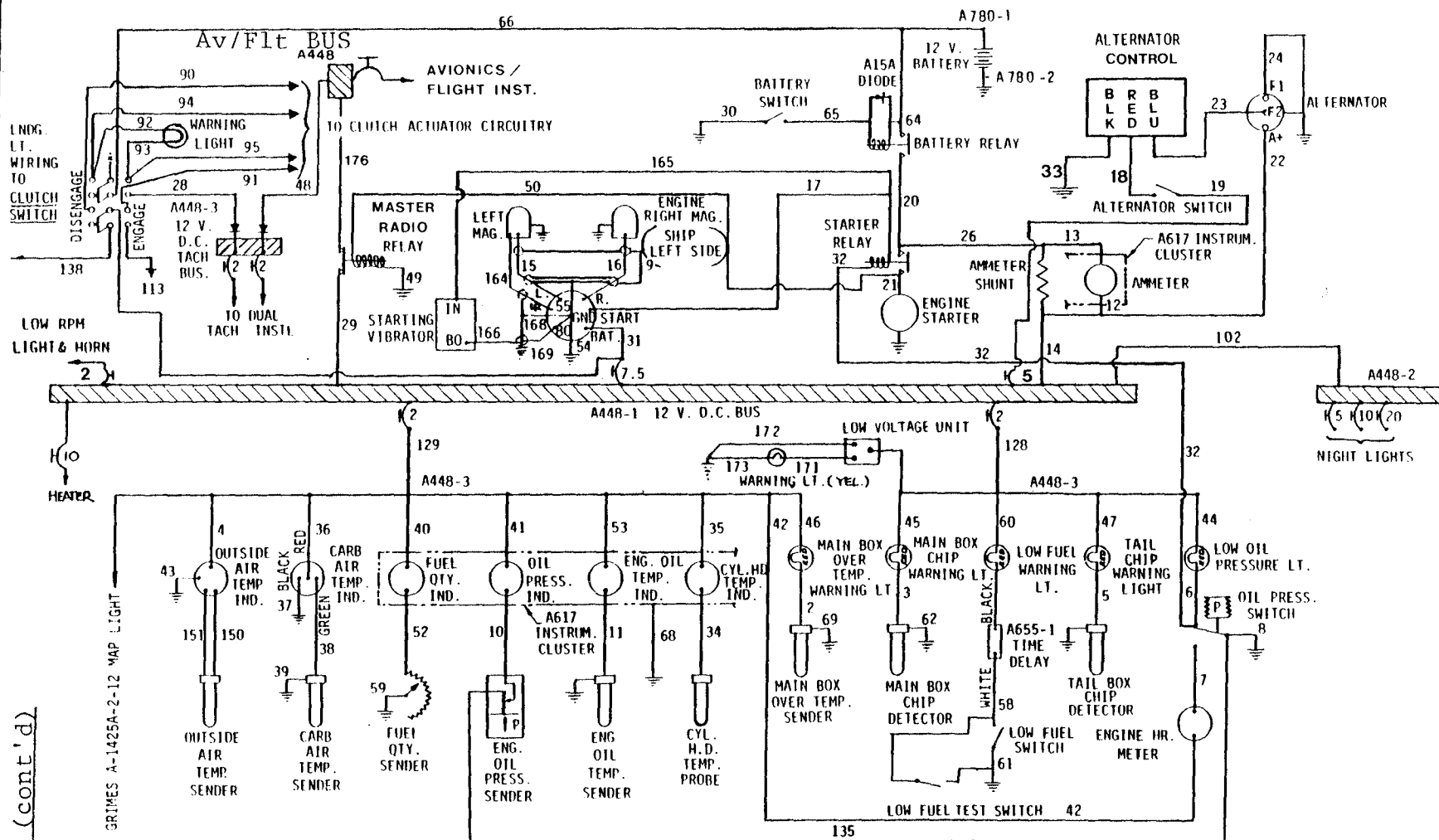
ELECTRICAL SYSTEM SCHEMATIC (S/N 078 THRU 324) (12/9/80 THRU 1/10/83)  
 (IGNITION VIBRATOR) \*These changes added to some  
 FIGURE 14-2 A/C Ser.# in this series  
 See Page 14.15 Schematic

14.600 (cont'd)



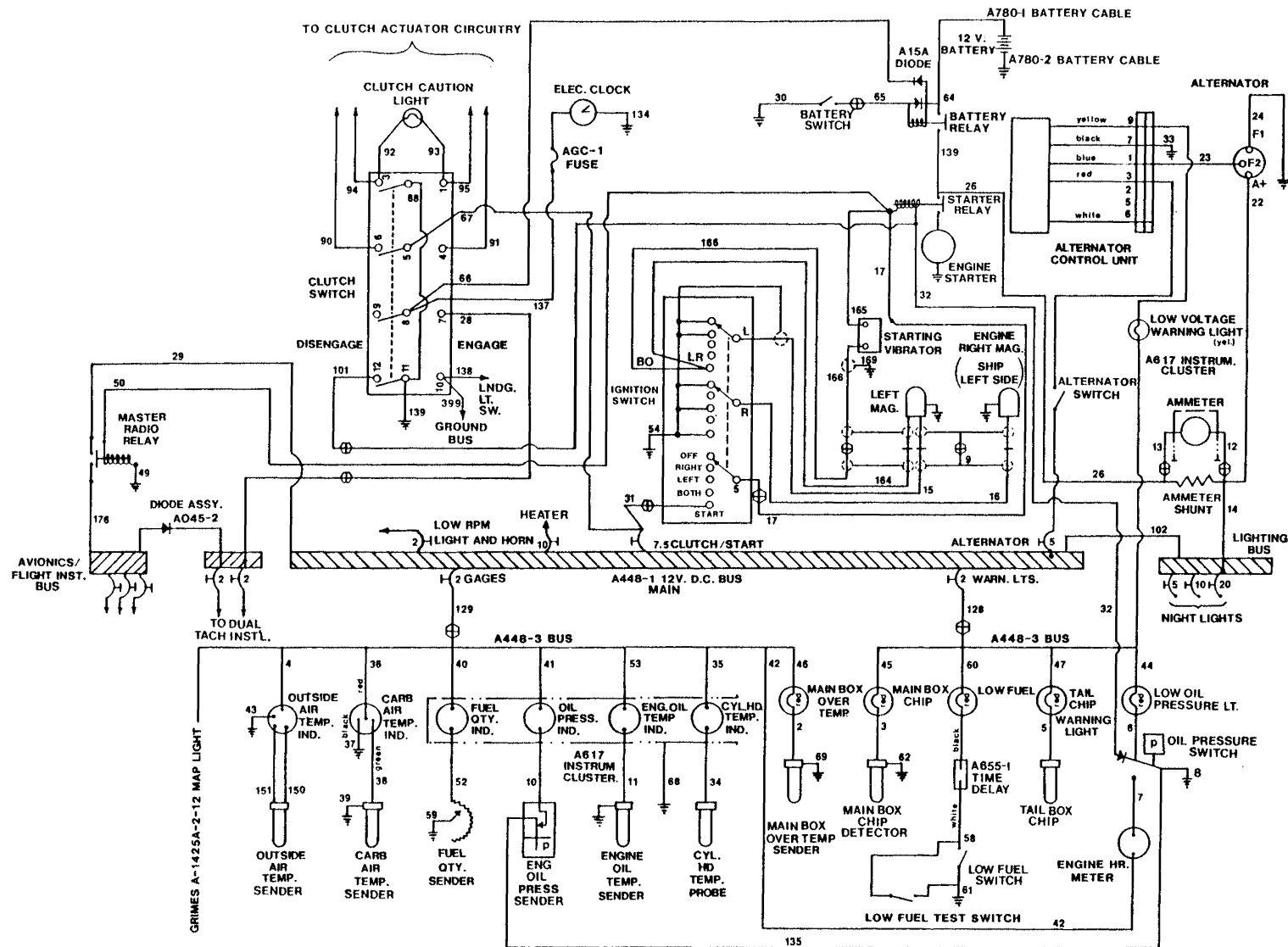
ELECTRICAL SYSTEM SCHEMATIC (S/N 324 THRU 363)(1/10/83 THRU 8/23/83)  
(IGNITION VIBRATOR)  
FIGURE 14-2A

14.600 (cont'd)



ELECTRICAL SYSTEM SCHEMATIC (S/N 350,351,357-361,& 364 THRU 411)  
(IGNITION VIBRATOR)  
R22 ALPHA  
FIGURE 14-2B  
(8/4/83 THRU 5/18/84)

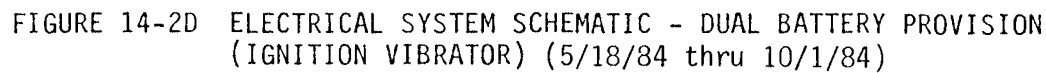
14.600 (cont'd)



ELECTRICAL SYSTEM SCHEMATIC (S/N 412 thru 443)

(IGNITION VIBRATOR) (5/18/84 thru 10/1/84)

FIGURE 14-2C



14.600 (cont'd)

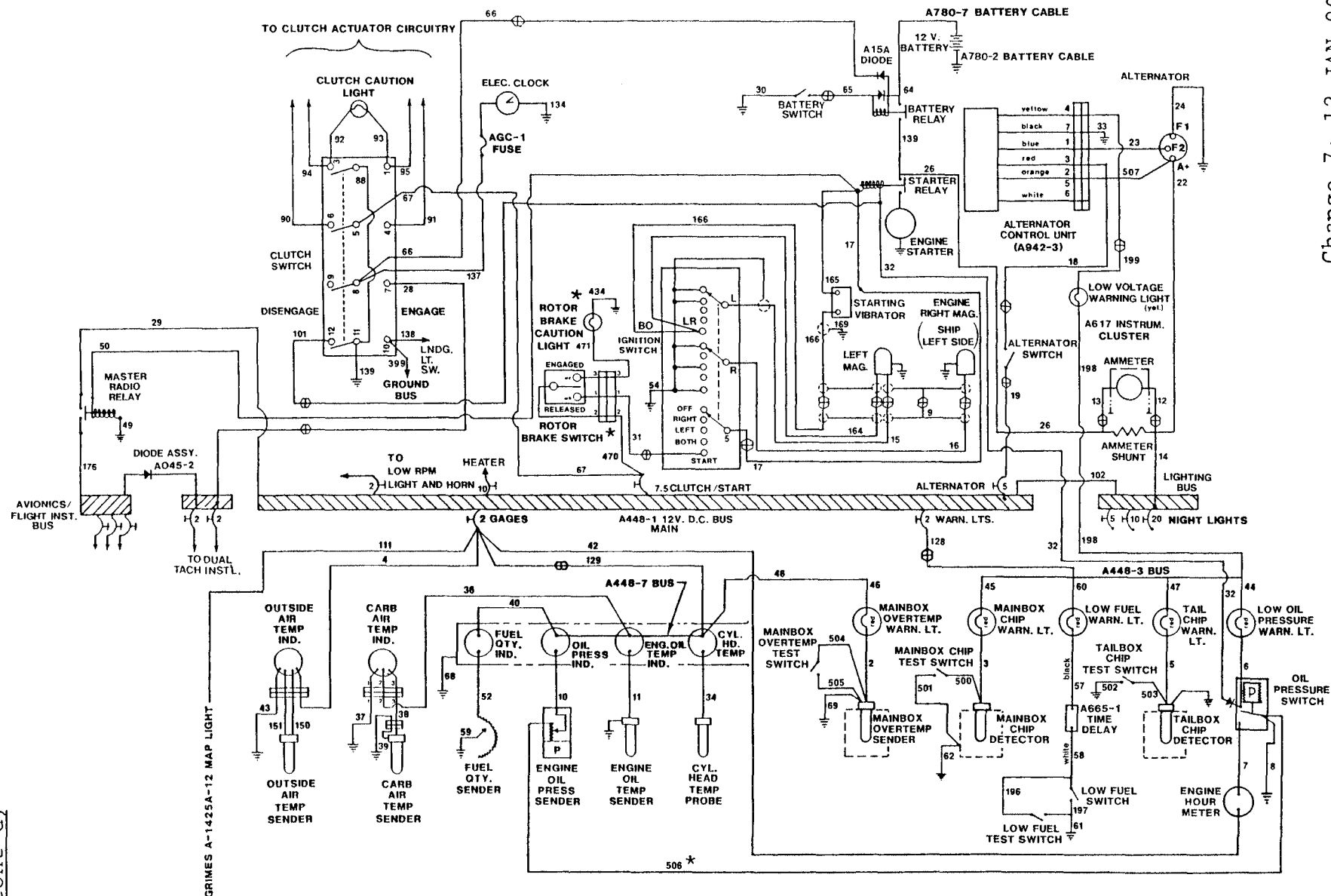


FIGURE 14-2F ELECTRICAL SYSTEM SCHEMATIC  
(IGNITION VIBRATOR) (S/N 444 thru 655, 10/2/84 thru 6/10/87)

\*If installed.

14.600 (cont'd)

# ROBINSON MAINTENANCE MANUAL

MODEL R22

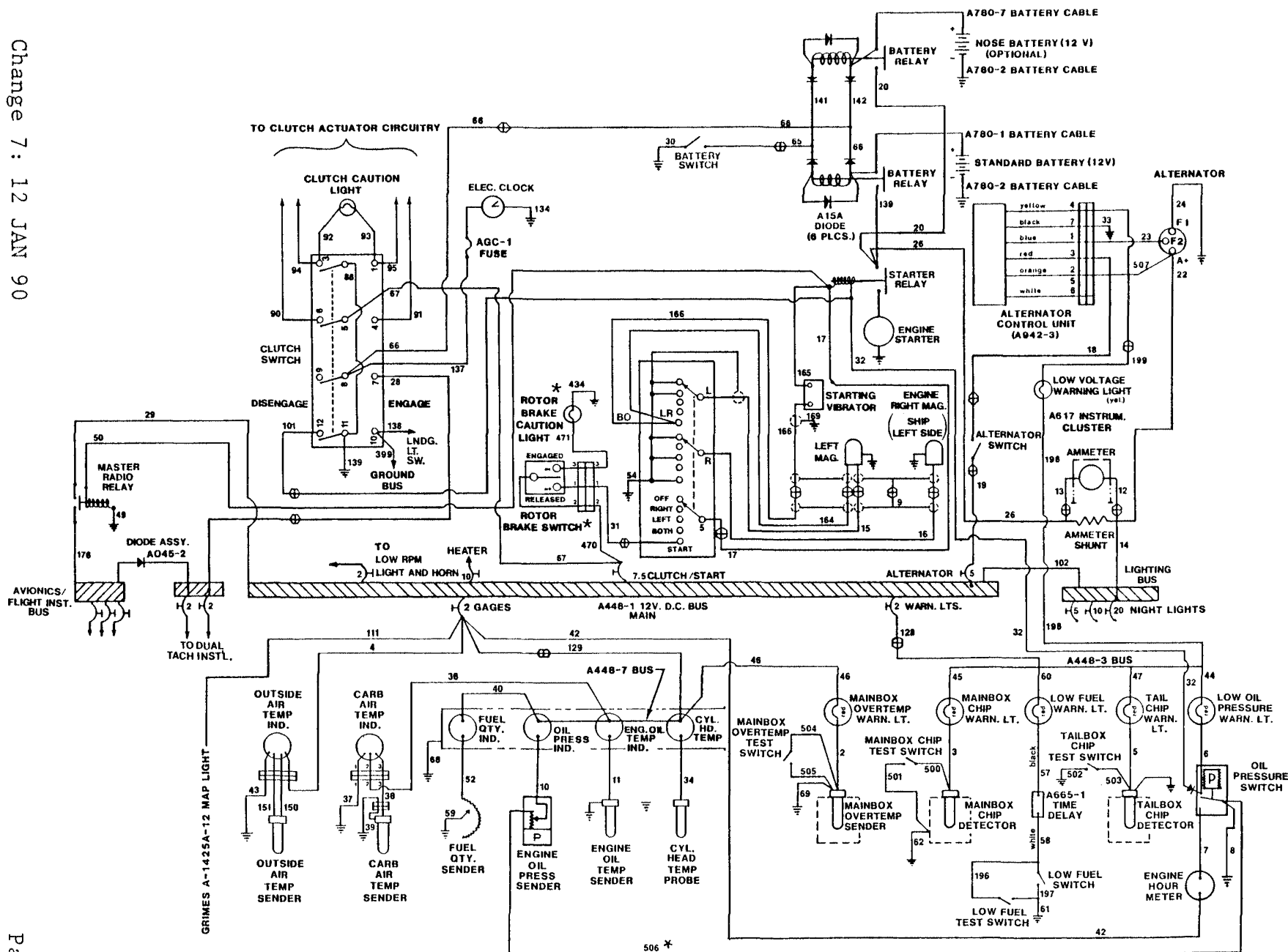


FIGURE 14-2F ELECTRICAL SYSTEM SCHEMATIC - DUAL BATTERY PROVISION  
(IGNITION VIBRATOR) (S/N 444 thru 655, 10/2/84 thru 6/10/87)

\*If installed.

14.600 (cont'd)

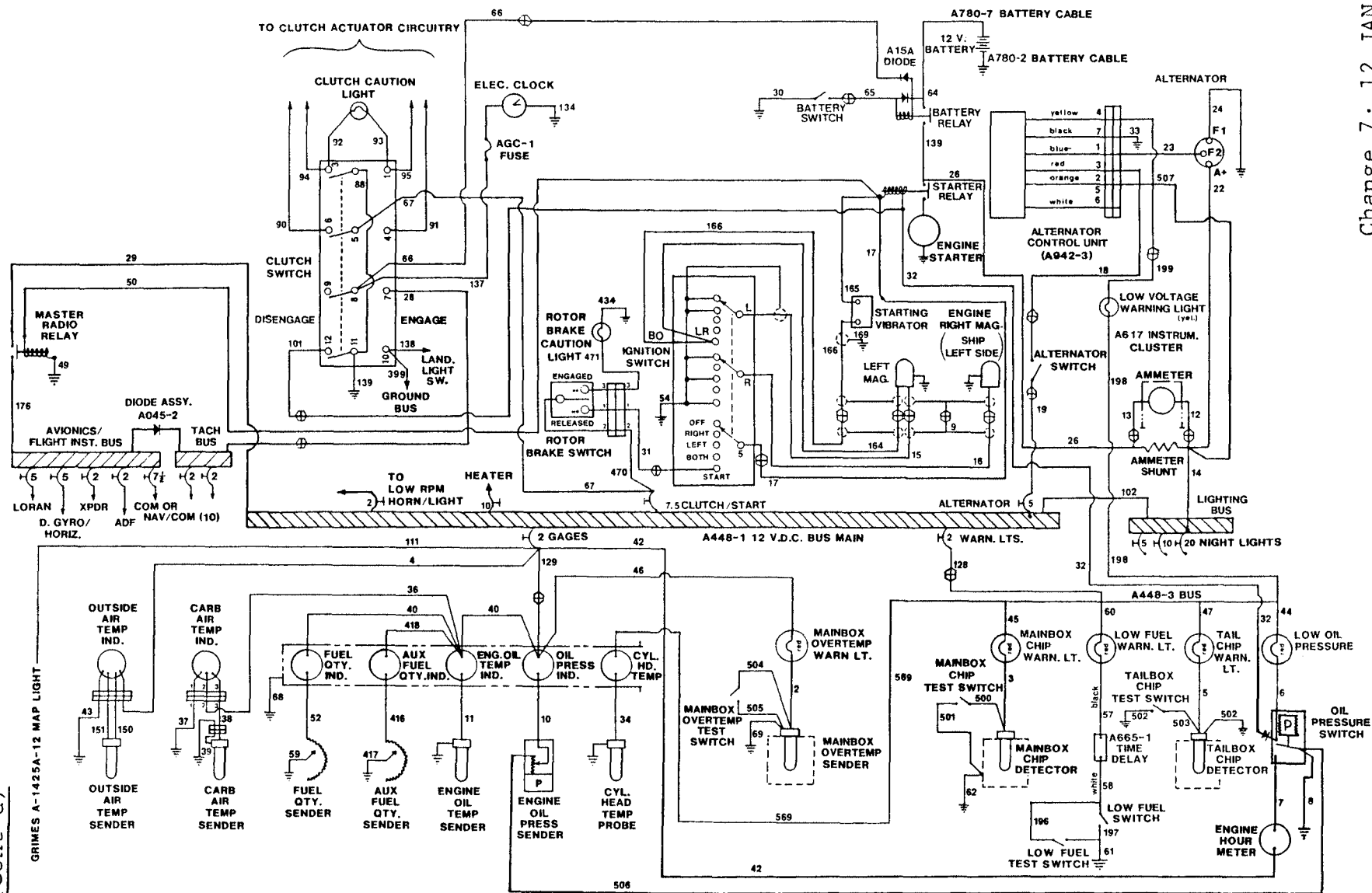


FIGURE 14-2G ELECTRICAL SYSTEM SCHEMATIC  
(IGNITION VIBRATOR) (S/N 656 THRU 1084 EXCEPT S/Ns  
1052, 1056, 1067, & 1071 AND OVERHAULED SHIPS  
6/10/87 AND ON)

14.600 (cont'd)

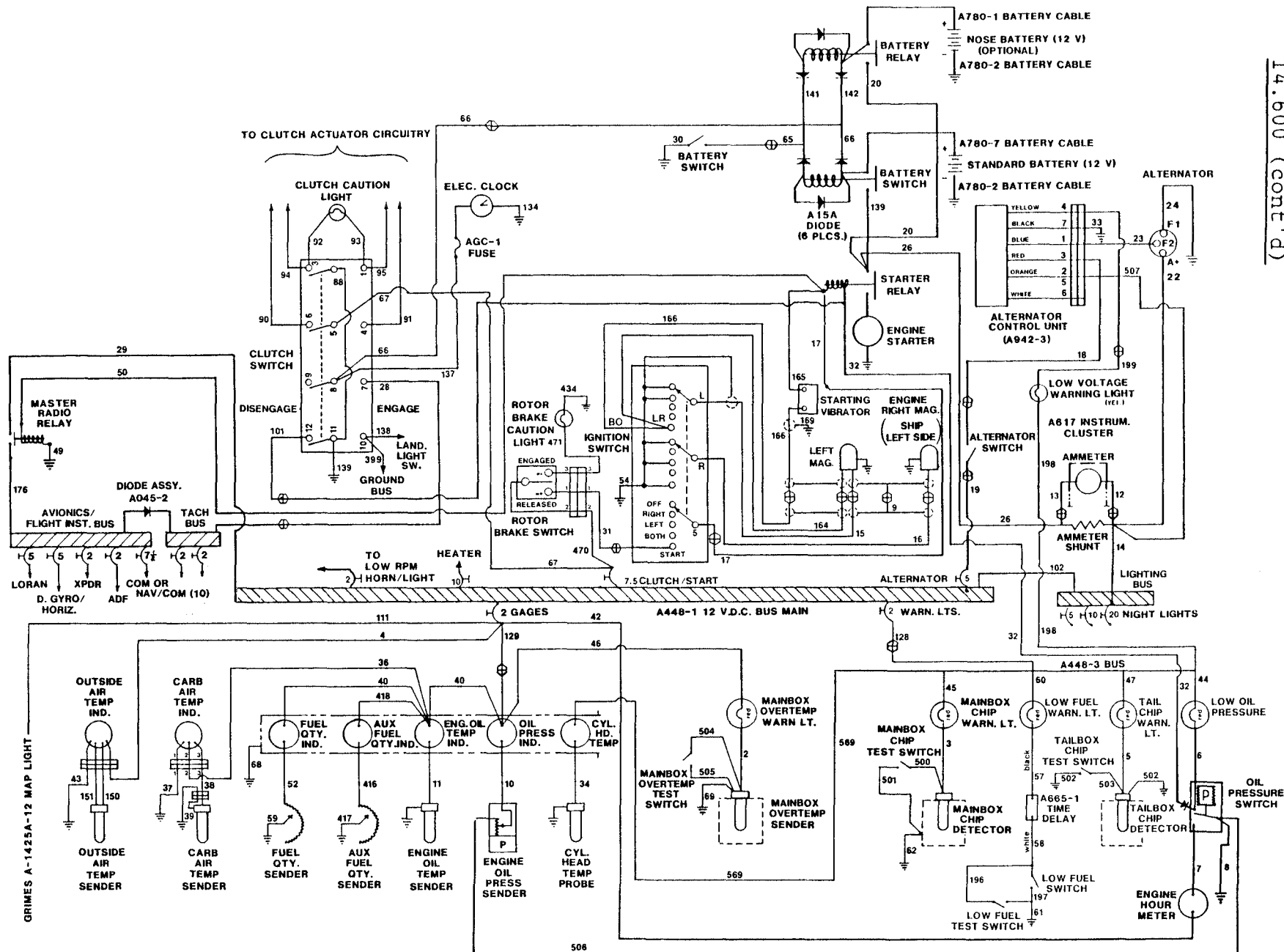


FIGURE 14-2H ELECTRICAL SYSTEM SCHEMATIC - DUAL BATTERY PROVISION (IGNITION VIBRATOR) (S/N 656 THRU 1084 EXCEPT S/Ns 1052, 1056, 1067, & 1071 AND OVERHAULED SHIPS 6/10/87 AND ON)

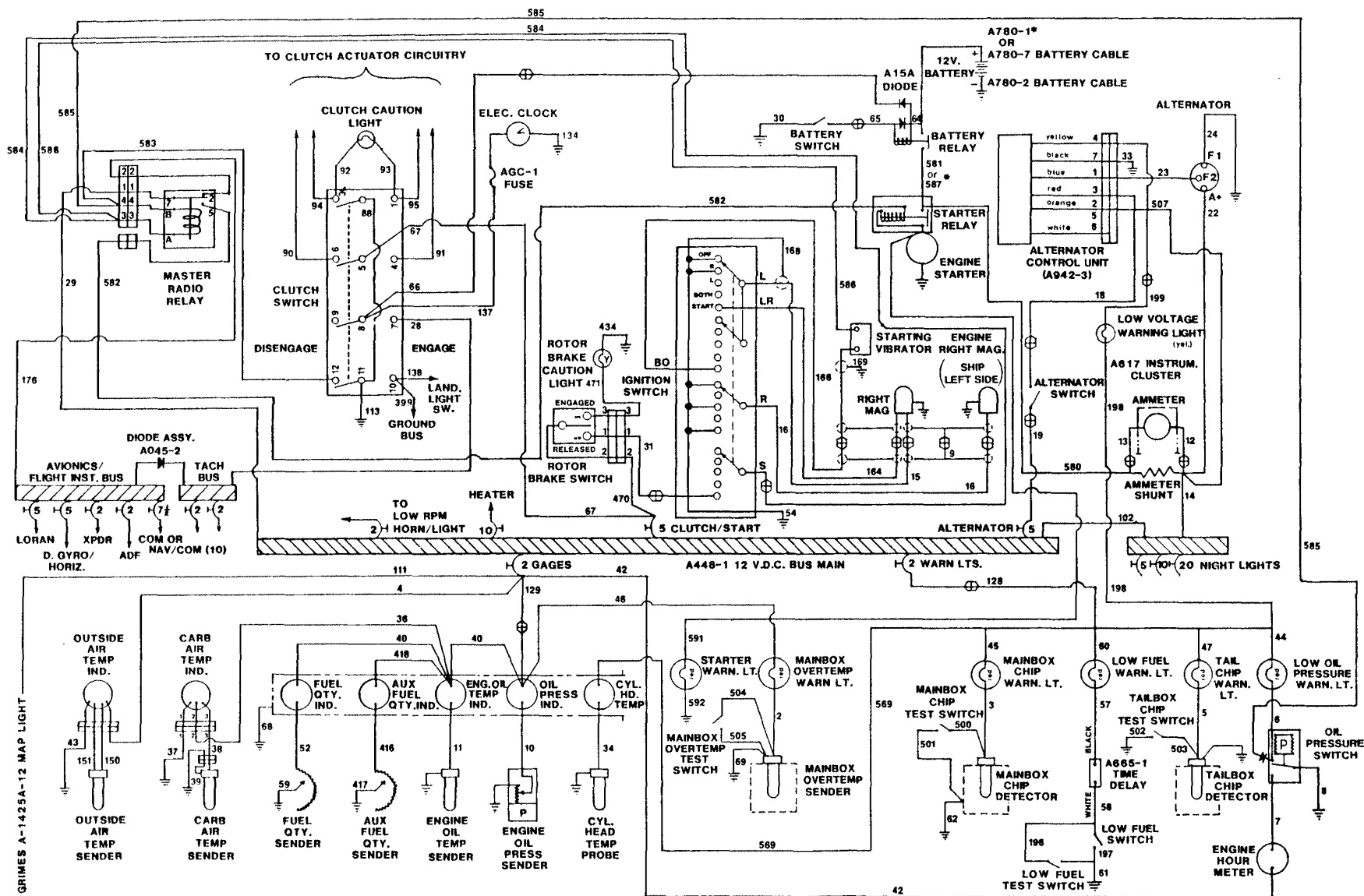
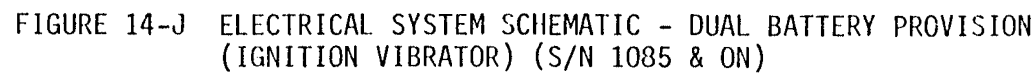


FIGURE 14-21 ELECTRICAL SYSTEM SCHEMATIC  
(IGNITION VIBRATOR) (S/N 1052, 1056, 1067, 1071, & 1085 AND ON.

\*A780-1 and #587 wire  
used with nose bat-  
tery installation.



## 14.600 (cont'd)

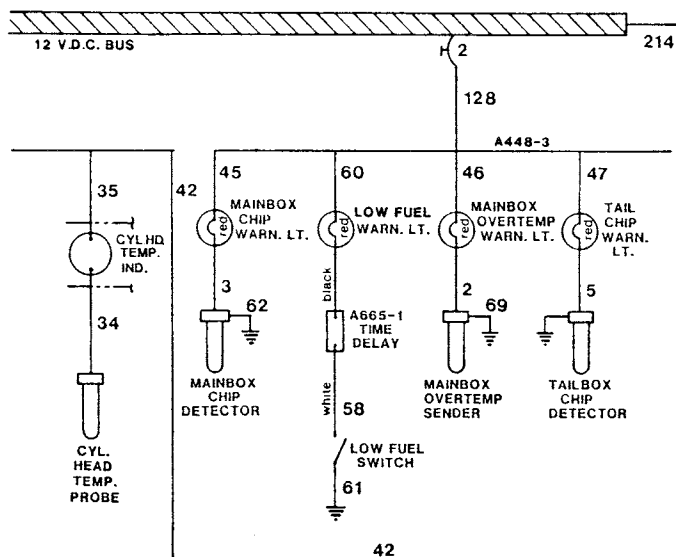


FIGURE 14-2K

M.R. GEARBOX OVERTEMP LIGHT  
ON 2 AMP WARNING LIGHT BREAKER

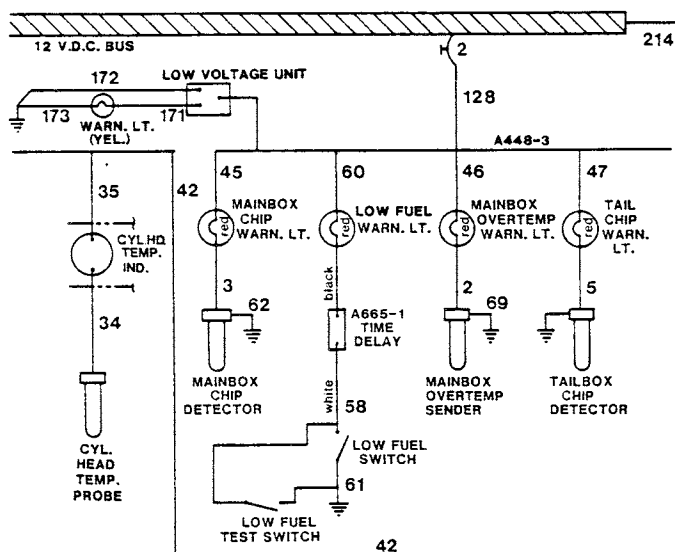


FIGURE 14-2L

M.R. GEARBOX OVERTEMP LIGHT  
ON 2 AMP WARNING LIGHT BREAKER

LOW VOLTAGE UNIT ON THE 2 AMP  
WARNING LIGHT BREAKER

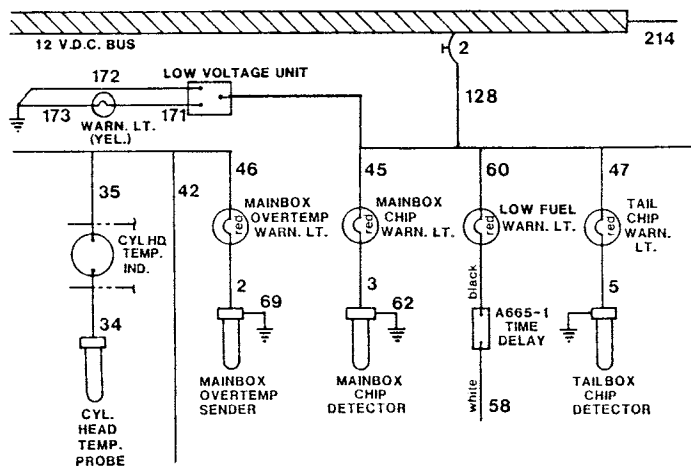
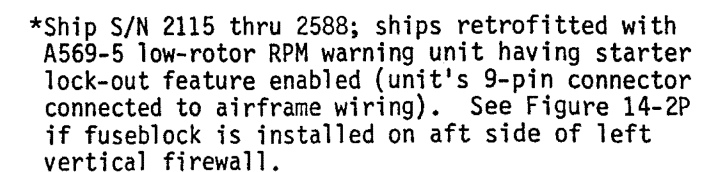


FIGURE 14-2M

M.R. GEARBOX OVERTEMP LIGHT  
ON 2 AMP GAGES BREAKER

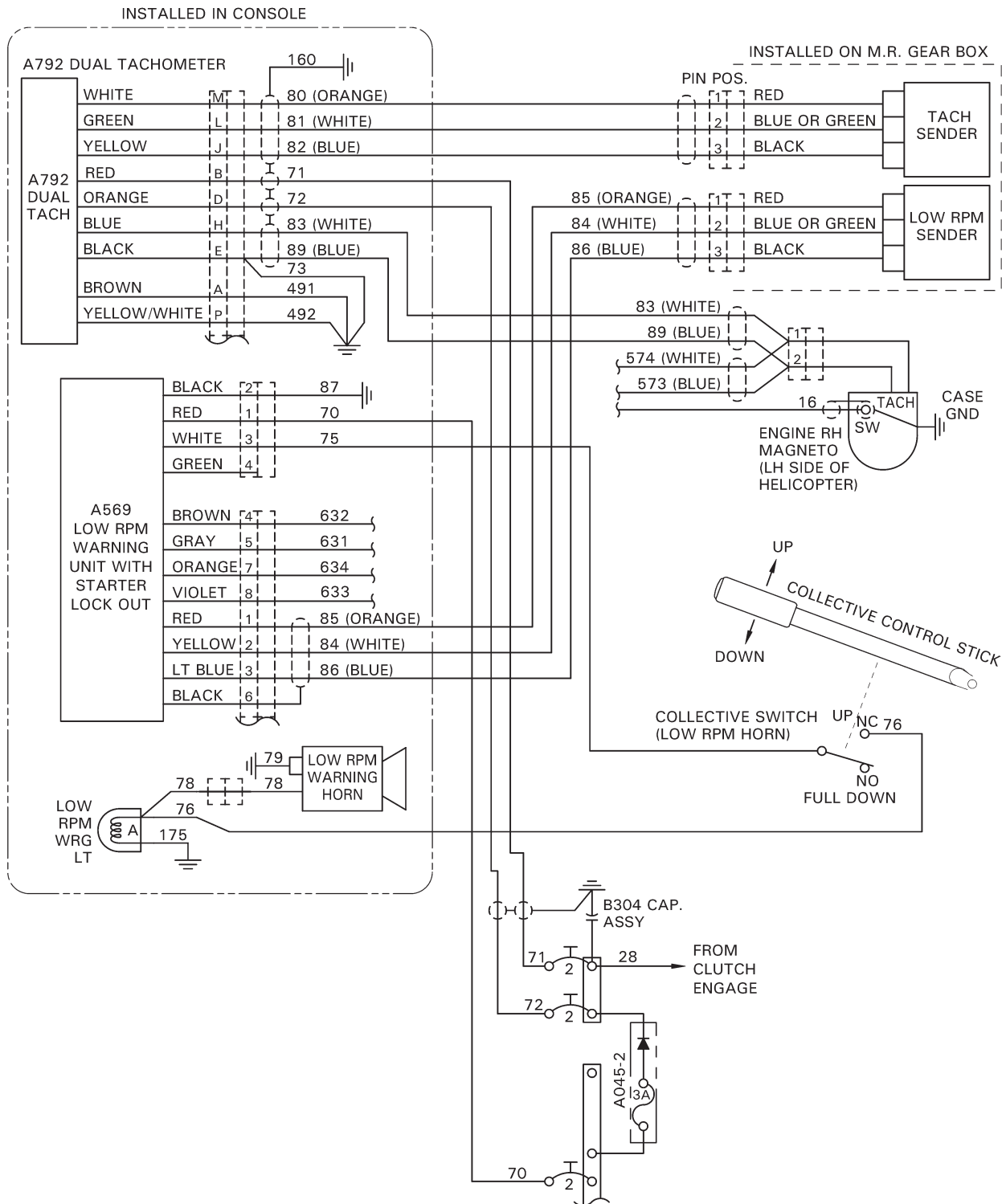
LOW VOLTAGE UNIT ON THE 2 AMP  
WARNING LIGHT BREAKER

|   |                                            |                                          |   |
|---|--------------------------------------------|------------------------------------------|---|
| ← | A059-3<br>HARNESS<br>ASSEMBLY<br>(Console) | A059-2<br>HARNESS<br>ASSEMBLY<br>(Cabin) | → |
|---|--------------------------------------------|------------------------------------------|---|



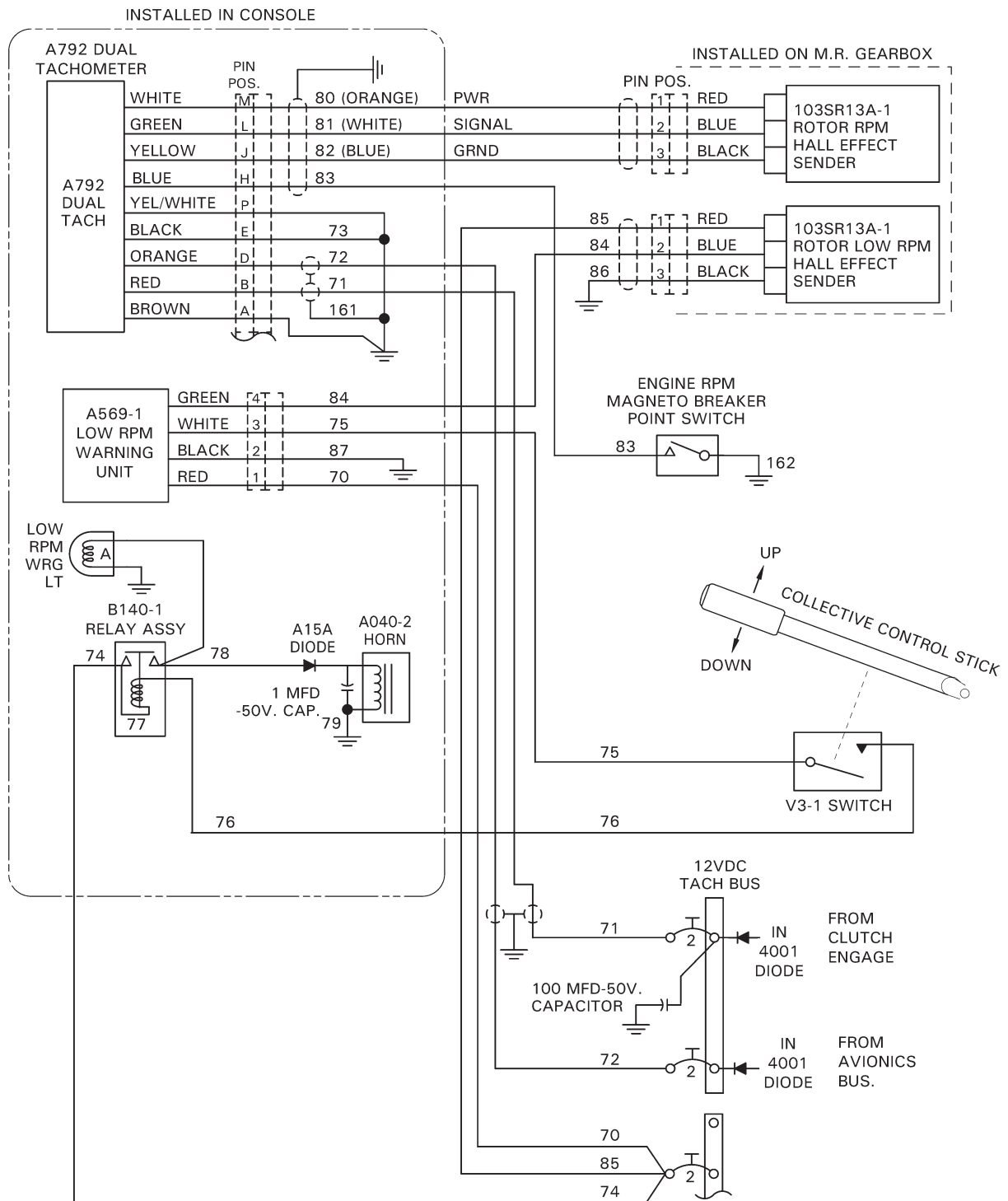
Page 14.18A

FIGURE 14-2P  
ELECTRICAL SYSTEM  
SCHEMATIC\*



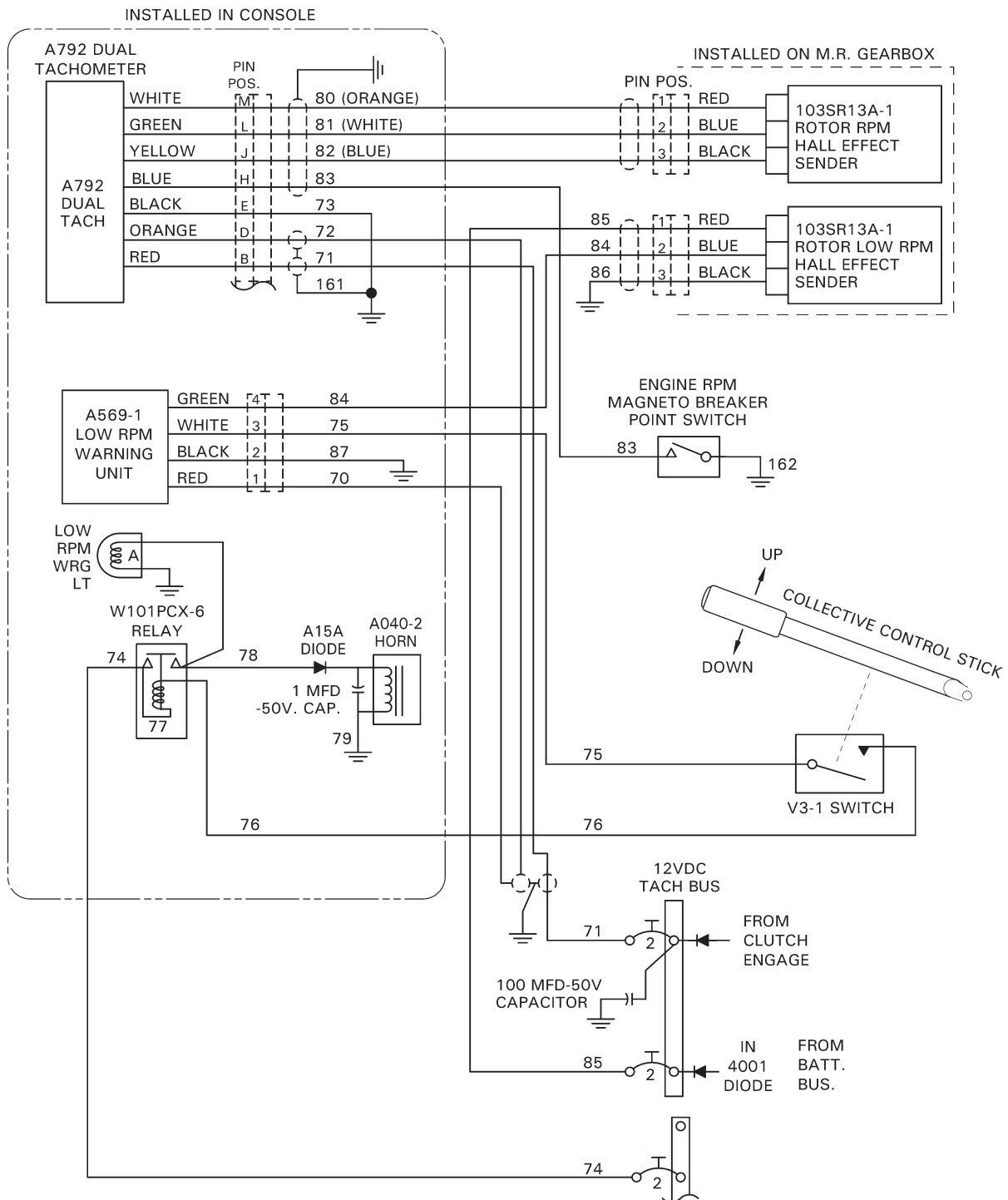
A024 REV B0

FIGURE 14-3 TACHOMETER &amp; LOW RPM WARNING HORN SCHEMATIC



A040 REV W

FIGURE 14-3A TACHOMETER &amp; LOW RPM WARNING HORN SCHEMATIC (EARLIER SHIPS)



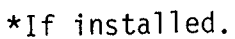
A040 REV U

FIGURE 14-3B TACHOMETER &amp; LOW RPM WARNING HORN SCHEMATIC (S/N 0002 THRU 0223)

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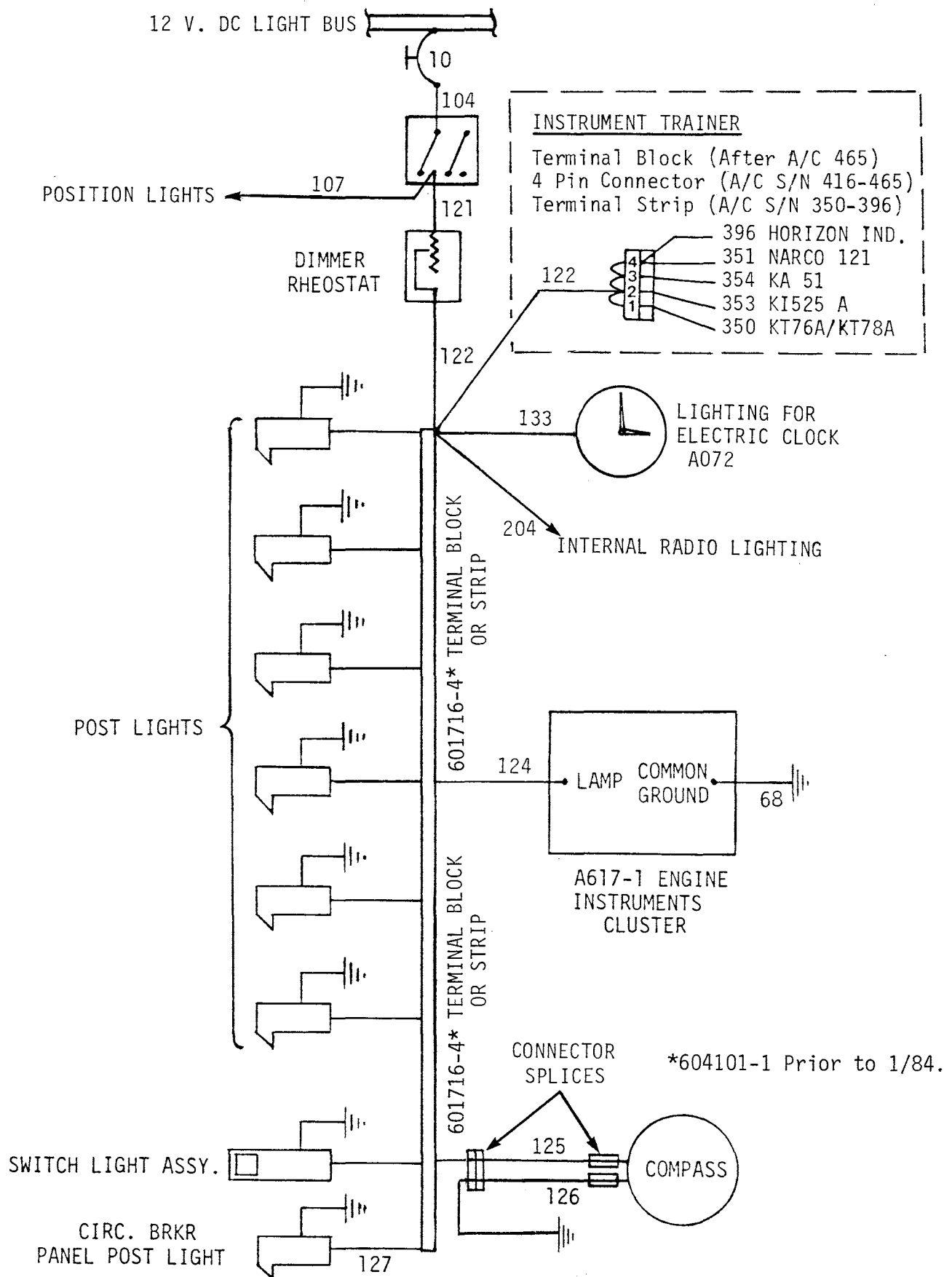
## SCHEMATICS (Cont'd)

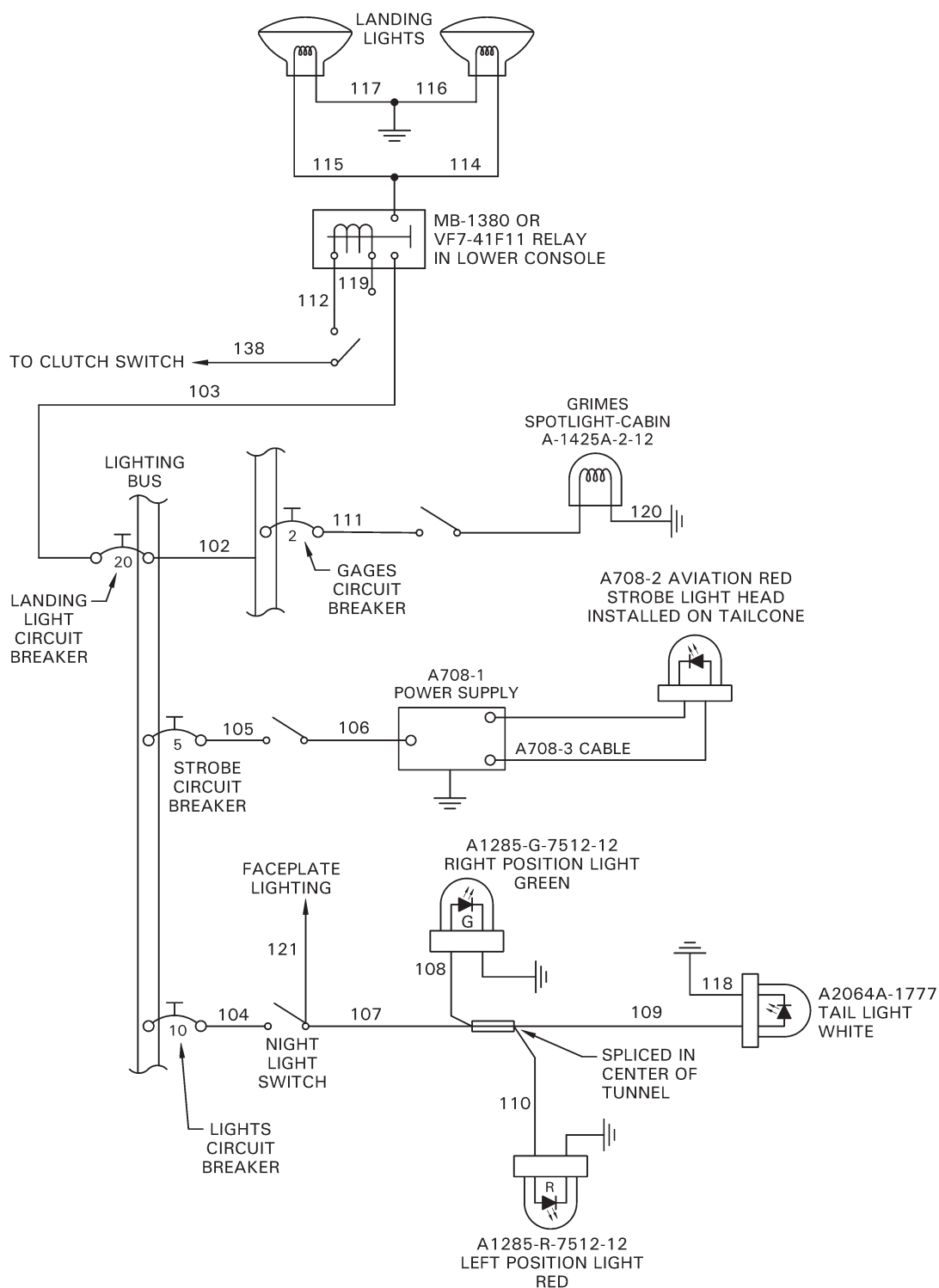


BELT TENSION ACTUATOR CIRCUIT  
(WITH TEST PLUG; SHOWN PARTIALLY  
ENGAGED)

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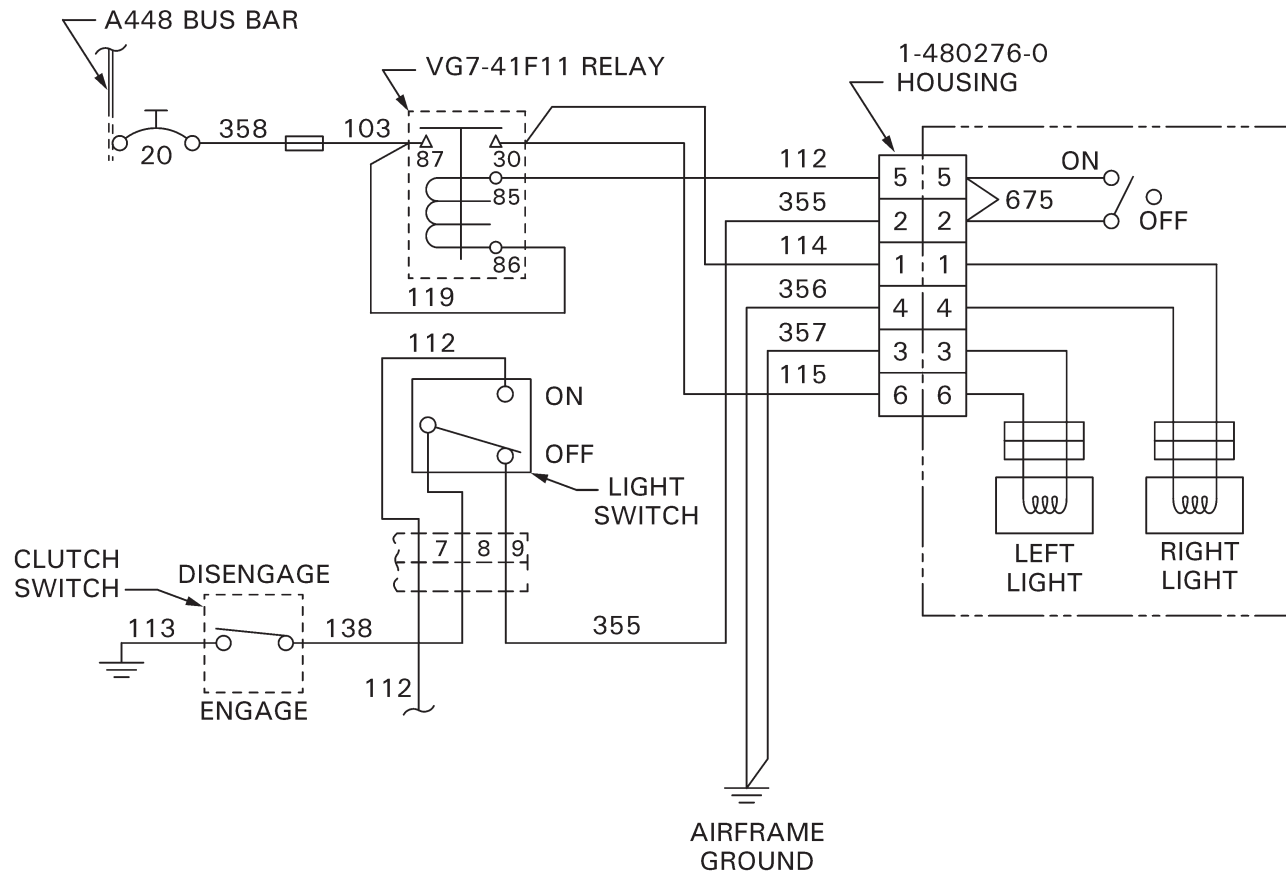
14.600 (cont'd)





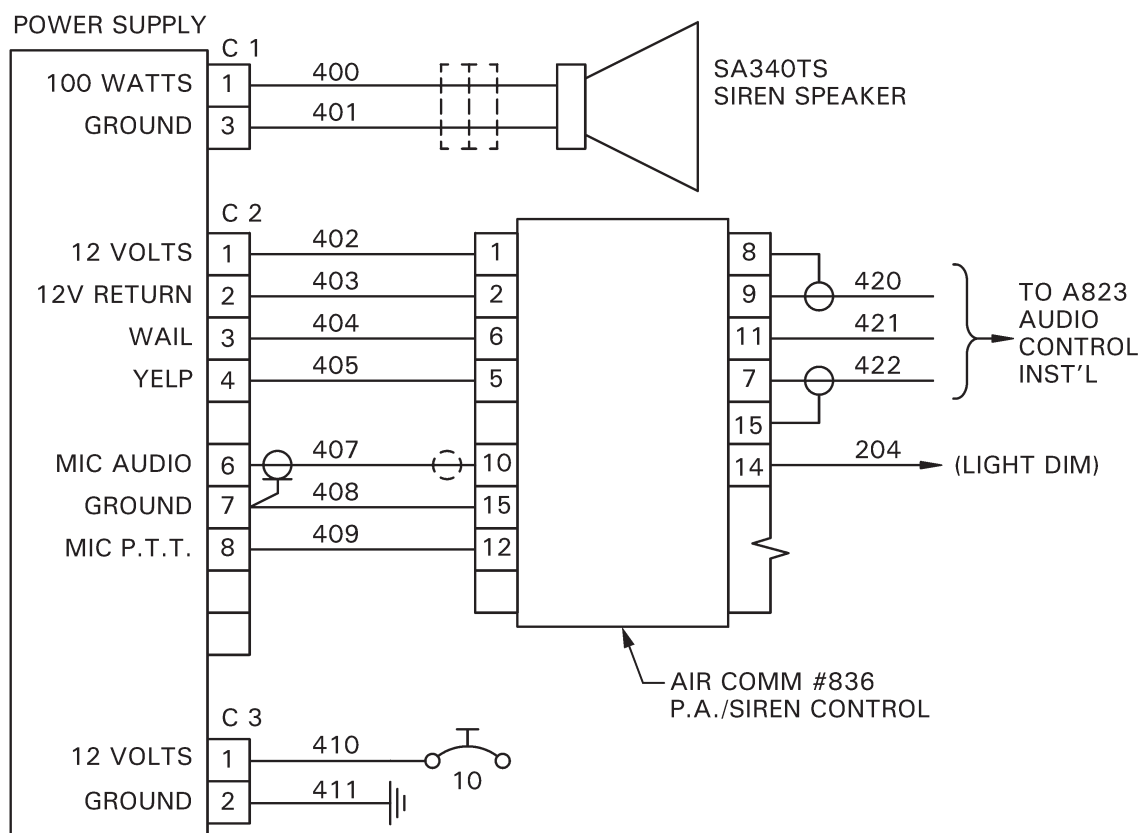
A024 REV BD

FIGURE 14-5A NIGHT LIGHTING SCHEMATIC



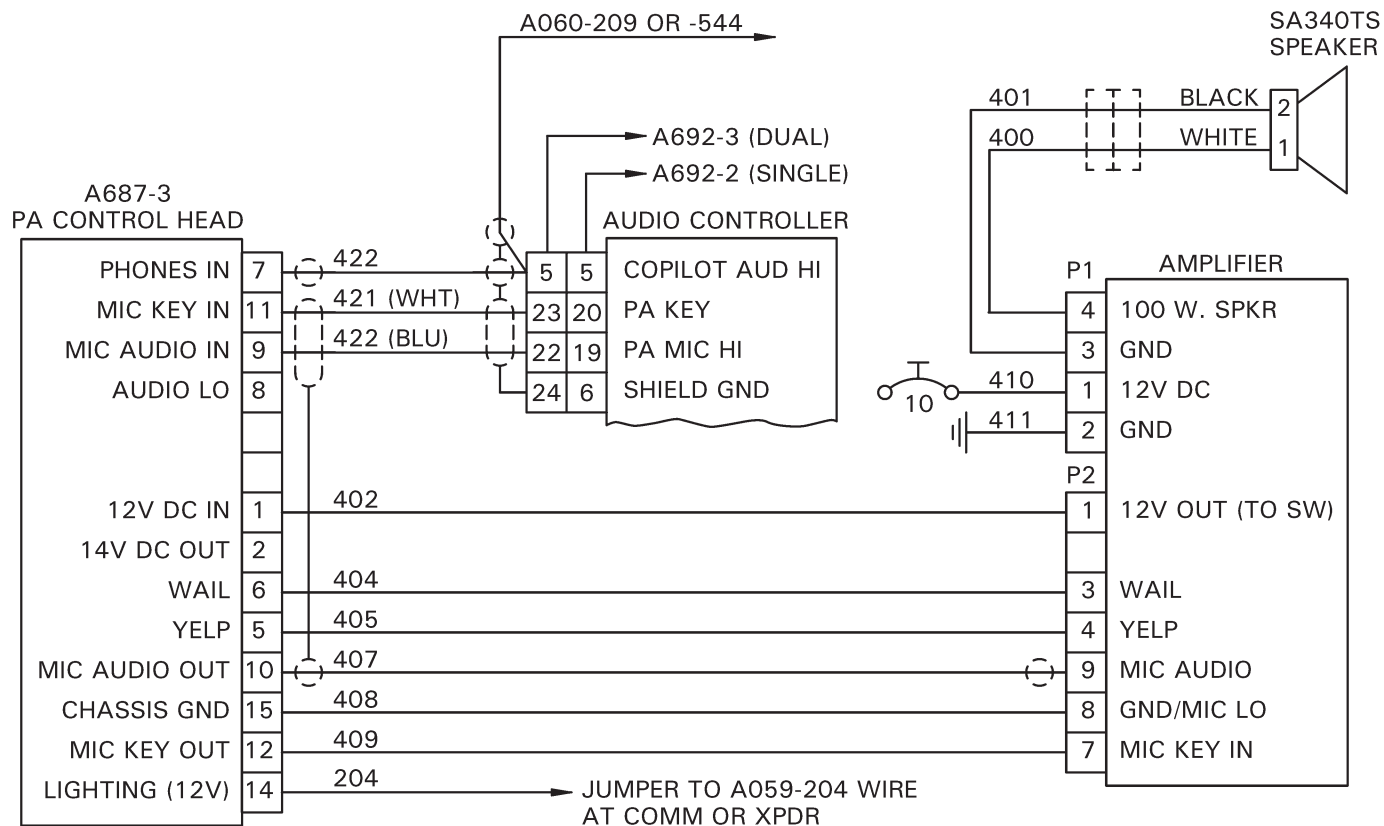
A081 REV M

FIGURE 14-6 WIRING SCHEMATIC FOR SEARCHLIGHT



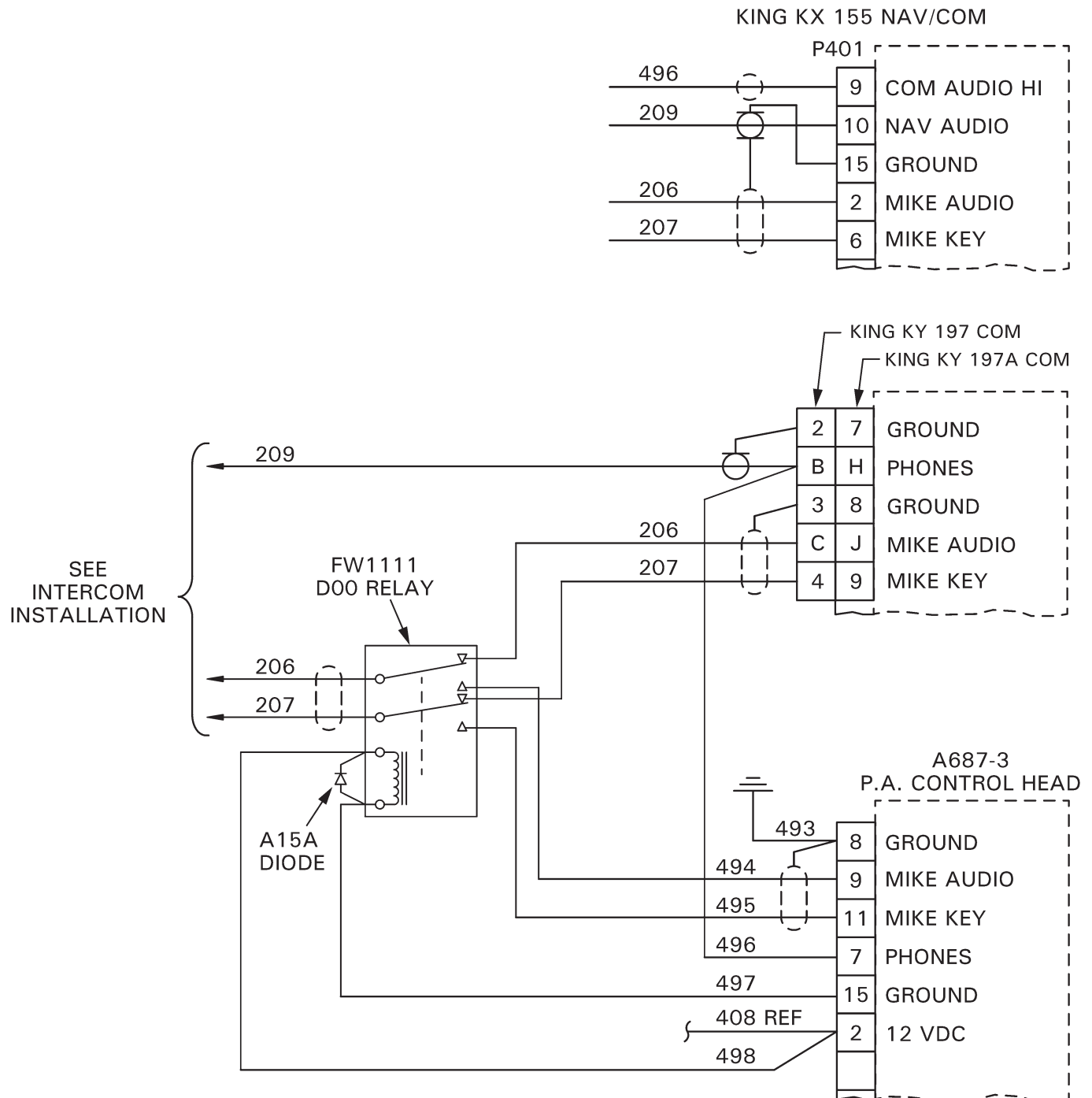
A079 REV J

FIGURE 14-6A PA SIREN WIRING SCHEMATIC



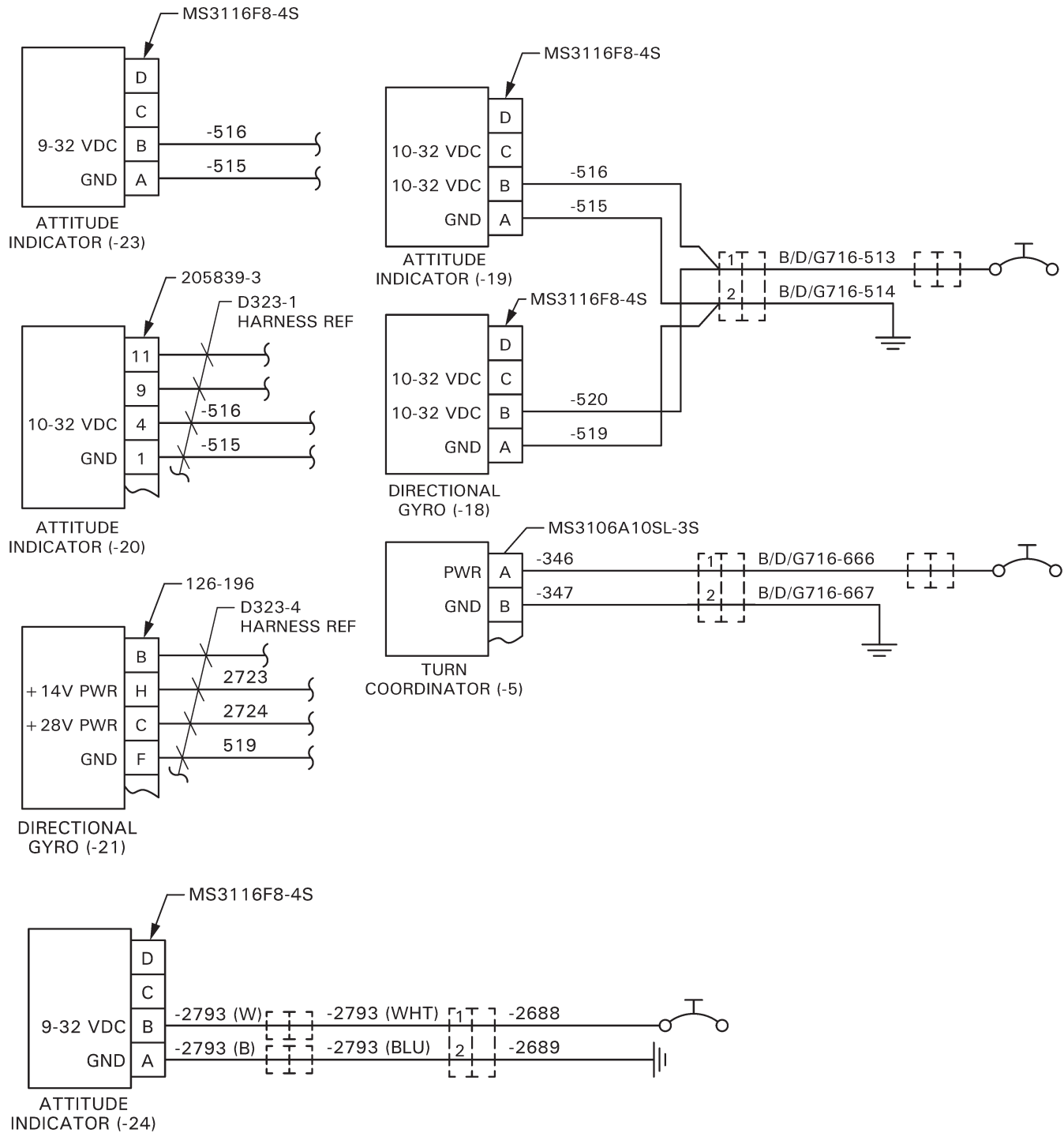
A079 REV L

FIGURE 14-6B PA SIREN SYSTEM SCHEMATIC (WITH AUDIO CONTROL)



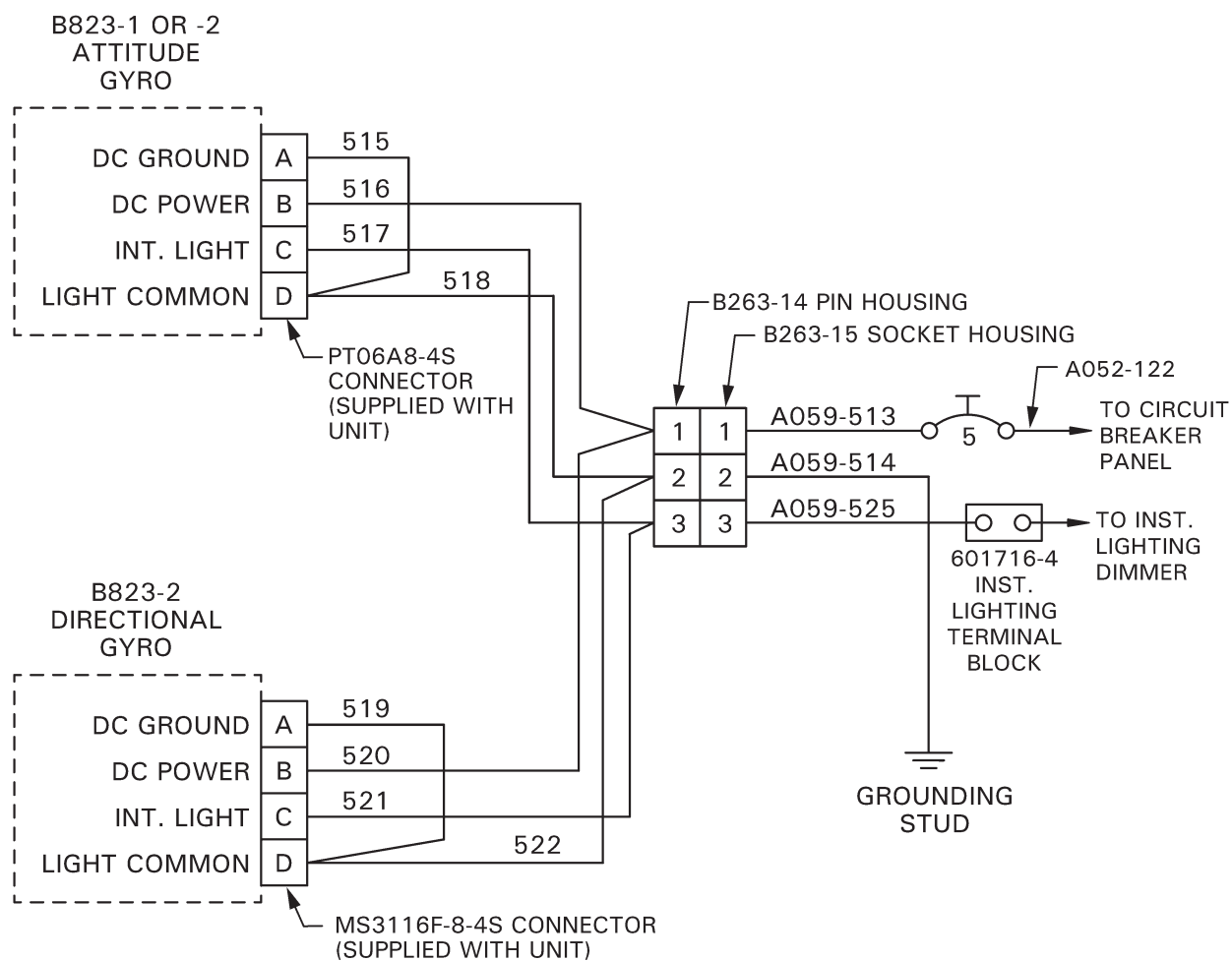
A079 REV K

FIGURE 14-6C PA SIREN SYSTEM SCHEMATIC (WITH KING KX 155 OR KY 197)



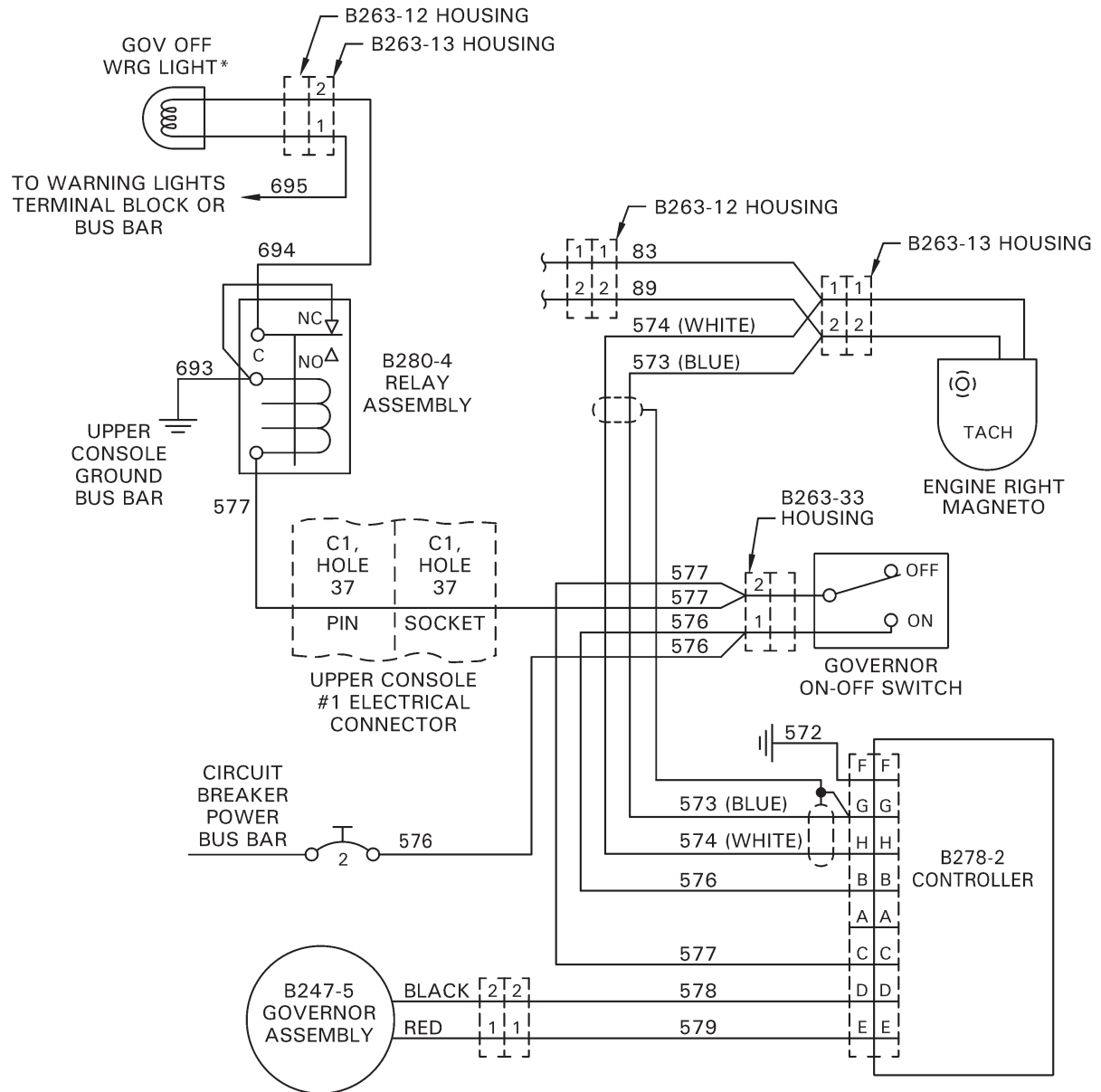
B191 REV AE

FIGURE 14-6D ATTITUDE GYRO AND DIRECTIONAL GYRO INSTALLATION



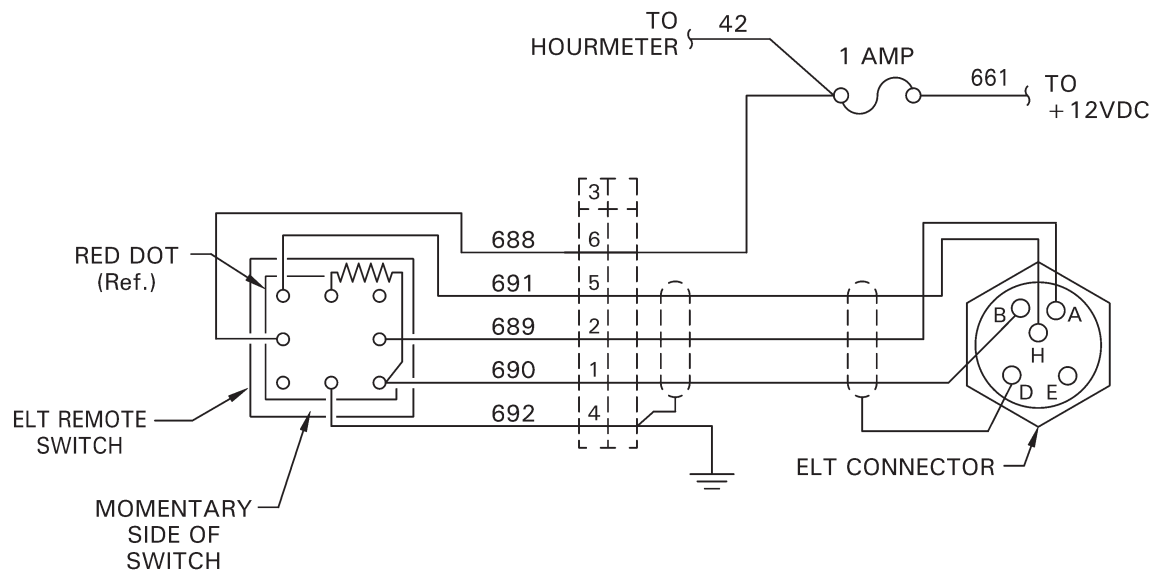
B191 REV E

FIGURE 14-6E ATTITUDE GYRO AND DIRECTIONAL GYRO INSTALLATION (EARLIER SHIPS)



\* If not installed, GOVERNOR OFF warning light may be added using KI-100 Kit.

FIGURE 14-6F GOVERNOR SYSTEM SCHEMATIC



A830 REV D

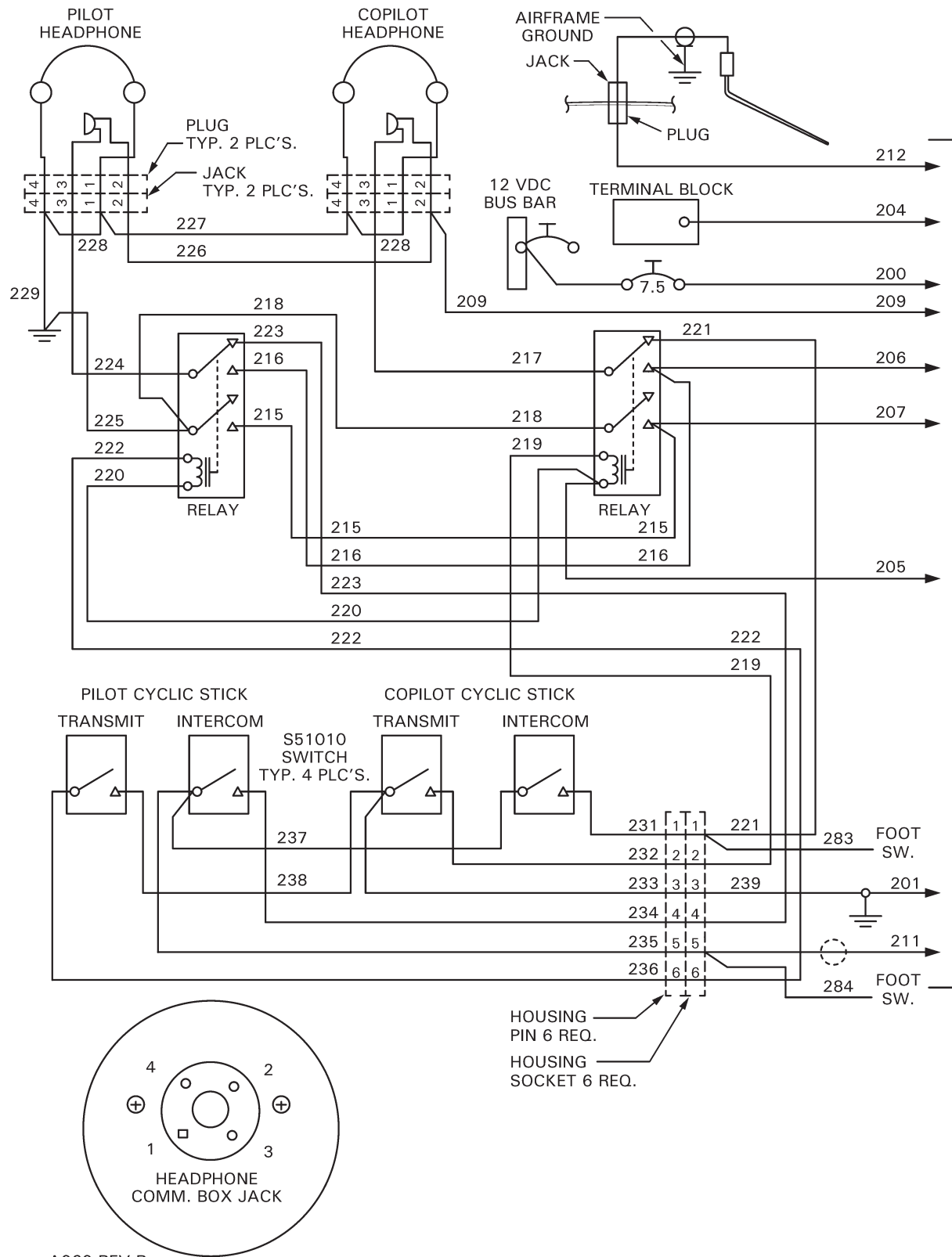
FIGURE 14-6G ELT REMOTE SWITCH WIRING SCHEMATIC

14.700 Antenna Locations

|    This section has been moved to § 16-70.

#### 14.800 Avionics Schematics

Basic communications wiring common to all the COM radio configurations include: Pilot and Co-Pilot cyclic stick switches (Transmit and Intercom), and an overhead COM box housing Pilot and Co-Pilot headphone jacks and relays. The intercom system operates through installed COM radio or audio selector panel.



A060 REV R

FIGURE 14-8 INTERCOM SYSTEM (EARLIER SHIPS)

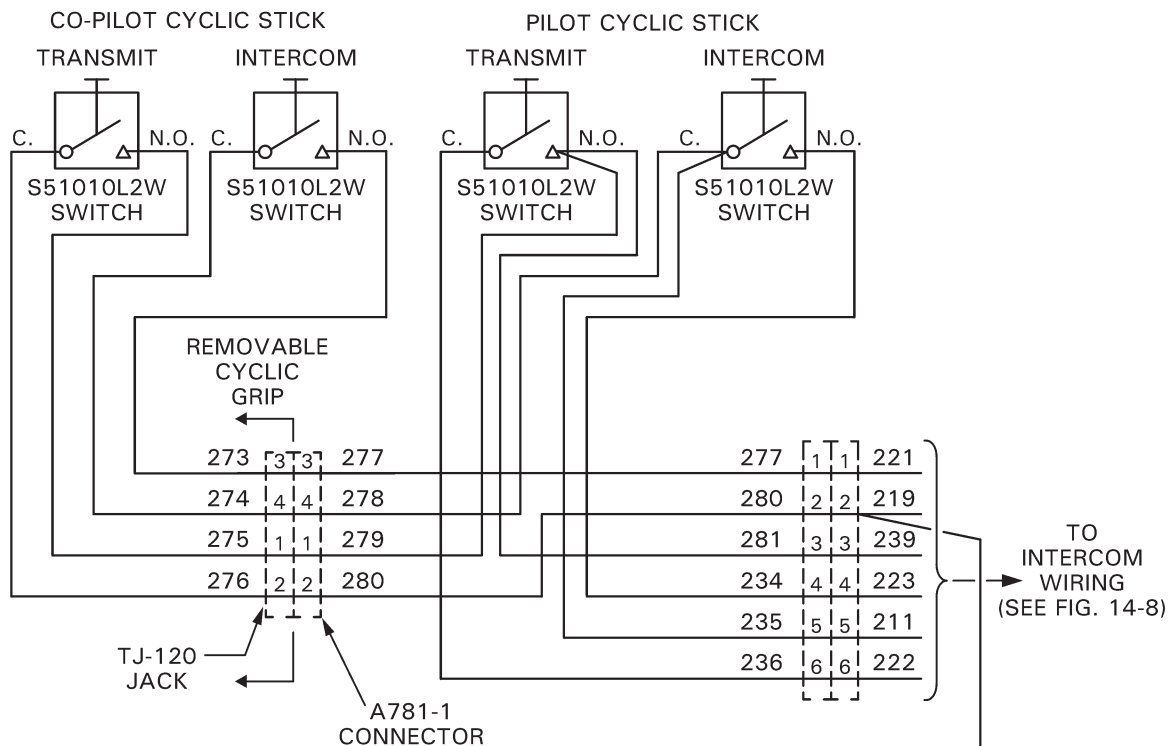


FIGURE 14-8A INTERCOM SCHEMATIC WITH  
REMOVABLE CYCLIC GRIP (EARLIER SHIPS)

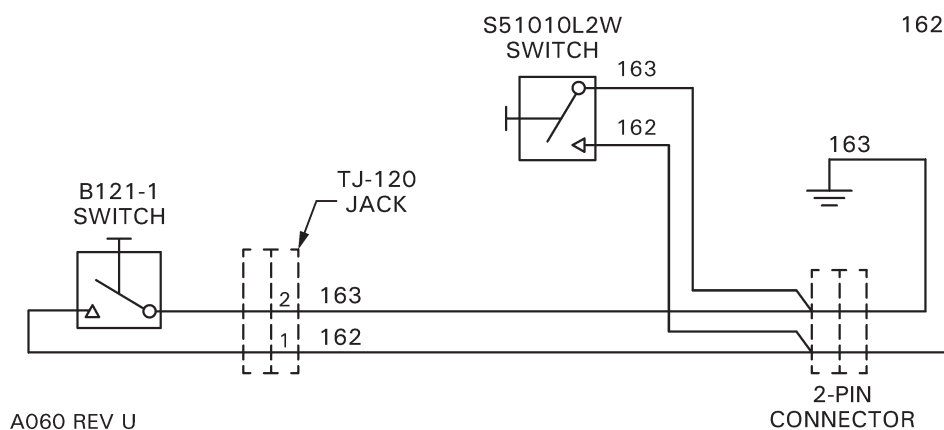
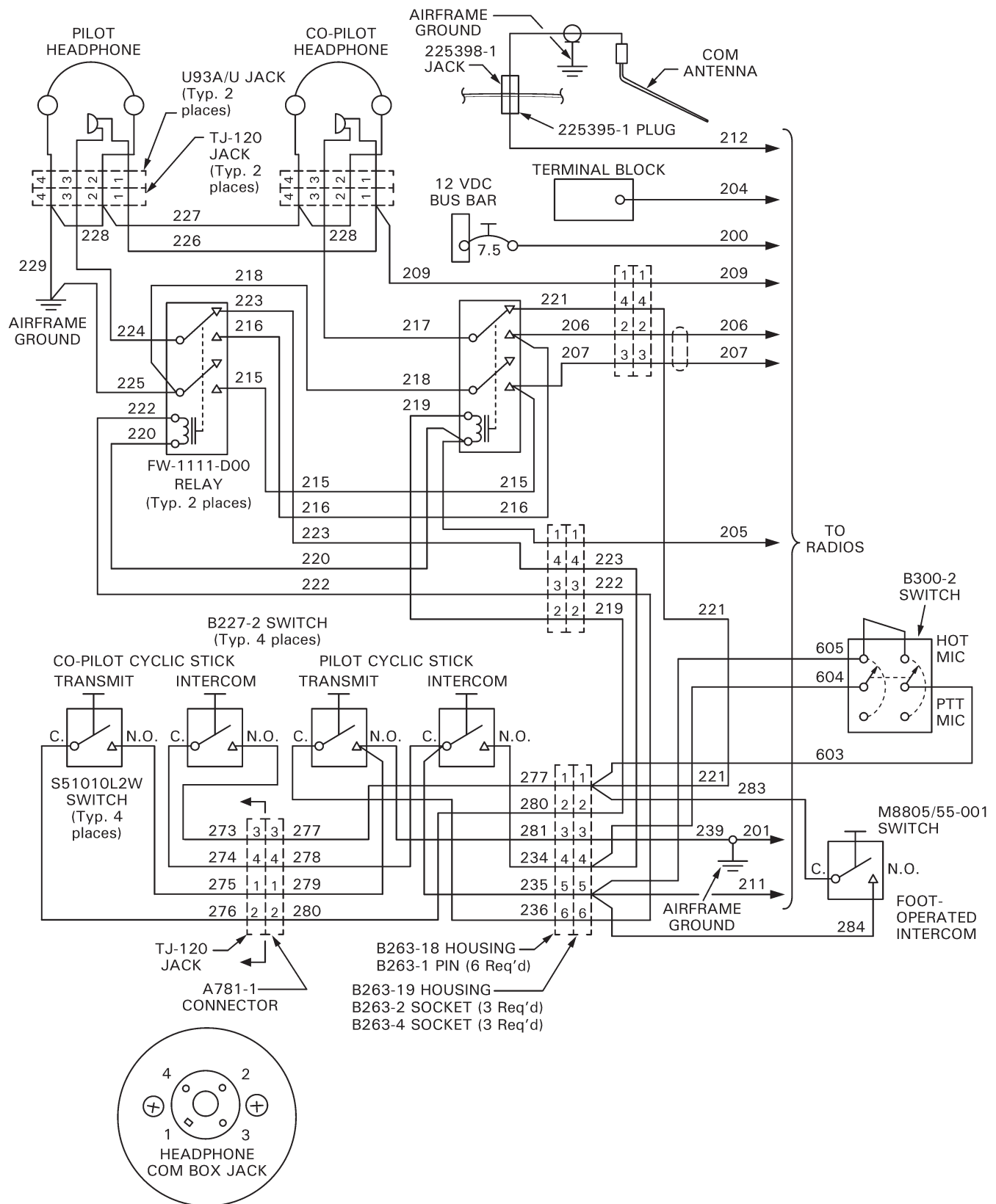
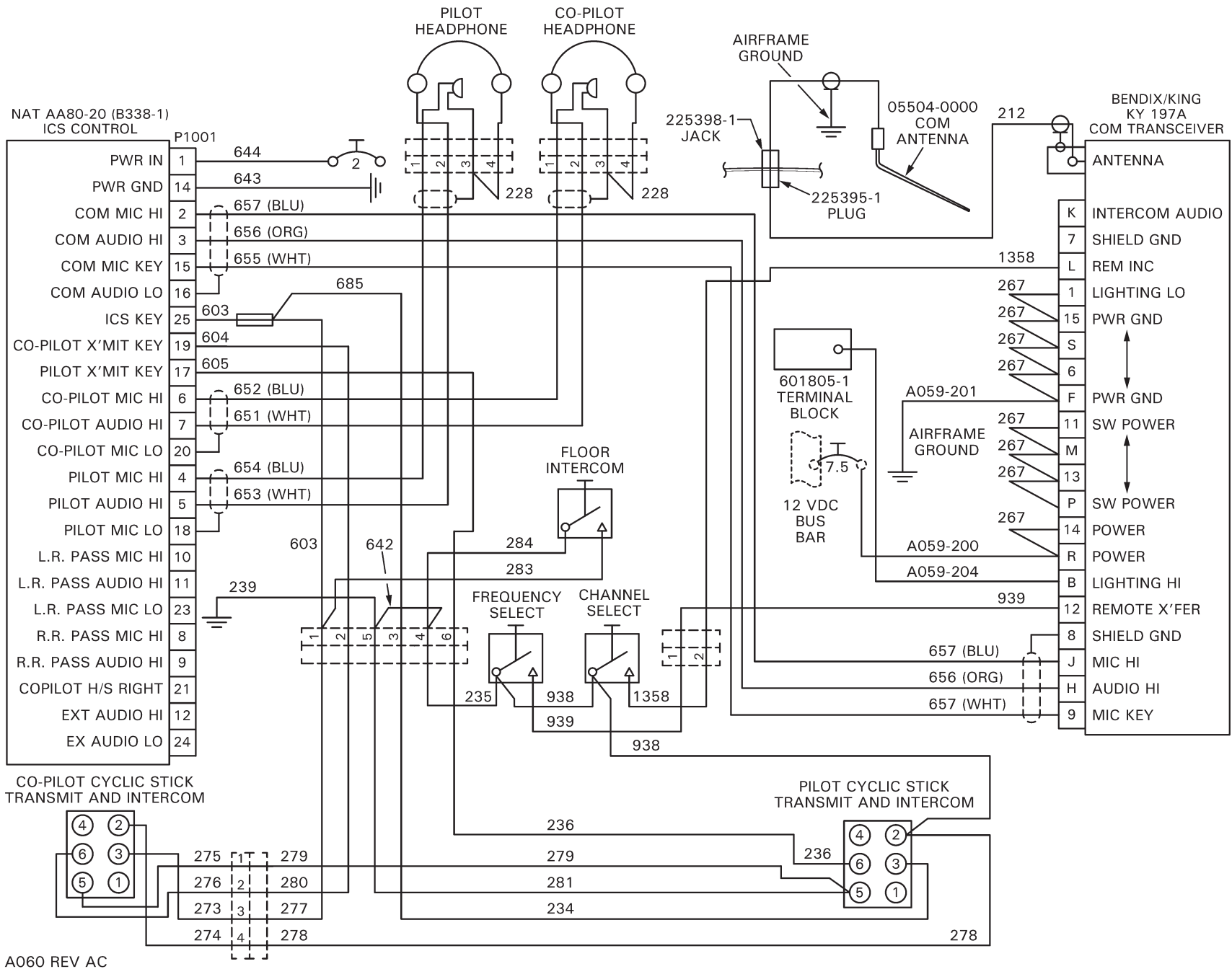


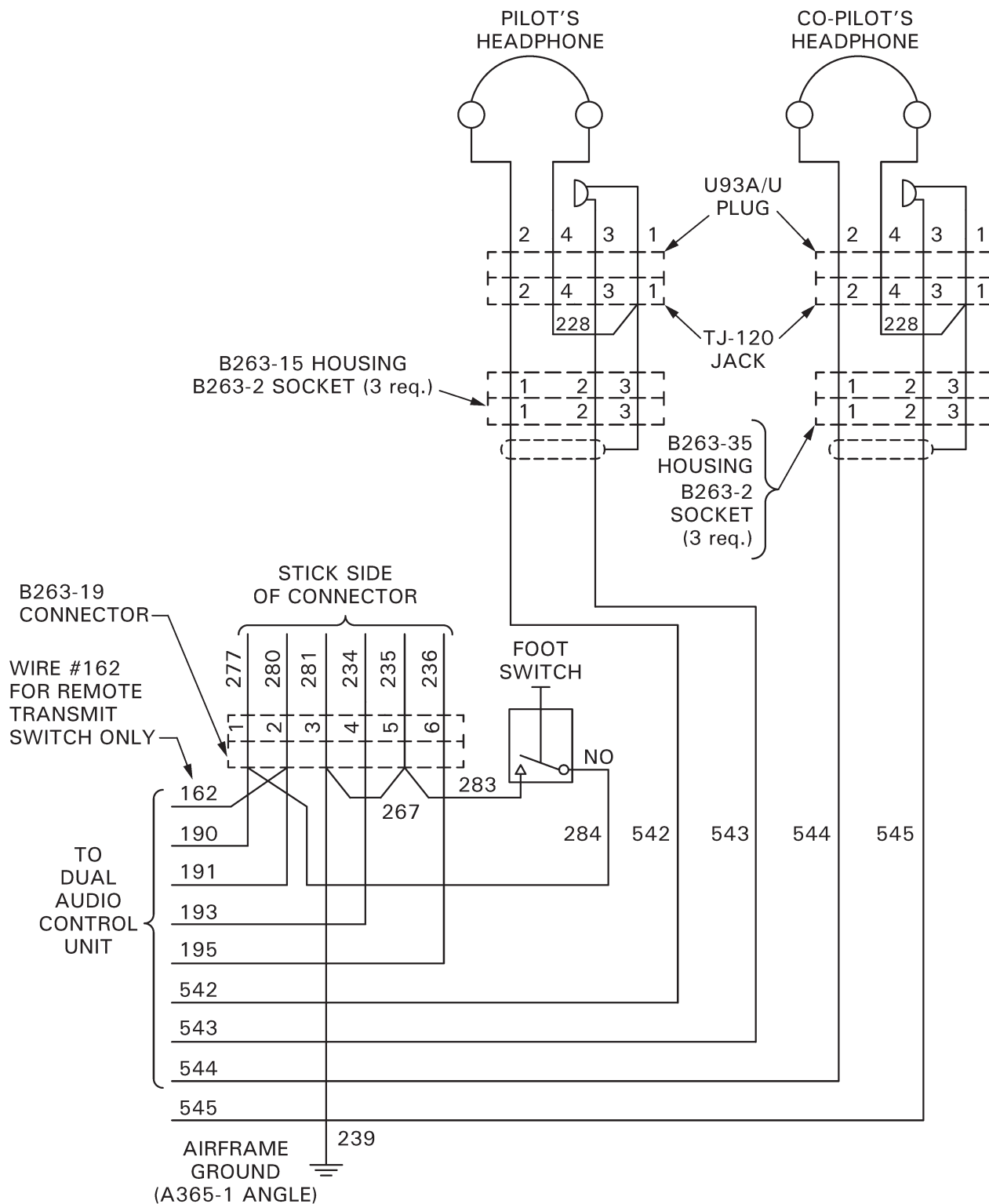
FIGURE 14-8B REMOTE CYCLIC SWITCH WIRING DIAGRAM (R22 MARINER; EARLIER SHIPS)



A060 REV AB

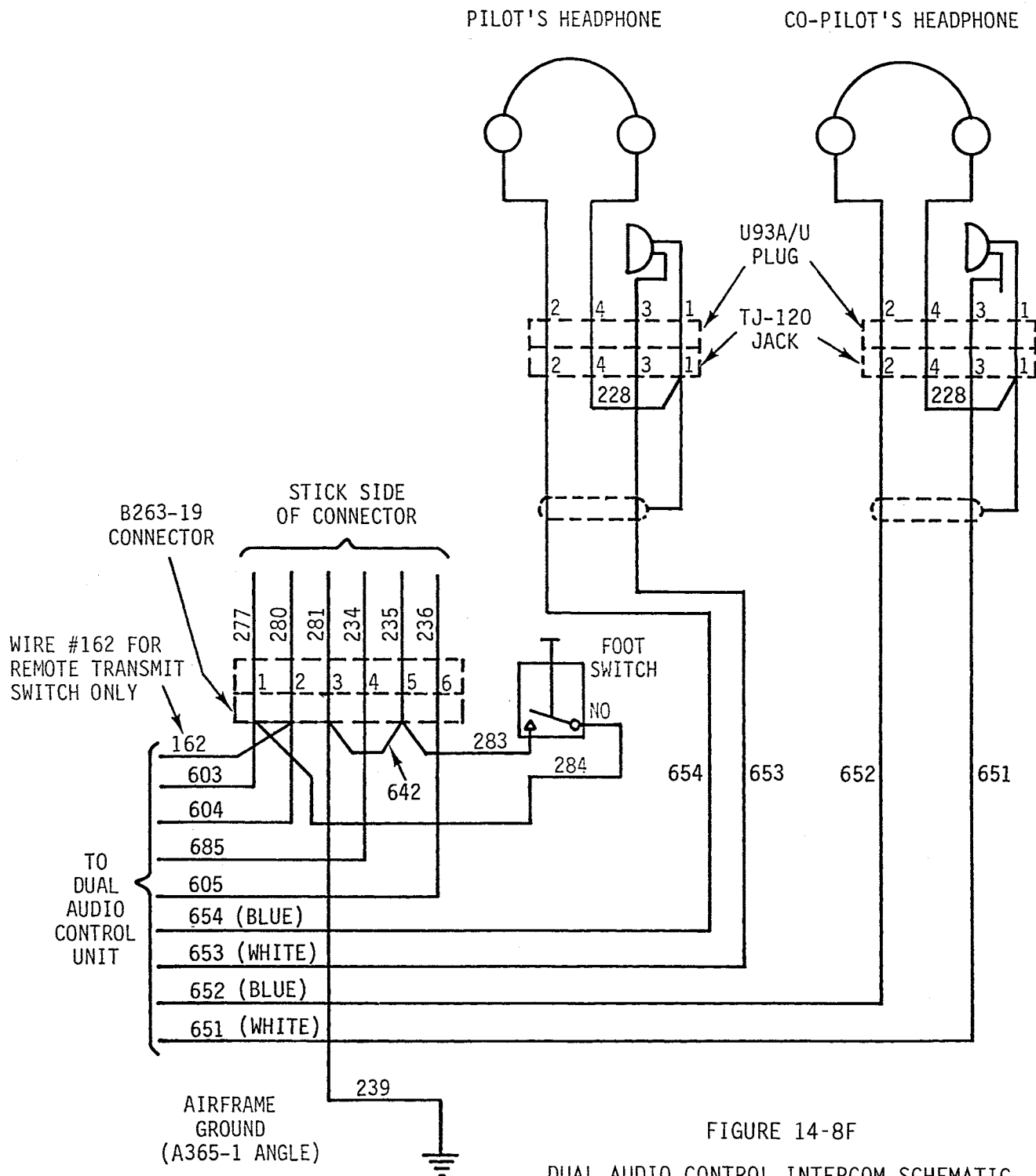
FIGURE 14-8C INTERCOM SCHEMATIC WITH HOT MIC SWITCH (EARLIER SHIPS)





A060 REV AB

FIGURE 14-8E DUAL AUDIO CONTROL INTERCOM SCHEMATIC  
(FOR R22s WITH A692-3 [AIR COMM ACS 300] DUAL AUDIO CONTROL; EARLIER SHIPS)

**14.800 AVIONICS SCHEMATICS (cont'd)**

**FIGURE 14-8F**

DUAL AUDIO CONTROL INTERCOM SCHEMATIC  
(For R22s with AIR COMM ACS 300\* Dual  
Audio Control with NAT AA80-020\*\* ICS  
Control; Ship S/N 2967 and on.)

\*RHC part no. A692-3.

\*\*RHC part no. B338-1.

14.800 AVIONICS SCHEMATICS (cont'd)

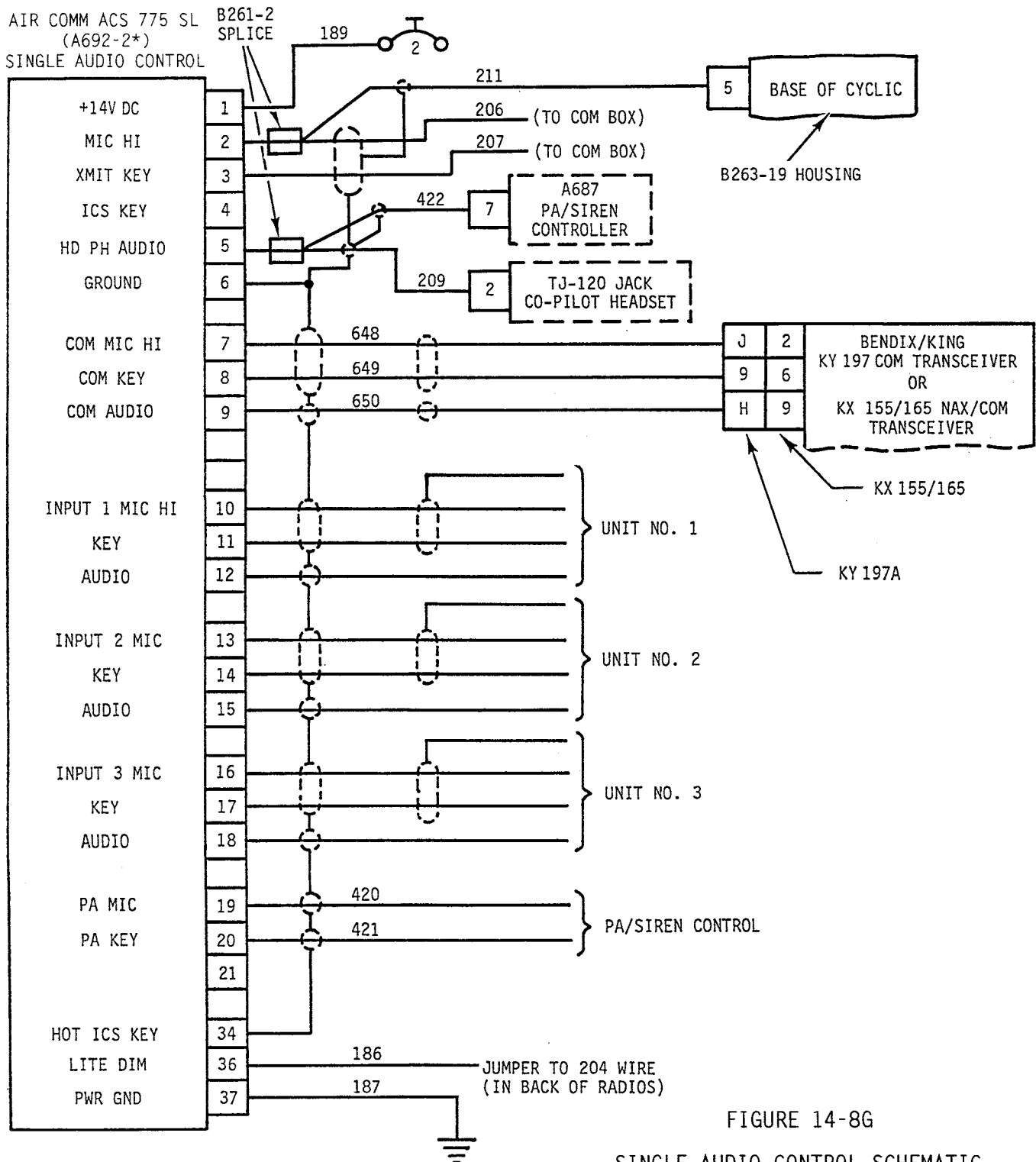


FIGURE 14-8G

SINGLE AUDIO CONTROL SCHEMATIC  
AIR COMM ACS 775 SL (A692-2\*)  
(Ship S/N 2967 and on)

\*RHC part no.

14.800 AVIONICS SCHEMATICS (cont'd)

AIR COMM ACS 775 SL  
(A692-2\*)  
SINGLE AUDIO CONTROL

NAT AA80-020 (B338-1\*)  
ICS CONTROL

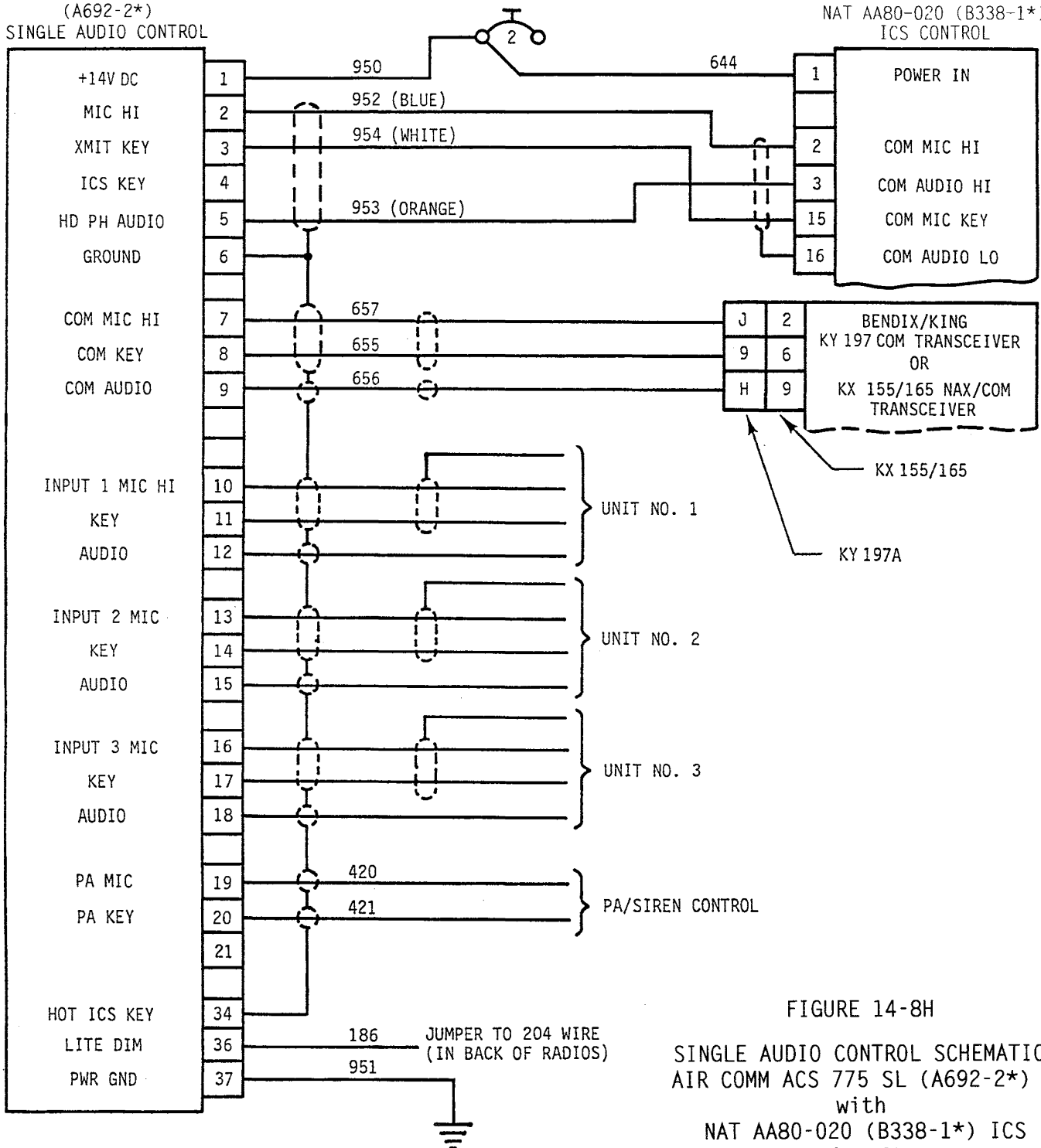


FIGURE 14-8H  
SINGLE AUDIO CONTROL SCHEMATIC  
AIR COMM ACS 775 SL (A692-2\*)  
with  
NAT AA80-020 (B338-1\*) ICS  
CONTROL  
(Ship S/N 2967 and on)

\*RHC part no.

## 14.800 AVIONICS SCHEMATICS (cont'd)

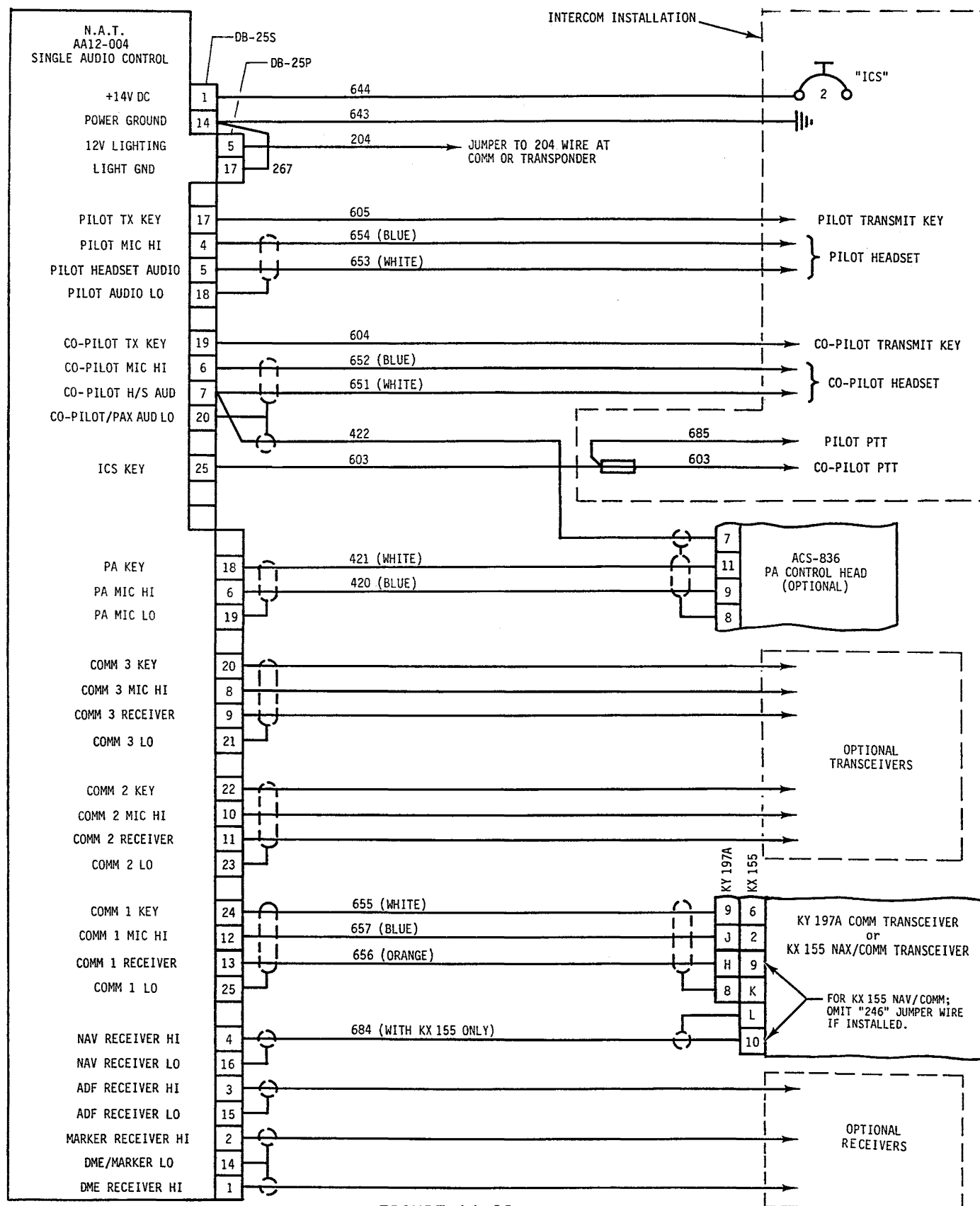


FIGURE 14-8I

NAT AA12-004 SINGLE AUDIO CONTROL SCHEMATIC  
(Ship S/N 2967 and on)

## 14.800 AVIONICS SCHEMATICS (cont'd)

AIR COMM ACS 300 (A692-3\*)  
DUAL AUDIO CONTROL

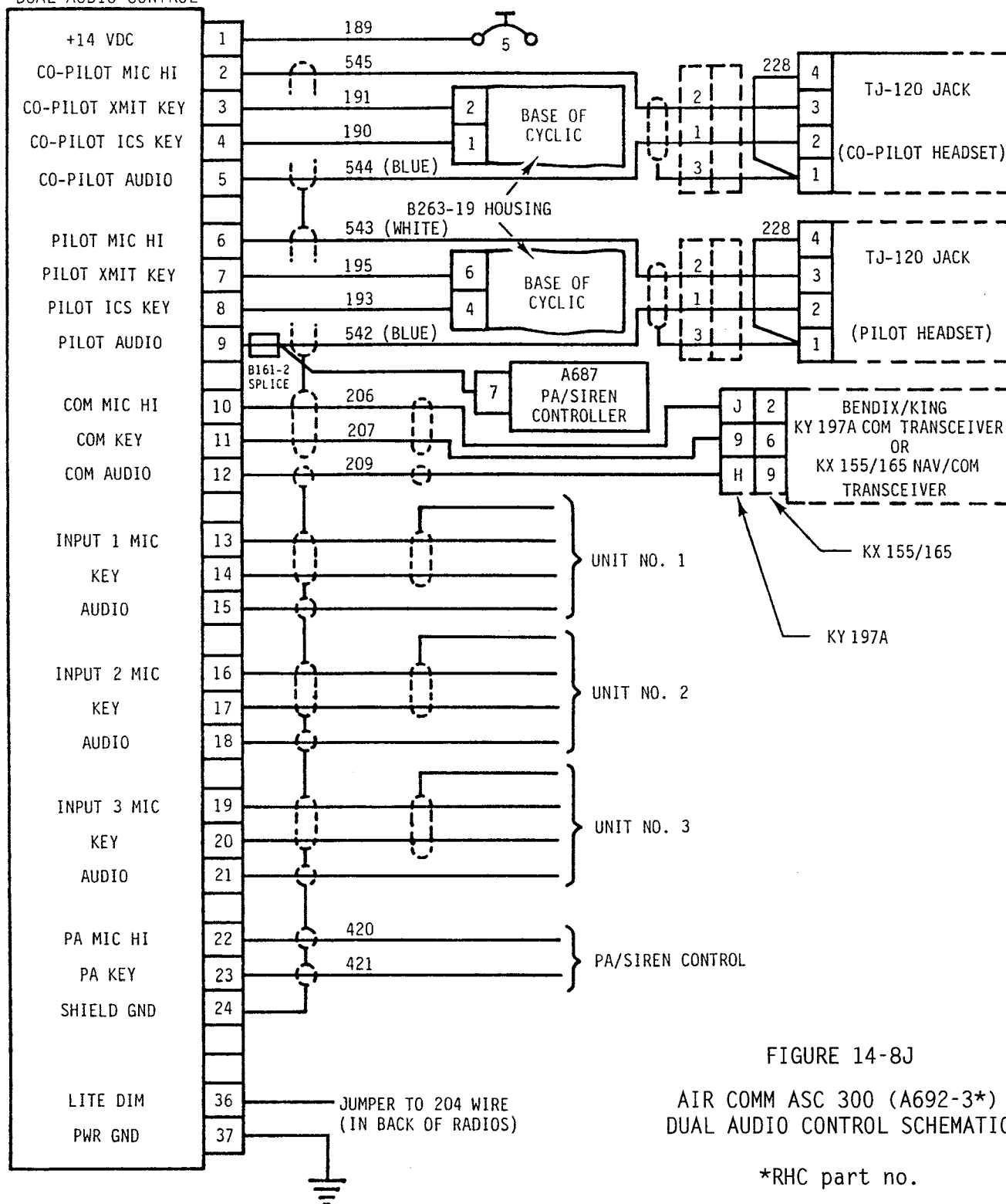


FIGURE 14-8J

AIR COMM ASC 300 (A692-3\*)  
DUAL AUDIO CONTROL SCHEMATIC

\*RHC part no.

## 14.800 AVIONICS SCHEMATICS (cont'd)

AIR COMM ACS 300 (A692-3\*)  
DUAL AUDIO CONTROL

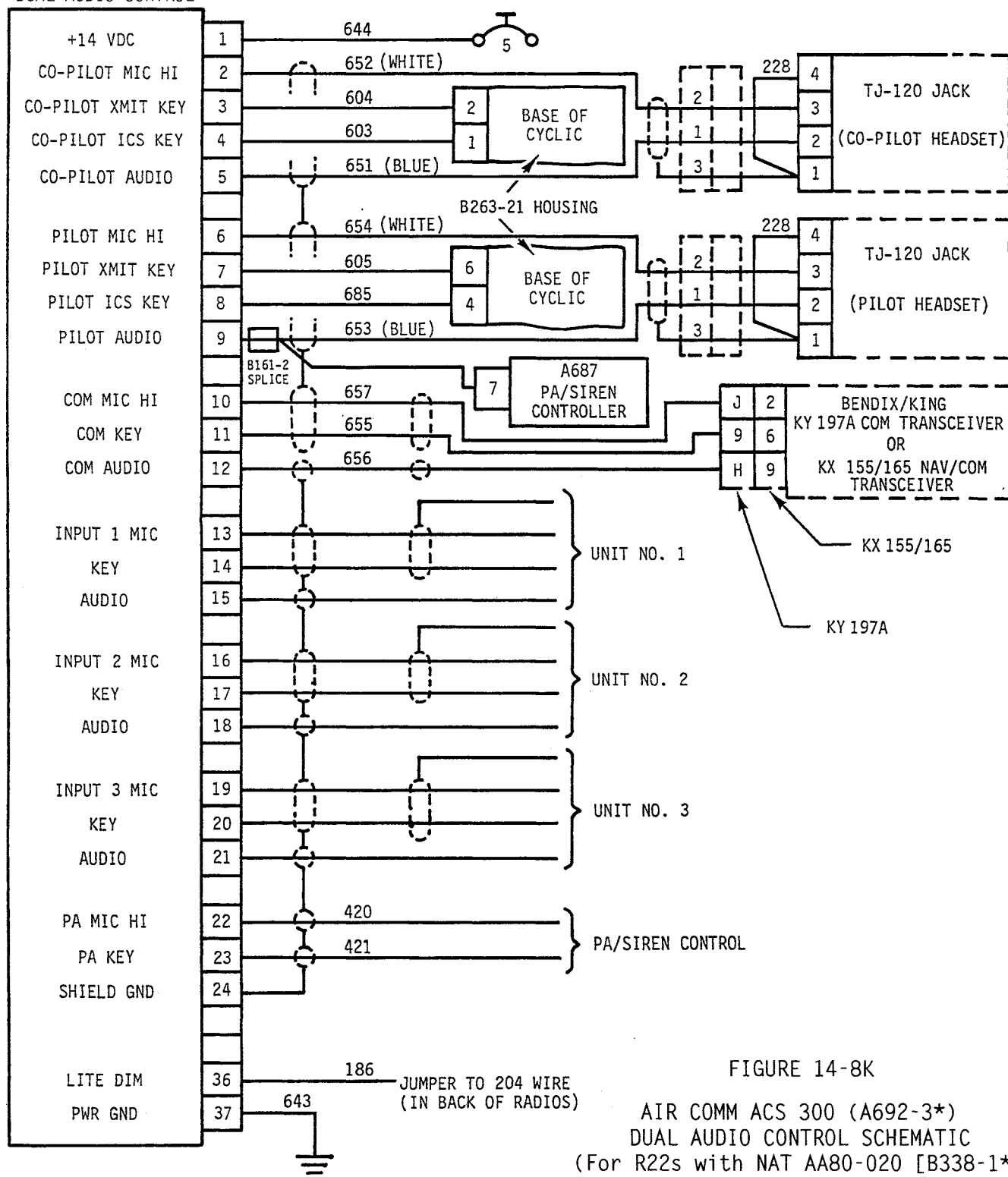
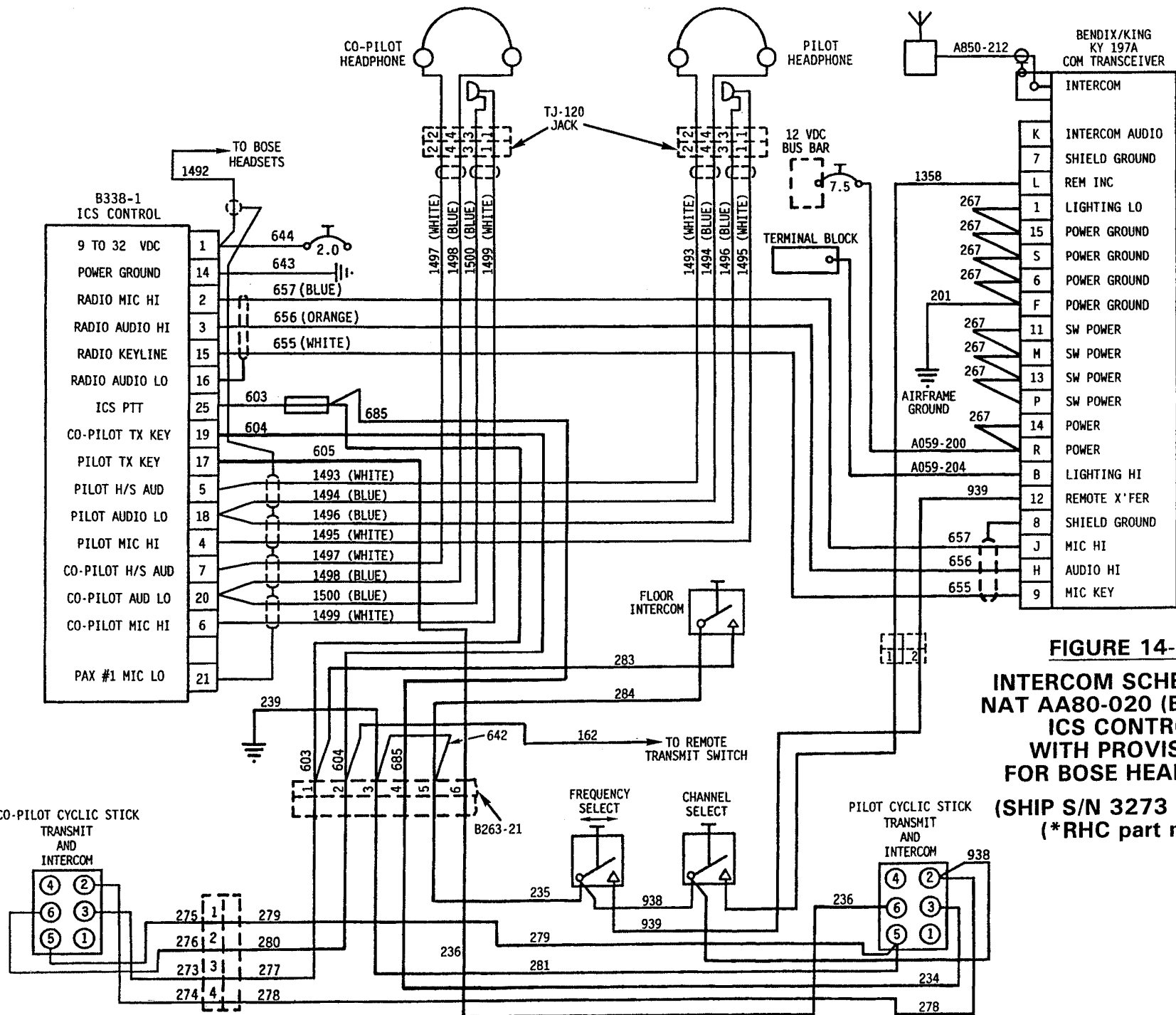


FIGURE 14-8K

AIR COMM ACS 300 (A692-3\*)  
DUAL AUDIO CONTROL SCHEMATIC  
(For R22s with NAT AA80-020 [B338-1\*]  
ICS Control; Ship S/N 2967 and on.)

\*RHC part no.



**FIGURE 14-8L**  
**INTERCOM SCHEMATIC**  
**NAT AA80-020 (B338-1\*)**  
**ICS CONTROL**  
**WITH PROVISION**  
**FOR BOSE HEADSETS**  
**(SHIP S/N 3273 and on)**  
**(\*RHC part no.)**

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## 14.800 (cont'd)

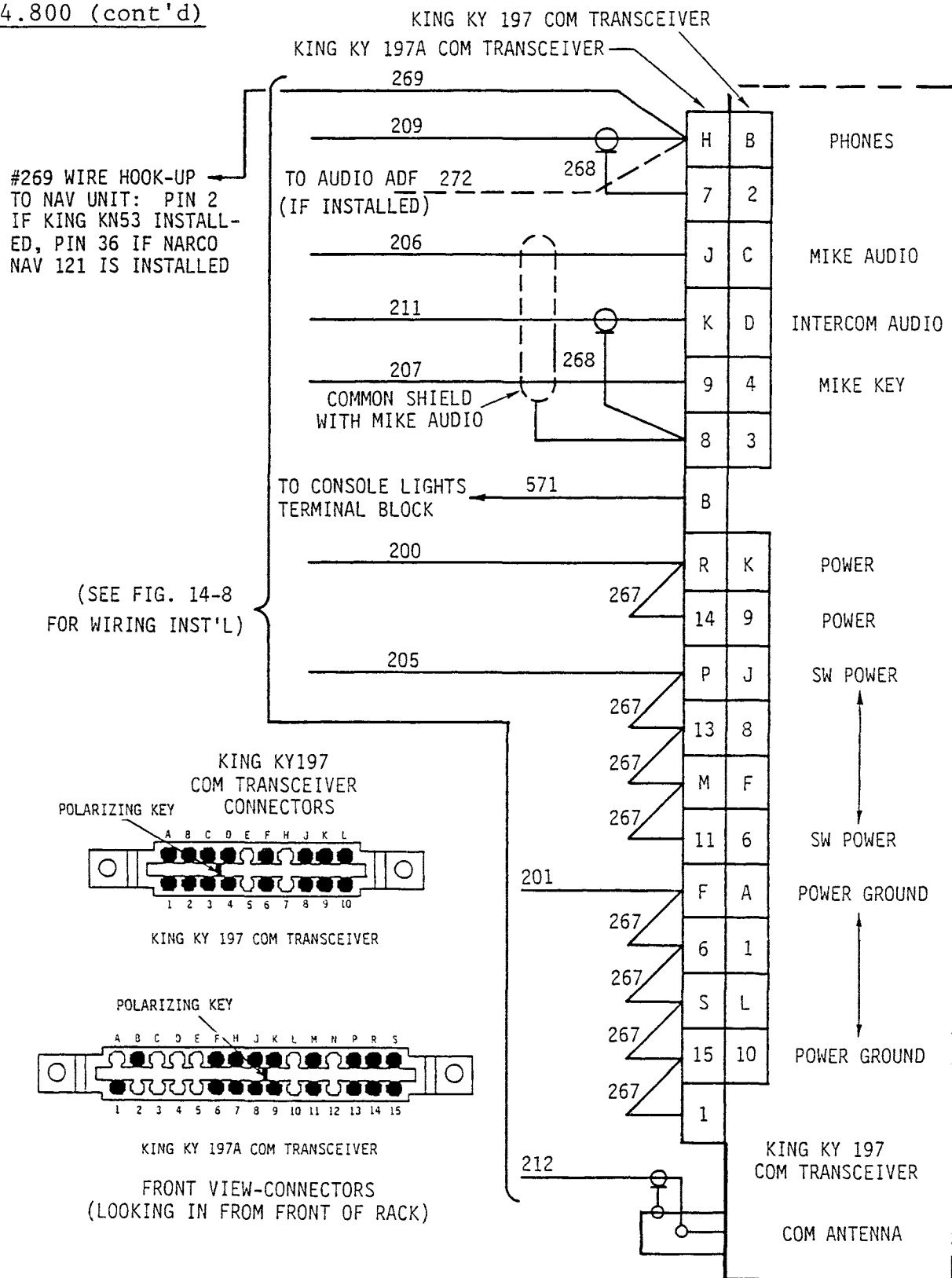


FIGURE 14-9 KING KY197/197A COM TRANSCEIVER

14.800 (cont'd)

212

KING KY 92  
COM TRANSCEIVER

COM ANTENNA

TYPE 247E-4Ω-5%  
10-WATT RESISTOR

5 SPEAKER  
6 GROUND

8 XMIT KEY

15 LIGHTS

D MIKE AUDIO

E XMIT AUDIO

11 POWER

M POWER

13 GROUND

P GROUND

J AUX. 500 Ω  
AUDIO

B PHONES

10 PREAMP OUT

H AUDIO IN

N SW POWER

12 SW POWER

14 SW POWER

R SW POWER

S GROUND

SEE FIG. 14-8  
FOR WIRING INS'L

HOOK UP TO PIN 2  
WHEN KING KN 53 IS  
INSTALLED, PIN 36  
WHEN NARCO NAV121  
IS INSTALLED.

POLARIZING  
KEY

FRONT VIEW - CONNECTOR  
(LOOKING IN FROM FRONT OF RACK)

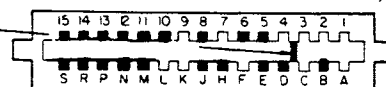


FIGURE 14-10 KING KY92 COM TRANSCEIVER

14.800 (cont'd)

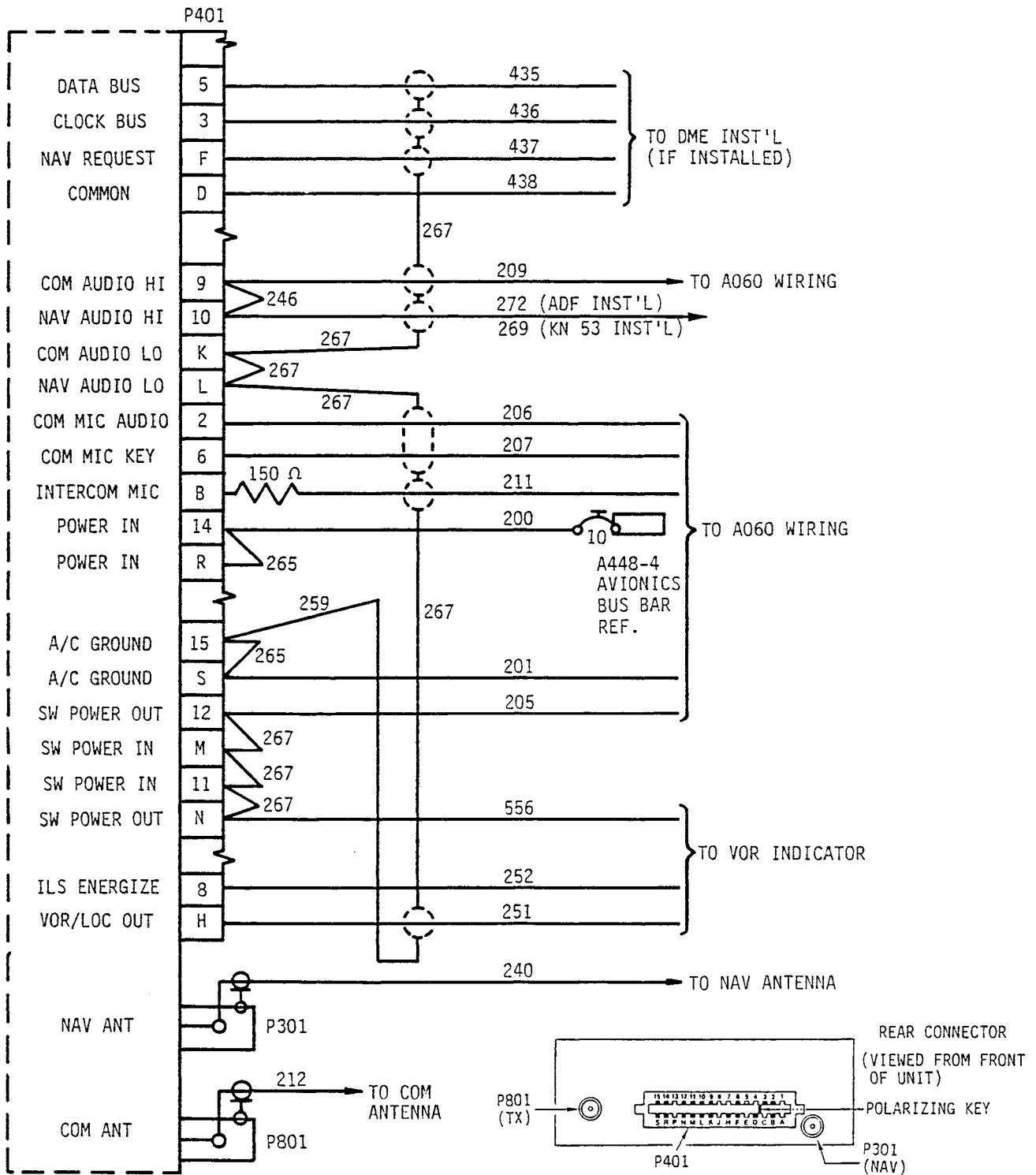


FIGURE 14-10A KING KX155 VHF NAV COM TRANSCEIVER

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14.800 (cont'd)

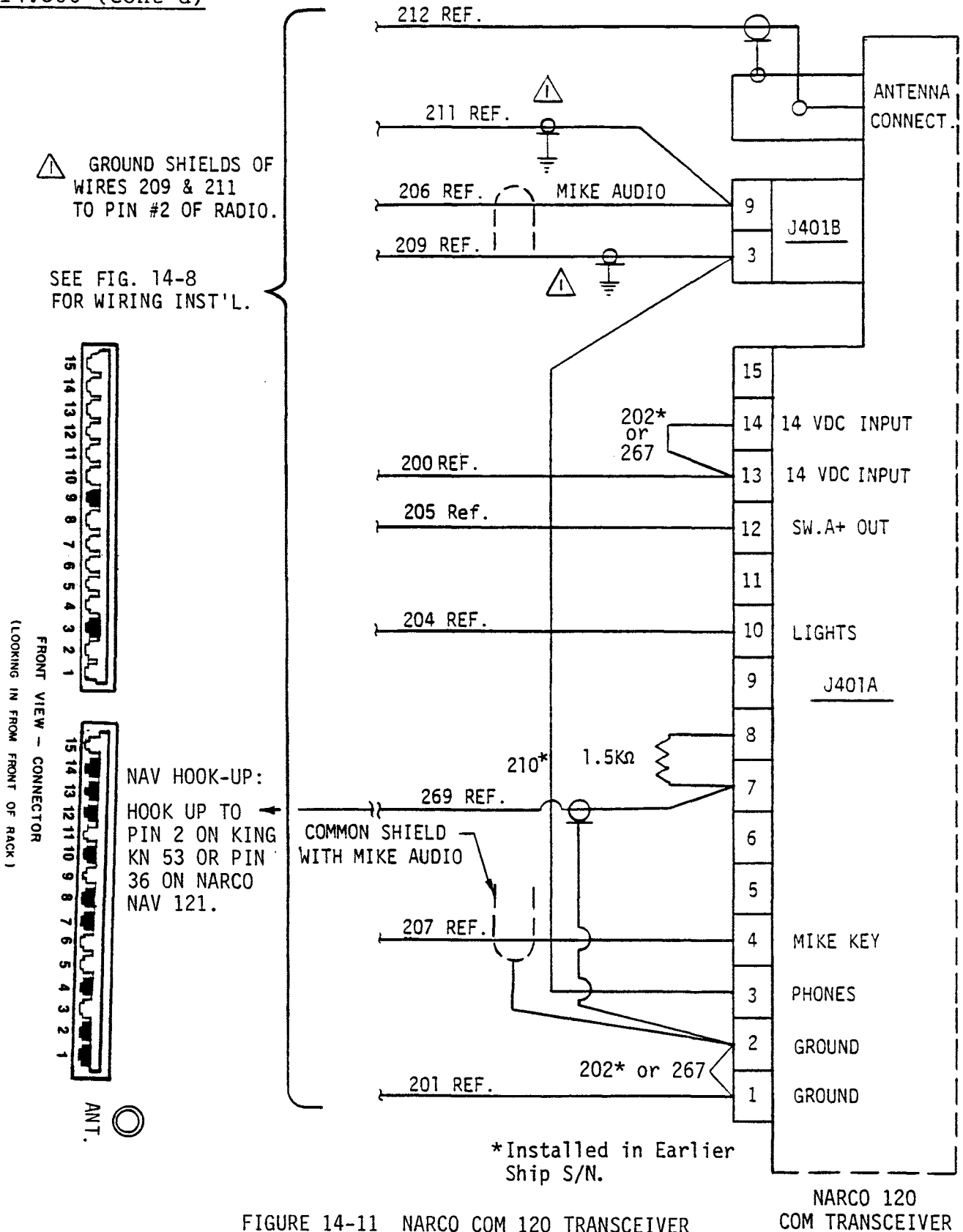
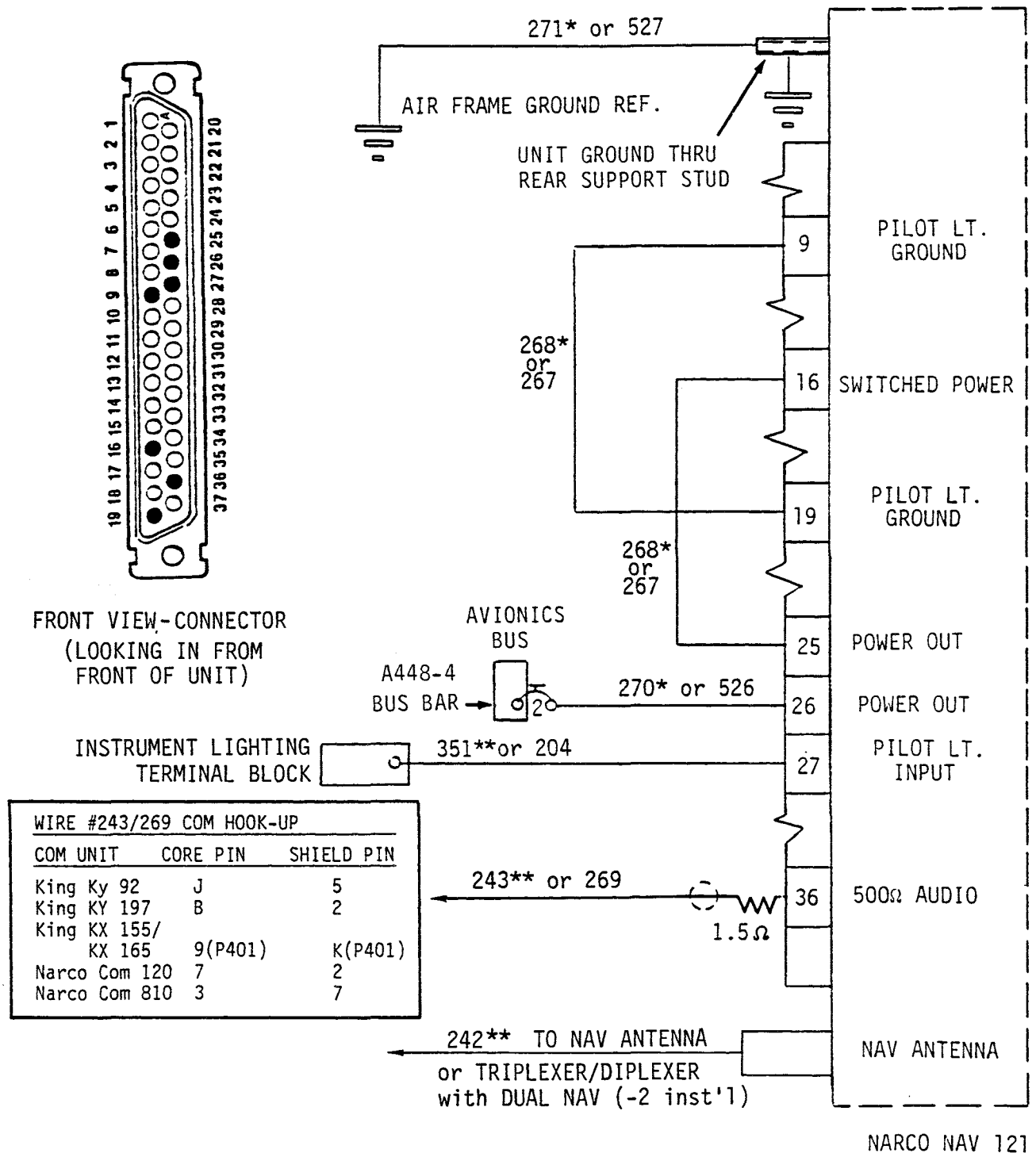


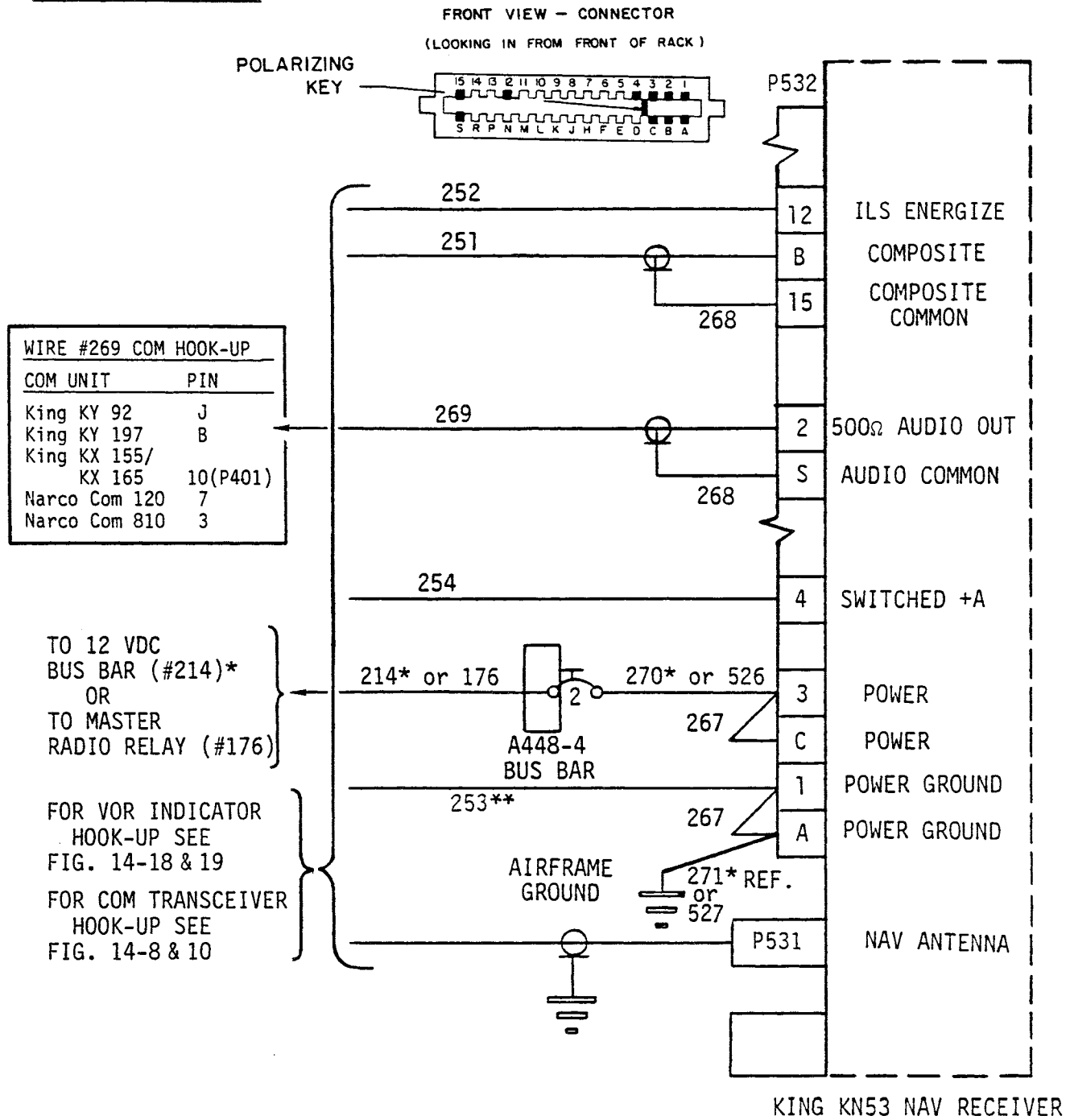
FIGURE 14-11 NARCO COM 120 TRANSCEIVER

14.800 (cont'd)



\*Installed in earlier Ship S/N's.  
 \*\*10-Hole Upper Console

## 14.800 (cont'd)



\*Installed in Earlier Ship S/Ns.  
See Page 14.14-15

\*\*Wire #253 excluded after 3-86.

FIGURE 14-13 KING KN53 NAV RECEIVER

## 14.800 (cont'd)

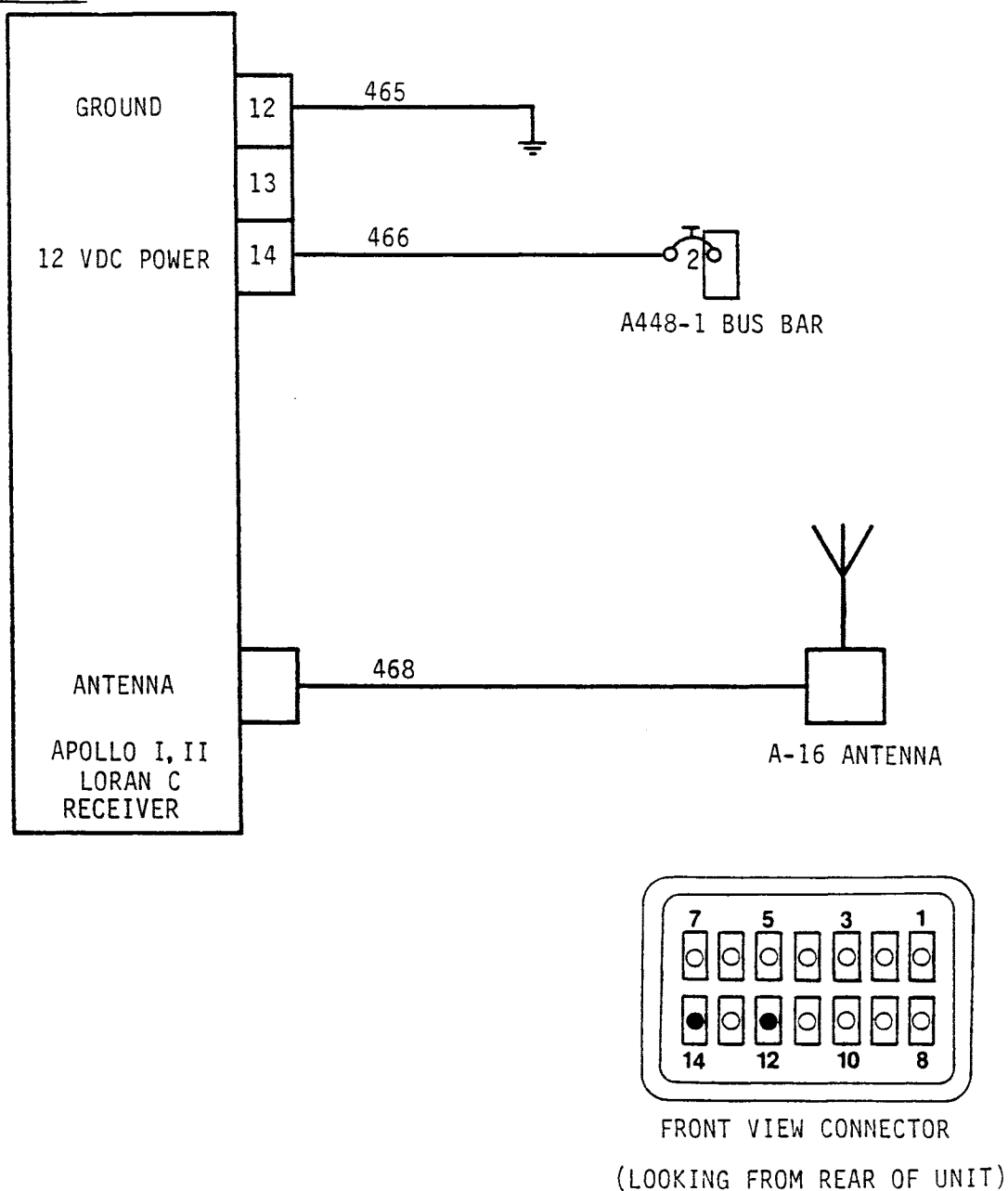
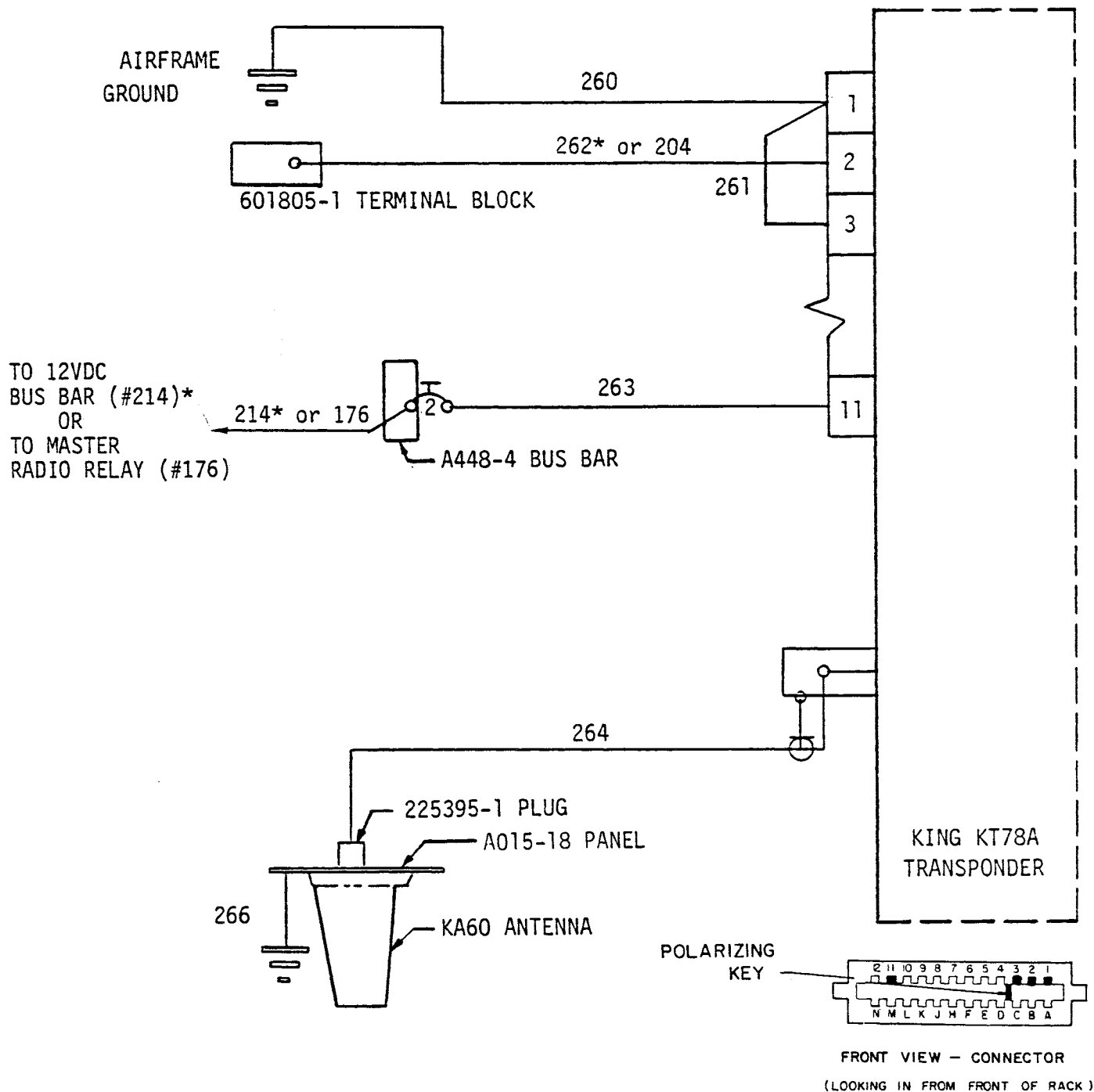


FIGURE 14-14 APOLLO I, II LORAN C RECEIVER

## 14.800 (cont'd)



\*Installed in Earlier Ship S/N's  
See Page 14.14-15

FIGURE 14-15 KING KT76A/78A TRANSPONDER

14.800 (cont'd)

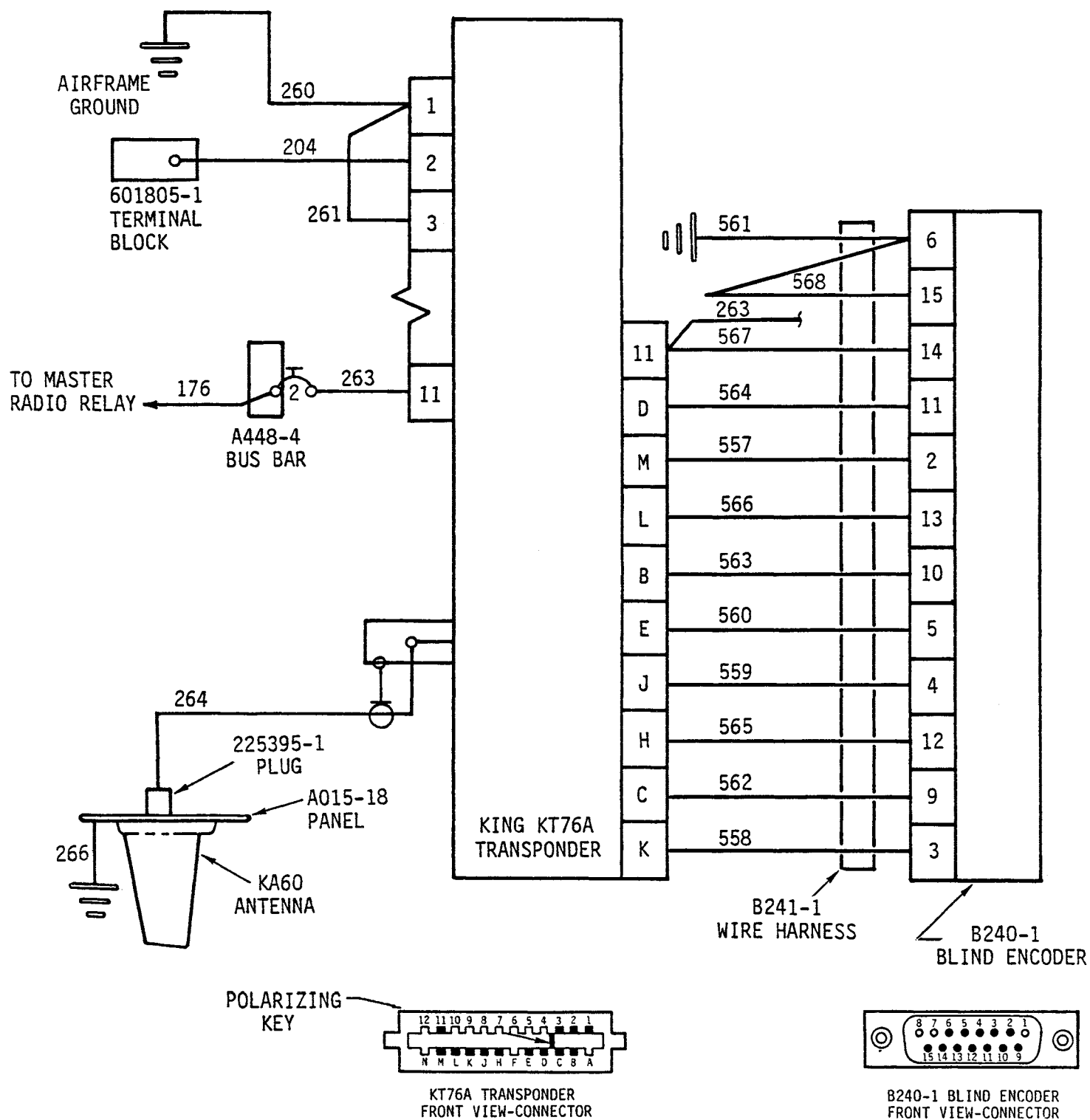
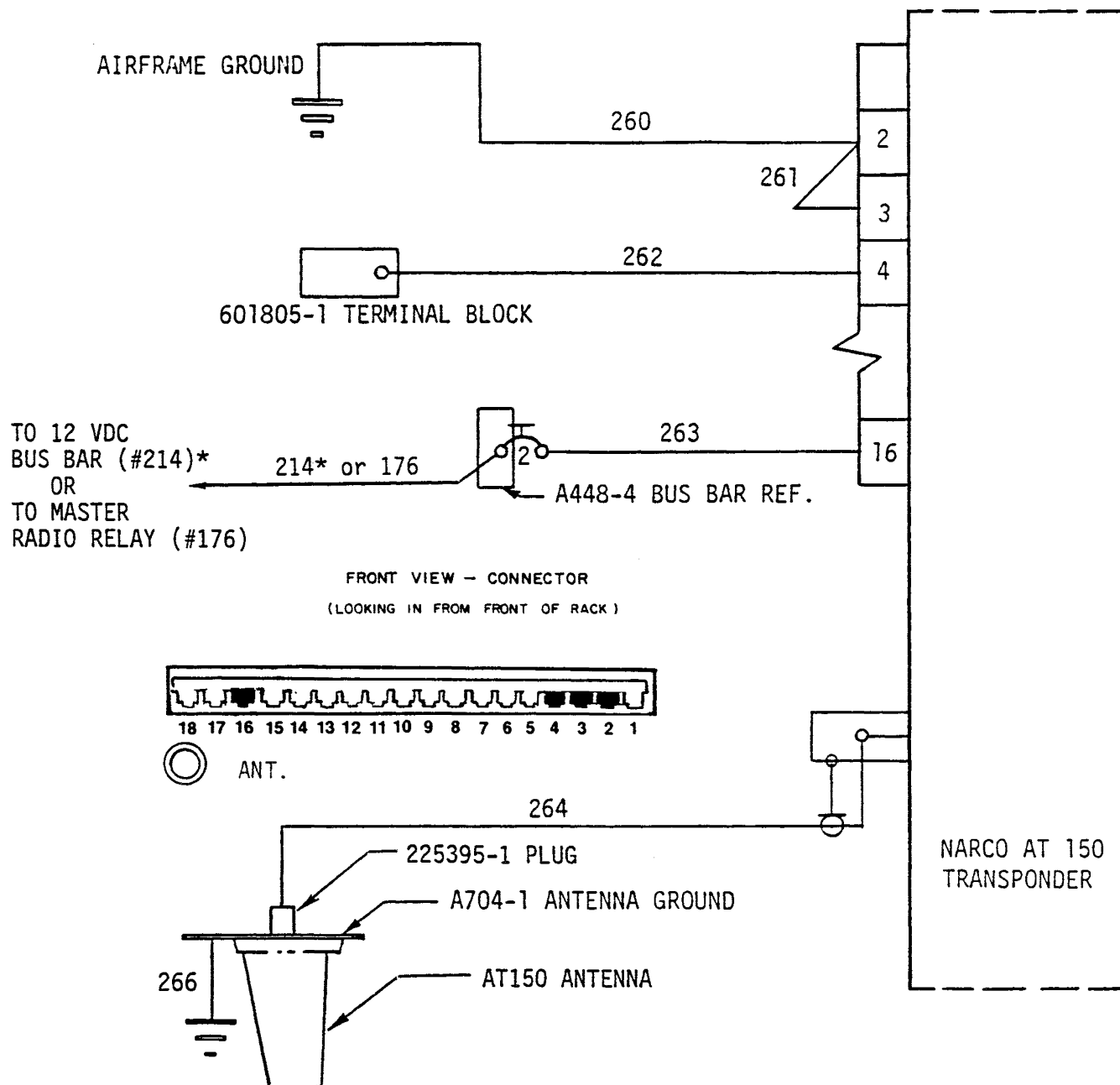


FIGURE 14-16 D120-P2-T BLIND ENCODER/DIGITIZER

## 14.800 (cont'd)

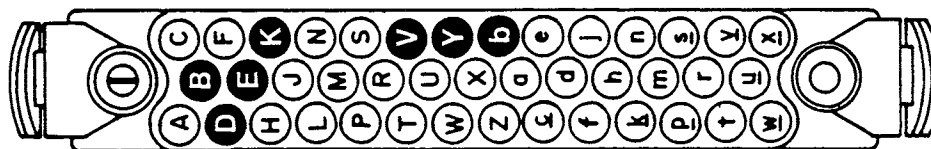


\*Installed in Earlier Ship S/Ns. See Page 14.14-15

FIGURE 14-17 NARCO AT 150 TRANSPONDER

14.800 (cont'd)

FRONT VIEW - CONNECTOR  
(LOOKING IN FROM FRONT OF RACK)



CONNECTOR PIN LOCATIONS

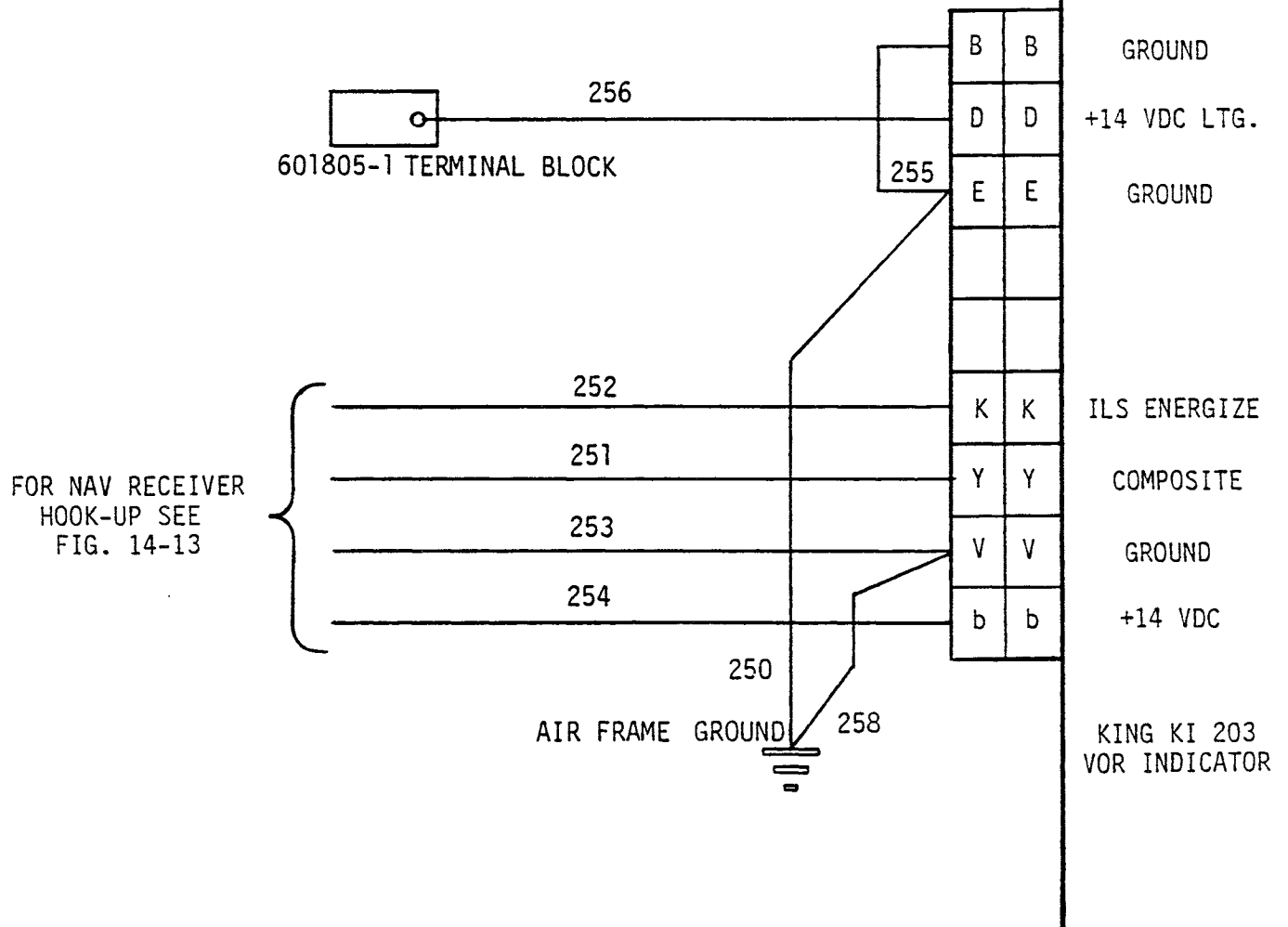


FIGURE 14-18 KING KI 203 VOR INDICATOR  
(Installed Prior to 1/87)

14.800 (cont'd)

FRONT VIEW - CONNECTOR  
(LOOKING IN FROM FRONT OF RACK)

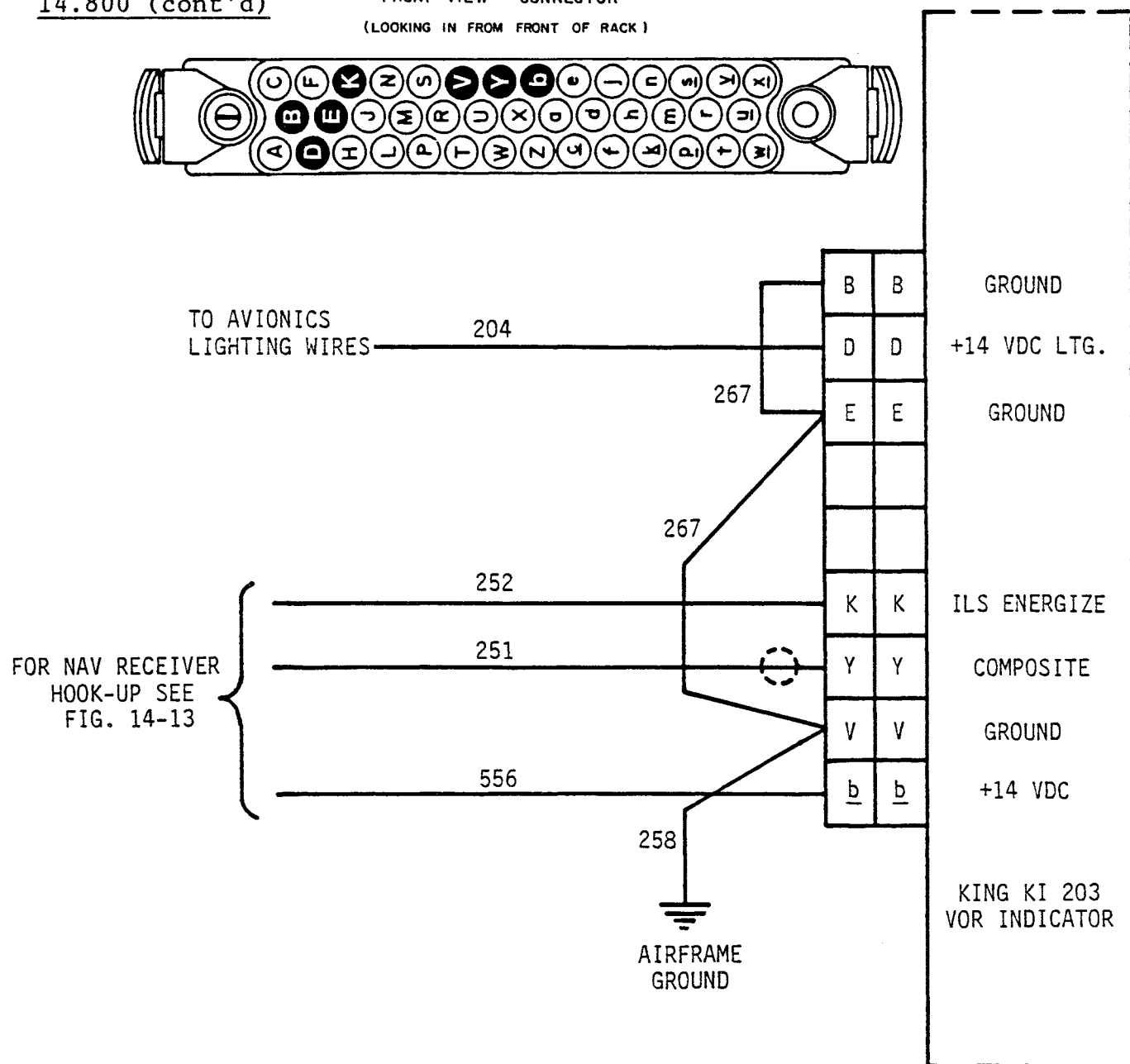


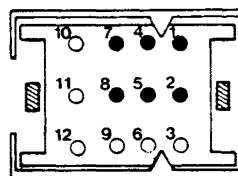
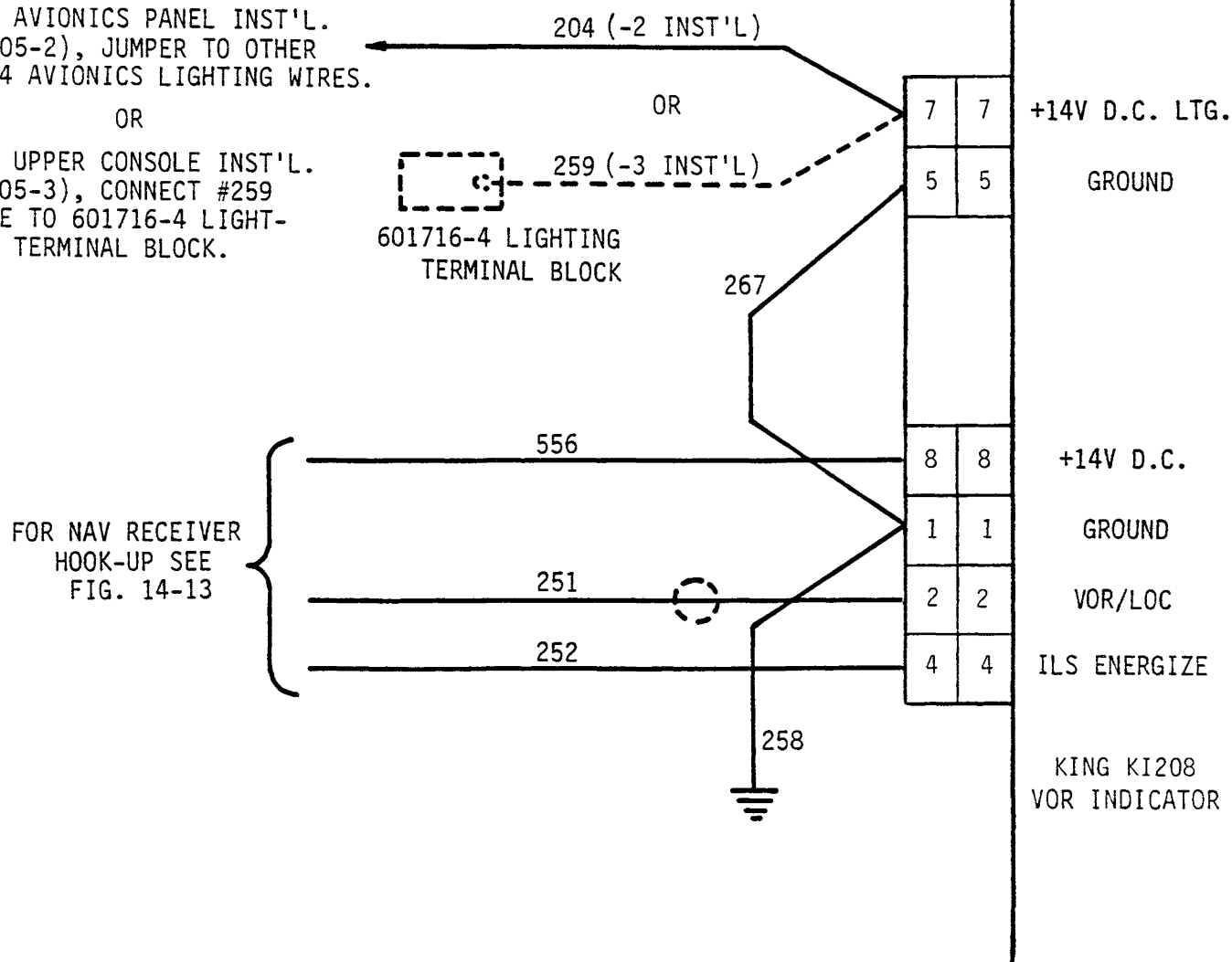
FIGURE 14-19 KING KI203 VOR INDICATOR  
(Installed after 1/87)

## 14.800 (cont'd)

FOR AVIONICS PANEL INST'L.  
(A805-2), JUMPER TO OTHER  
#204 AVIONICS LIGHTING WIRES.

OR

FOR UPPER CONSOLE INST'L.  
(A805-3), CONNECT #259  
WIRE TO 601716-4 LIGHT-  
ING TERMINAL BLOCK.



FRONT VIEW CONNECTOR  
(LOOKING FROM INDICATOR)

FIGURE 14-20 KING KI 208 VOR INDICATOR

14.800 (cont'd)

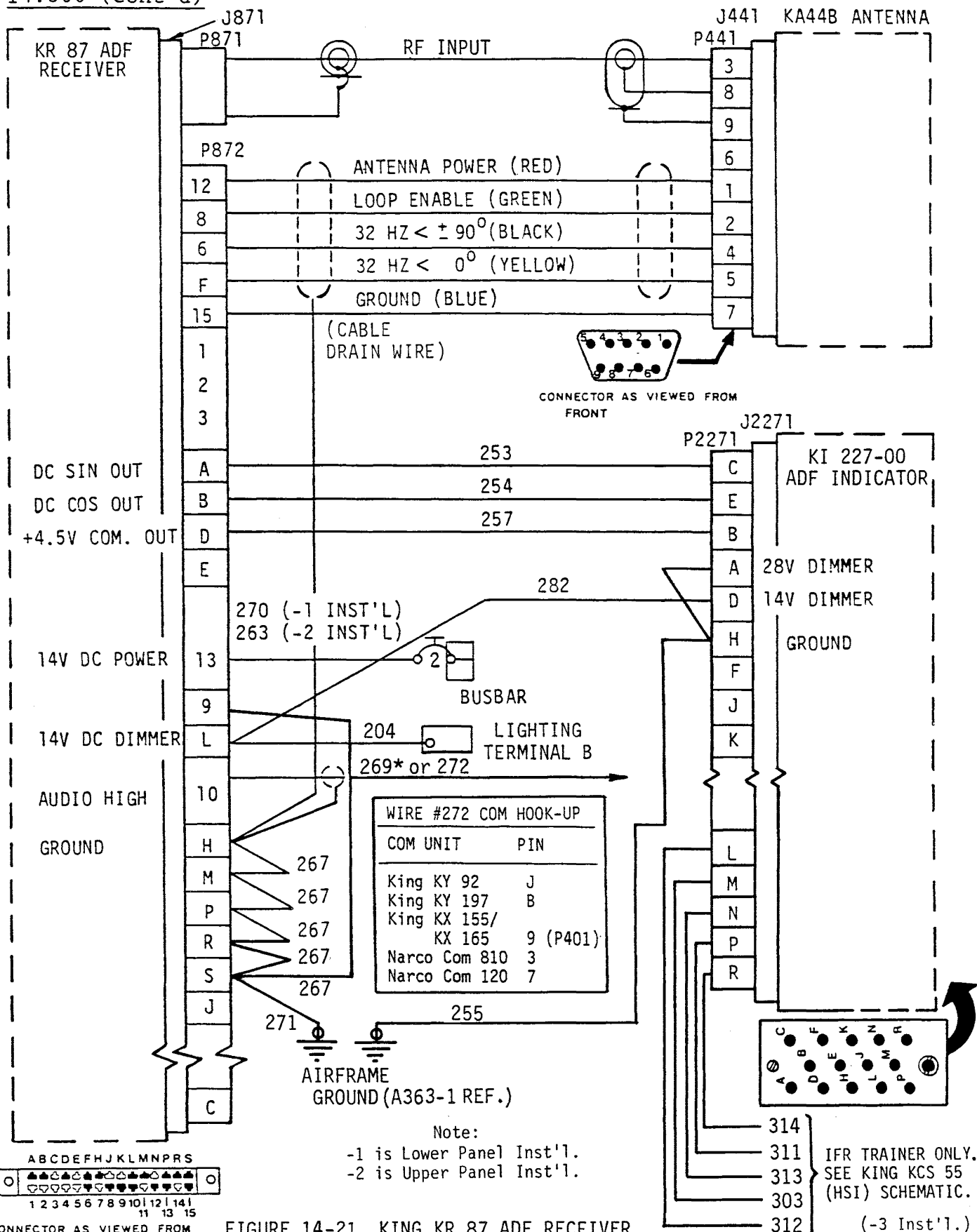
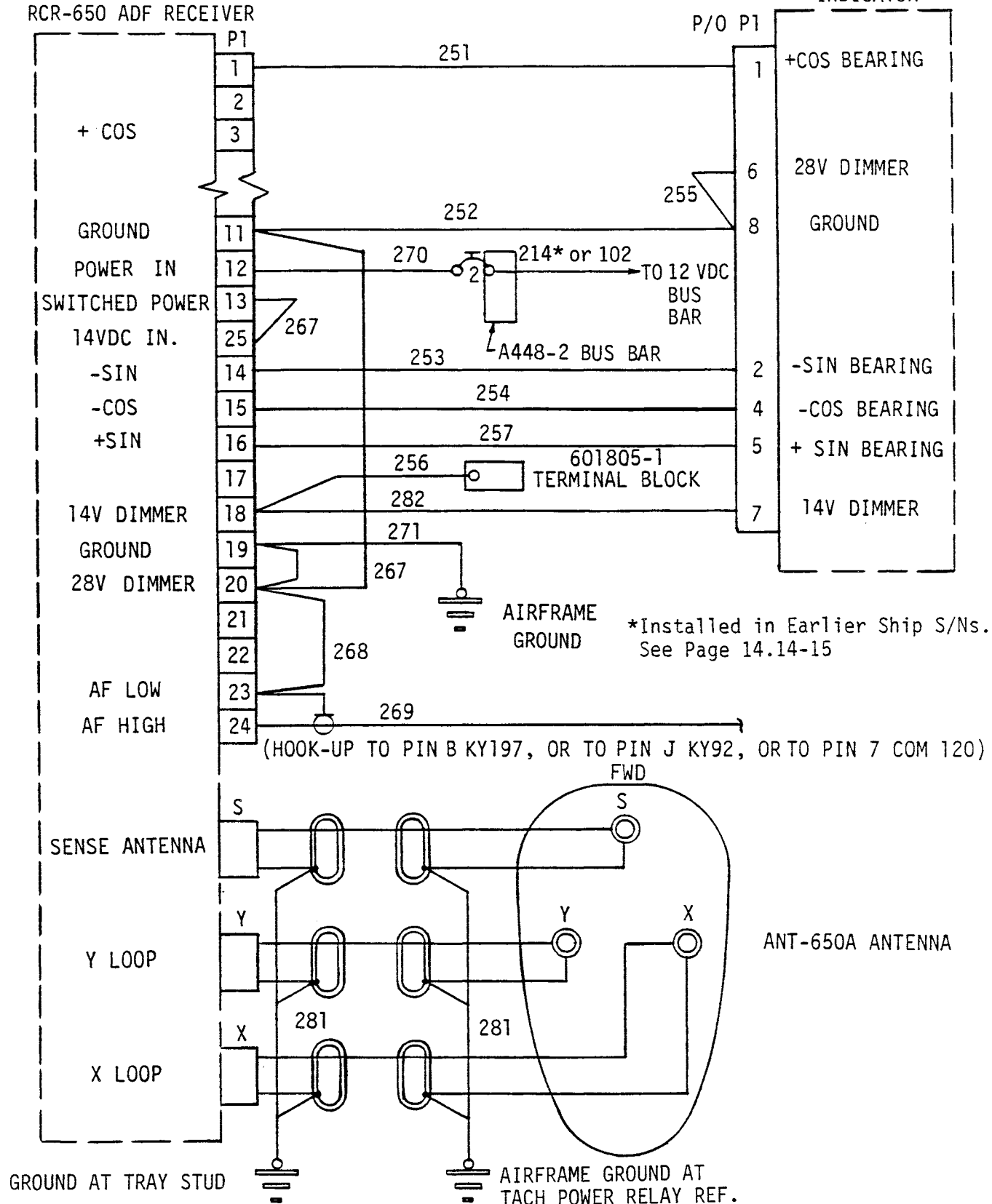


FIGURE 14-21 KING KR 87 ADF RECEIVER

14.800 (cont'd)

RCR-650 ADF RECEIVER

IND-650A ADF  
INDICATOR



14.800 AVIONICS SCHEMATICS (cont'd)

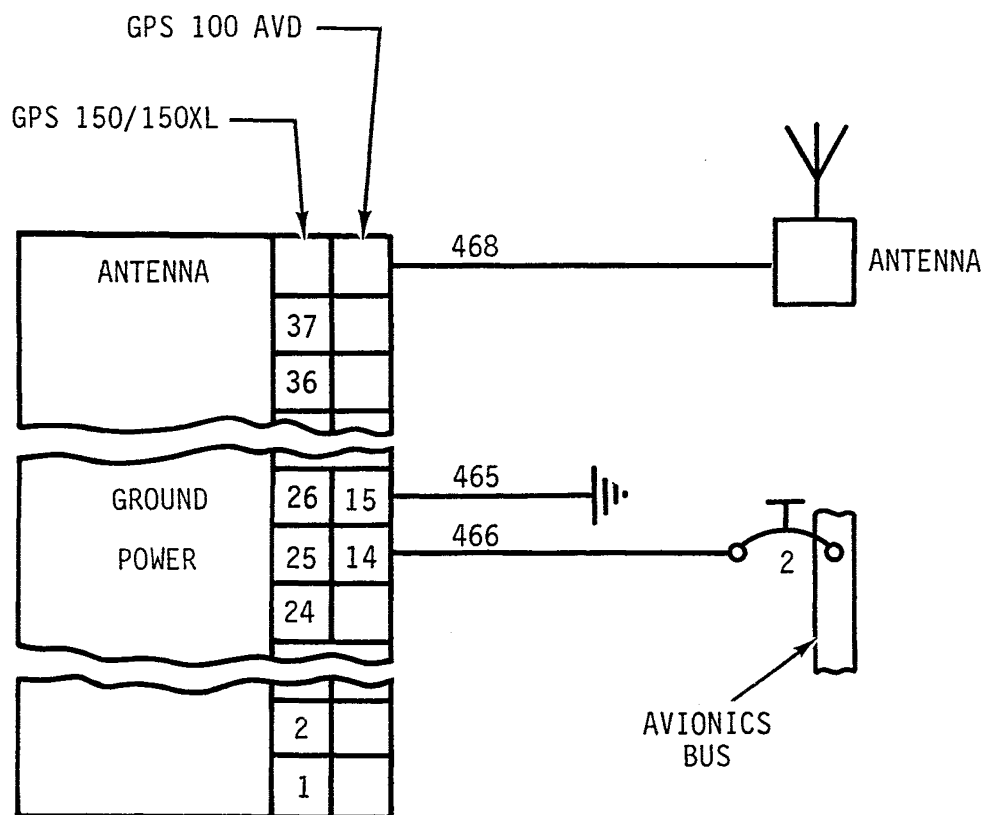


FIGURE 14-22A  
GARMIN GPS 100, 150, and 150XL  
SCHEMATIC

14.800 AVIONICS SCHEMATICS (cont'd)

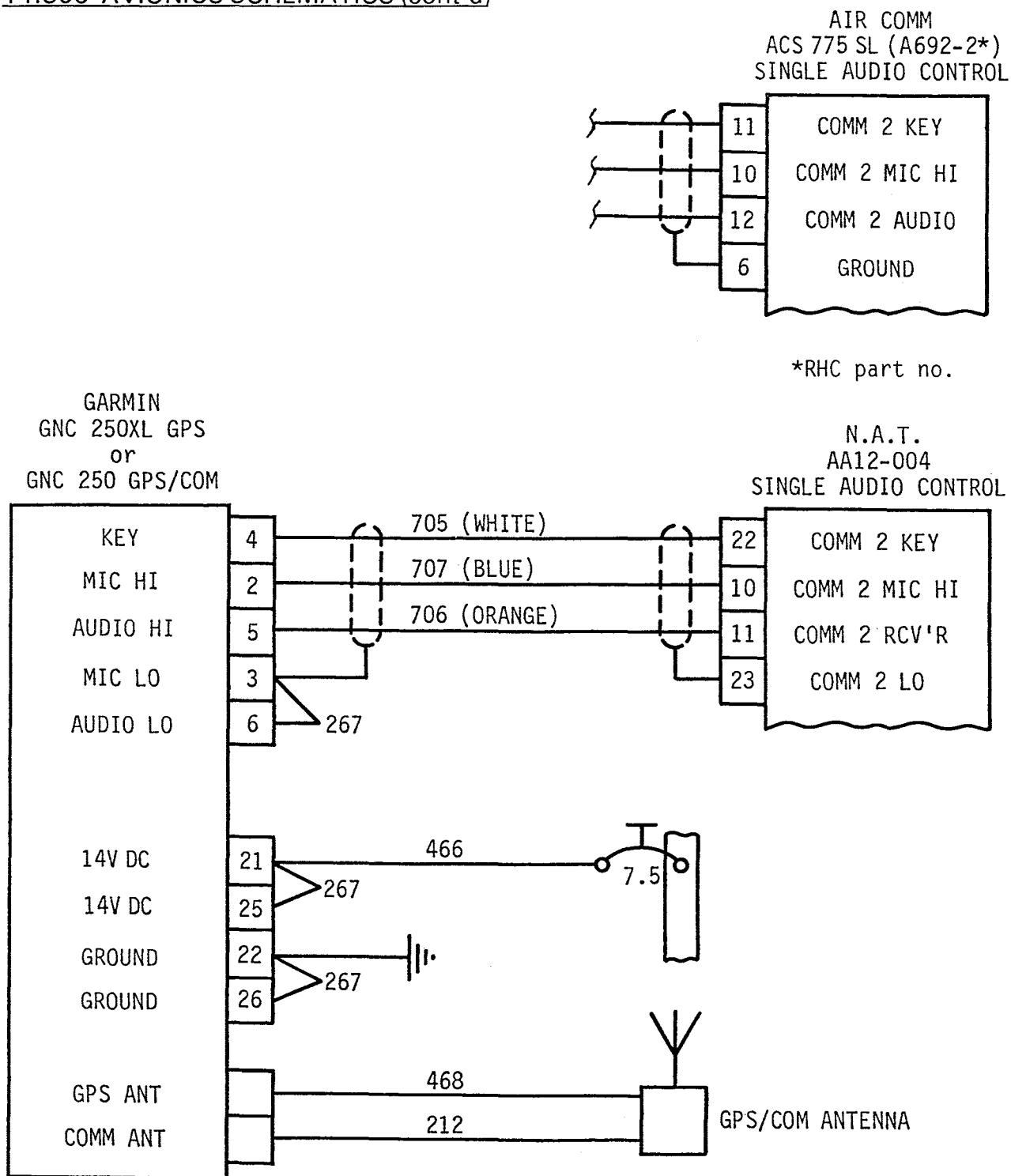


FIGURE 14-22B

GARMIN  
GNC 250XL GPS and GNC 250 GPS/COM  
SCHEMATIC

## 14.800 AVIONICS SCHEMATICS (cont'd)

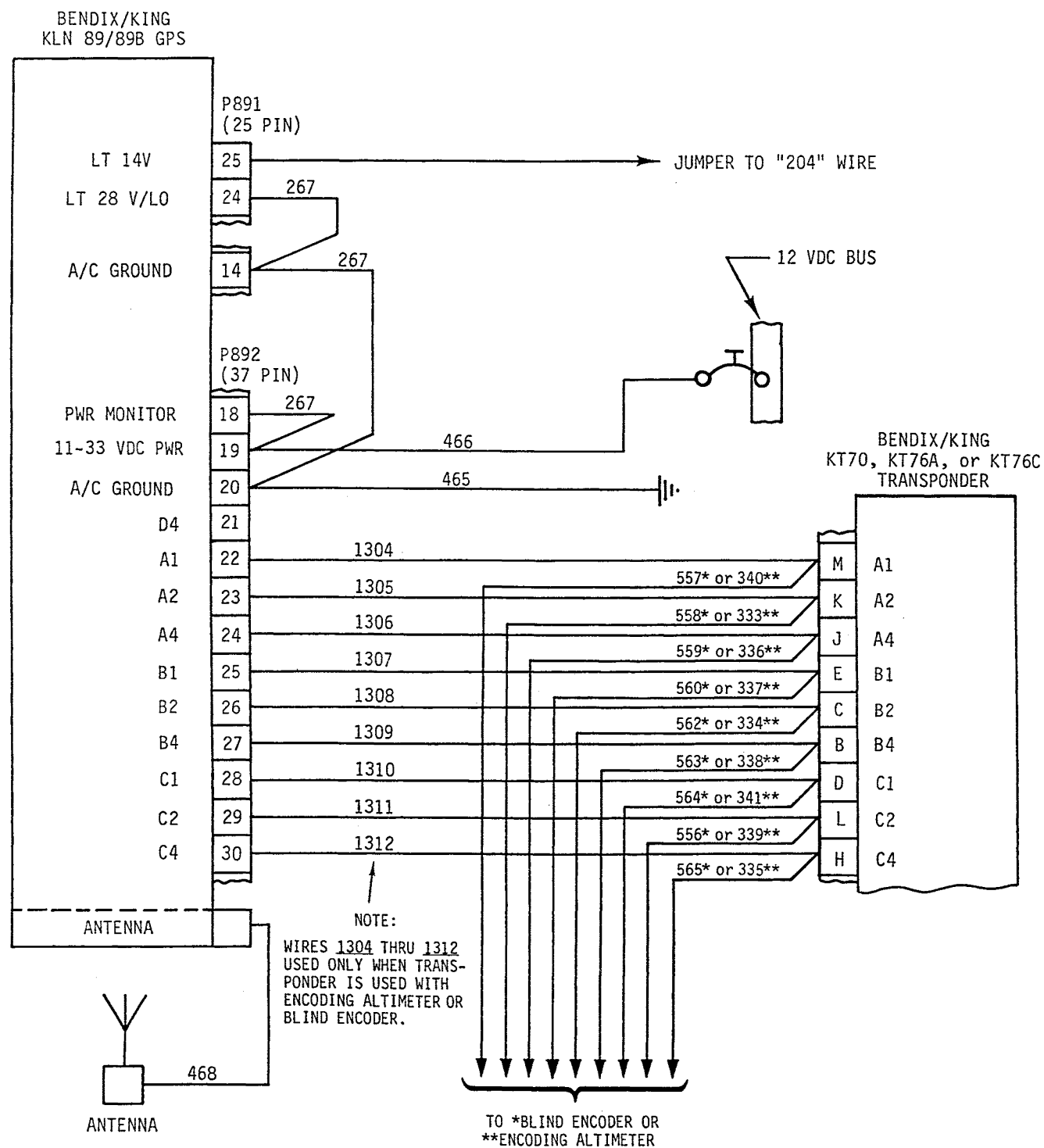
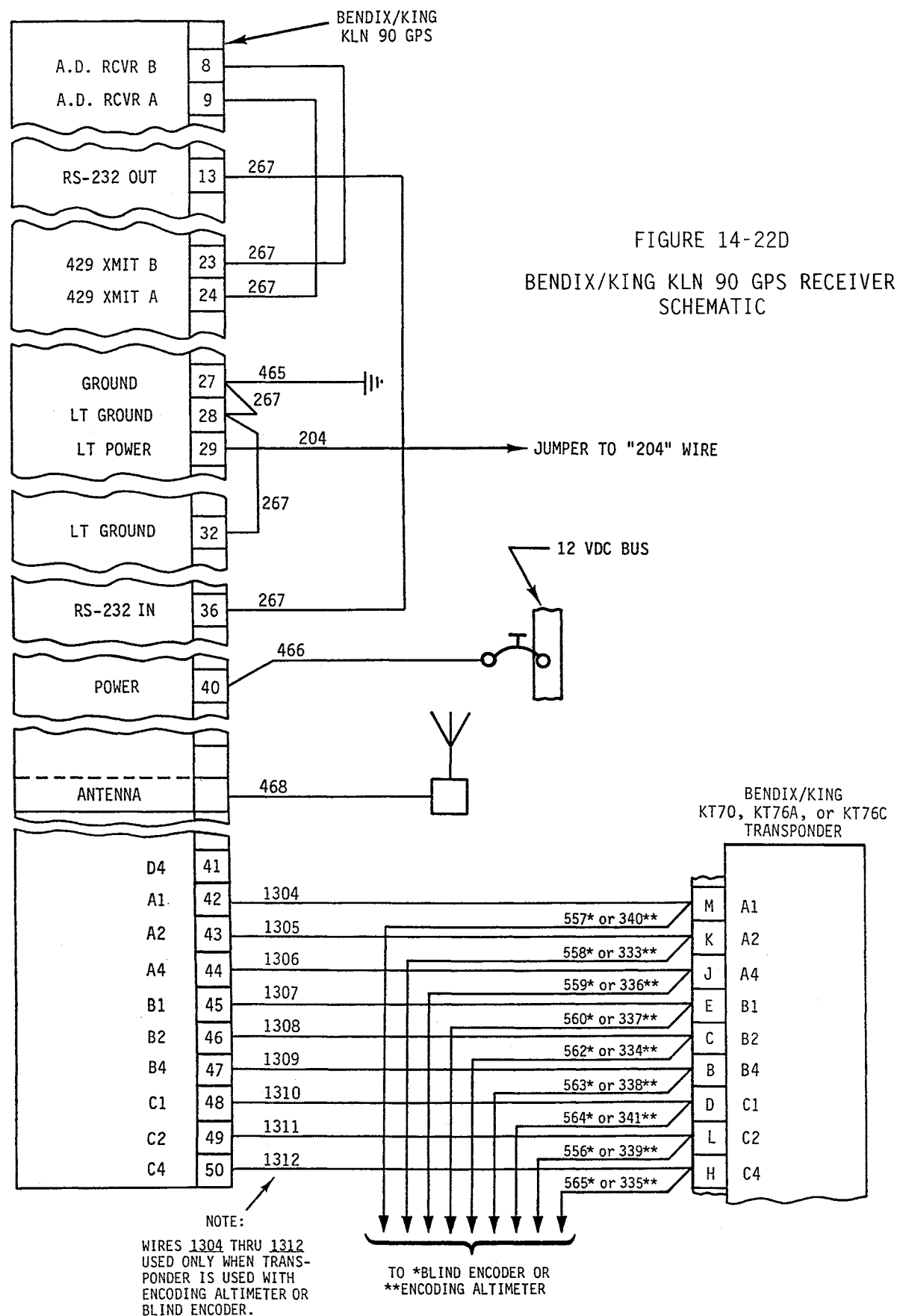


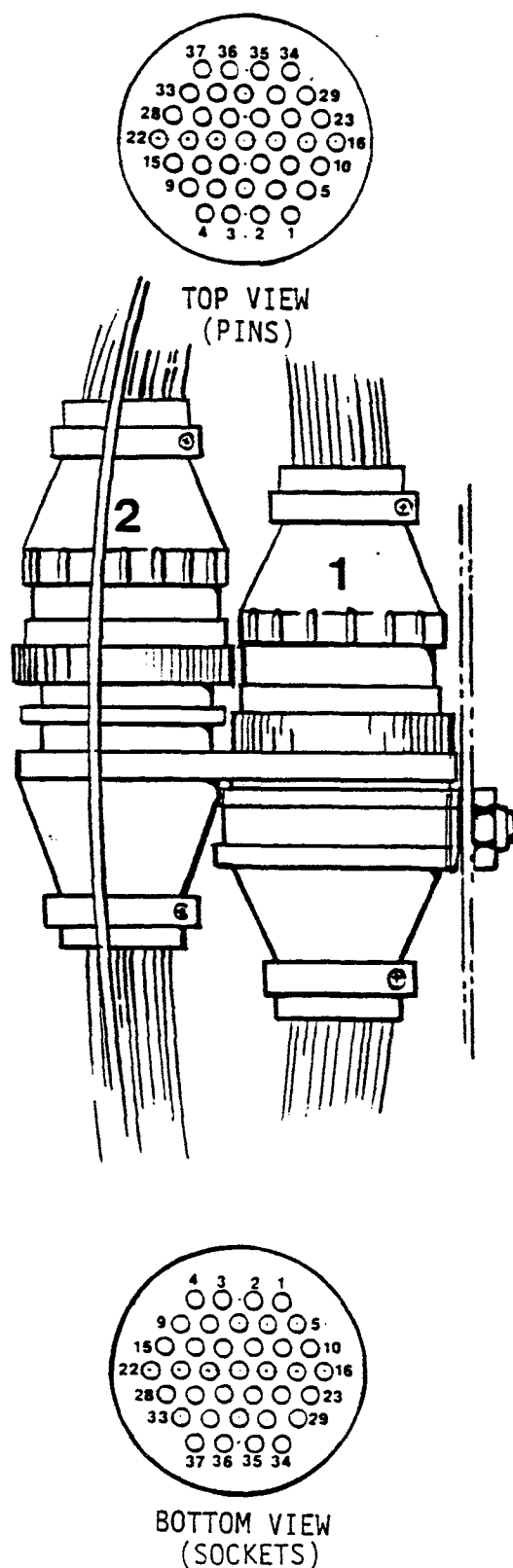
FIGURE 14-22C

BENDIX/KING KLN 89/89B GPS RECEIVER  
SCHEMATIC

## 14.800 AVIONICS SCHEMATICS (cont'd)



## 14.900 UPPER CONSOLE HARNESS PLUGS (STANDARD & HP)



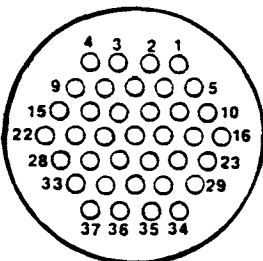
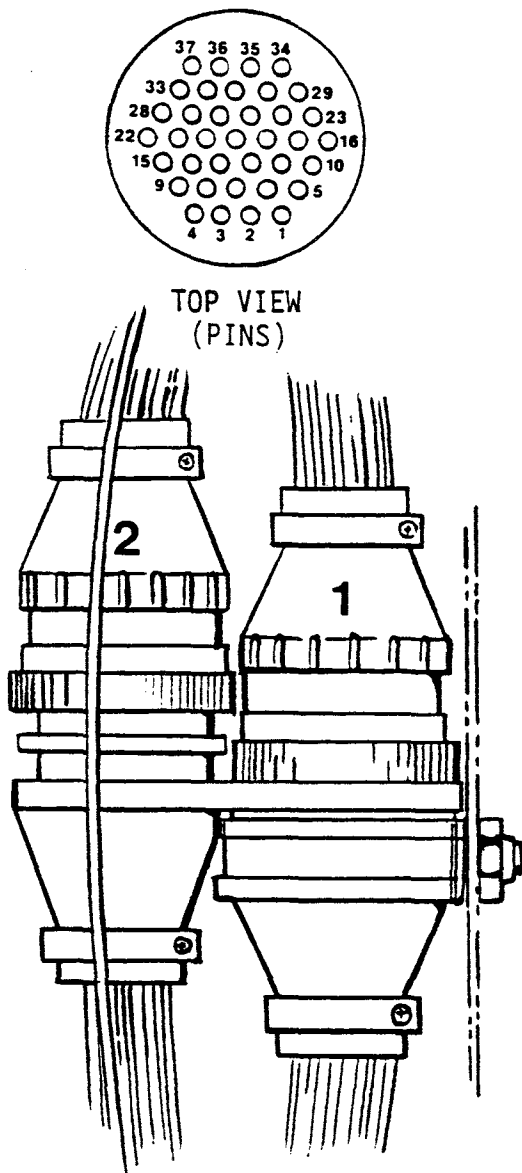
| CONNECTOR 1 |          |
|-------------|----------|
| PIN NO.     | WIRE NO. |
| 1           | A059-2   |
| 2           | A059-3   |
| 3           |          |
| 4           | A059-5   |
| 5           | A059-6   |
| 6           | A059-9   |
| 7           | A059-10  |
| 8           | A059-11  |
| 9           | A059-12  |
| 10          | A059-13  |
| 11          | A059-15  |
| 12          | A059-16  |
| 13          | A059-17  |
| 14          | A059-18  |
| 15          | A059-19  |
| 16          | A059-31  |
| 17          | A059-34  |
| 18          | A059-128 |
| 19          | A059-129 |
| 20          | A059-38  |
| 21          | Spare    |
| 22          | Spare    |
| 23          | Spare    |
| 24          | Spare    |
| 25          | Spare    |
| 26          | Spare    |
| 27          | Spare    |
| 28          | A059-52  |
| 29          | A059     |
| 30          | Spare    |
| 31          | A059-58  |
| 32          | A059-167 |
| 33          | A059-65  |
| 34          | A059-164 |
| 35          | A059-67  |
| 36          | A059-166 |
| 37          |          |

| CONNECTOR 2 |             |
|-------------|-------------|
| PIN NO.     | WIRE NO.    |
| 1           | Spare       |
| 2           | A039-104    |
| 3           | A039-105    |
| 4           | A039-106    |
| 5           | A039-107    |
| 6           | Spare       |
| 7           | A059-163    |
| 8           | A052-127    |
| 9           | A040-70     |
| 10          | A040-71     |
| 11          | A040-72     |
| 12          | A040-74     |
| 13          | A040-75     |
| 14          | A040-76     |
| 15          | A040-83     |
| 16          | A040-81     |
| 17          | A040-82     |
| 18          | A040-80     |
| 19          | A040-84     |
| 20          | Spare       |
| 21          | Spare       |
| 22          | Spare       |
| 23          | Spare       |
| 24          | A053-89     |
| 25          | *           |
| 26          | A060-204    |
| 27          | Spare       |
| 28          | Spare       |
| 29          | Spare       |
| 30          | Spare       |
| 31          | Spare       |
| 32          | Spare       |
| 33          | Spare       |
| 34          | Spare       |
| 35          | Spare       |
| 36          | Spare       |
| 37          | Or Avionics |

\* INSTALL DRAIN WIRE OF THREE-CONDUCTOR CABLE (WIRES -80,-81,-82) AT NOTED PIN.

FIGURE 14-23 UPPER CONSOLE HARNESS PLUGS

## 14.900 UPPER CONSOLE HARNESS PLUGS (ALPHA & SUBSEQUENT)



BOTTOM VIEW  
(SOCKETS)

| CONNECTOR 1 |          |
|-------------|----------|
| PIN NO.     | WIRE NO. |
| 1           | A059-2   |
| 2           | A059-3   |
| 3           | Spare    |
| 4           | A059-5   |
| 5           | A059-6   |
| 6           | A059-9   |
| 7           | A059-10  |
| 8           | A059-11  |
| 9           | A059-12  |
| 10          | A059-13  |
| 11          | A059-15  |
| 12          | A059-16  |
| 13          | A059-17  |
| 14          | A059-18  |
| 15          | A059-19  |
| 16          | A059-31  |
| 17          | A059-34  |
| 18          | A059-128 |
| 19          | A059-129 |
| 20          | A059-38  |
| 21          | Spare    |
| 22          | B043-416 |
| 23          | A059-513 |
| 24          | Spare    |
| 25          | Spare    |
| 26          | Spare    |
| 27          | Spare    |
| 28          | A059-52  |
| 29          | Spare    |
| 30          | Spare    |
| 31          | A059-58  |
| 32          | Spare    |
| 33          | A059-65  |
| 34          | A059-164 |
| 35          | Spare    |
| 36          | A059-166 |
| 37          | Spare    |

| CONNECTOR 2 |          |
|-------------|----------|
| PIN NO.     | WIRE NO. |
| 1           | A059-199 |
| 2           | A039-104 |
| 3           | A039-105 |
| 4           | A039-106 |
| 5           | A039-107 |
| 6           | A059-101 |
| 7           | A059-163 |
| 8           | A052-127 |
| 9           | A040-70  |
| 10          | A040-71  |
| 11          | A040-72  |
| 12          | A040-74  |
| 13          | A040-75  |
| 14          | A040-76  |
| 15          | A040-83  |
| 16          | A040-81  |
| 17          | A040-82  |
| 18          | A040-80  |
| 19          | A040-84  |
| 20          | Spare    |
| 21          | Spare    |
| 22          | Spare    |
| 23          | Spare    |
| 24          | Spare    |
| 25          | *        |
| 26          | A060-204 |
| 27          | A059-28  |
| 28          | A059-66  |
| 29          | A059-67  |
| 30          | A053-90  |
| 31          | A053-91  |
| 32          | A053-94  |
| 33          | A053-95  |
| 34          | Spare    |
| 35          | A039-138 |
| 36          | Spare    |
| 37          | Spare    |

\* INSTALL DRAIN WIRE OF THREE-CONDUCTOR CABLE (WIRES -80,-81,-82) AT NOTED PIN.

FIGURE 14-23A UPPER CONSOLE HARNESS PLUGS

14.1000 IFR TRAINER
14.1010 IFR Trainer Component Loads
Continuously-Powered Equipment:

| <u>Power &amp; Accessories</u> | <u>Part Number</u> | <u>Qty.</u> | <u>Max.<br/>Amps<br/>Each</u> | <u>Total<br/>Amps</u> |
|--------------------------------|--------------------|-------------|-------------------------------|-----------------------|
| Battery relay                  | 70-906             | 1           | .75                           | .75                   |
| Alternator control             | VR418-1            | 1           | 4.0                           | 4.0                   |
| Master radio relay             | W389CX-2           | 1           | .13                           | .13                   |
| <u>Night Lights</u>            |                    |             |                               |                       |
| Anti-Collision light           | A470               | 1           | 3.2                           | 3.2                   |
| Position lights                | A7512/1777         | 3           | 2.2                           | 6.6                   |
| Instrument lights              | 330                | 9           | .08                           | .72                   |
| <u>Instruments</u>             |                    |             |                               |                       |
| Engine gage cluster            | A617/B144          | 1           | .50/60                        | .50/60                |
| Dual tachometer                | A792-1             | 1           | .10                           | .10                   |
| Hourmeter                      | 773                | 1           | .03                           | .03                   |
| Carb Air temp                  | A604               | 1           | .13                           | .13                   |
| Ammeter shunt                  | MLS-60-100         | 1           | .50                           | .50                   |
| Digital OAT gage               | 310-2              | 1           | .13                           | .13                   |
| <u>Miscellaneous</u>           |                    |             |                               |                       |
| Heater blower                  | A643-1             | 1           | 7.5                           | 7.5                   |
| TOTAL =                        |                    |             |                               | 24.29                 |

Complete Avionics Panel for Instrument Trainer

|                    |        |   |      |       |
|--------------------|--------|---|------|-------|
| COM/NAV Receiver   | KX165  | 1 | .70  | .70   |
| NAV Receiver       | NAV121 | 1 | .87  | .87   |
| Transponder        | KT76A  | 1 | 1.80 | 1.80  |
| ADF                | KR87   | 1 | 1.24 | 1.24  |
| Horizon ref ind    | AIM500 | 1 | 1.80 | 1.80  |
| Marker beacon      | KR22   | 1 | .50  | .50   |
| Turn coordinator   | 303700 | 1 | .50  | .50   |
| Encoding altimeter | KE127  | 1 | .12  | .12   |
| HSI                | KI525A | 1 | .23  | .23   |
| Gyro               | KG102A | 1 | 3.0  | 3.0   |
| TOTAL =            |        |   |      | 10.76 |

14.1010 IFR Trainer Component Loads (cont'd)
Intermittently-Powered Equipment:

| <u>Starting Accessories</u> | <u>Part Number</u> | <u>Qty.</u> | <u>Max<br/>Amps<br/>Each</u> | <u>Total<br/>Amps</u> |
|-----------------------------|--------------------|-------------|------------------------------|-----------------------|
| Starter relay               | SAZ4201E           | 1           | 4.5                          | 4.5                   |
| Starting vibrator           | 10-176487-121      | 1           | 2.5                          | 2.5                   |
| Starter motor               | MZ4224             | 1           | 150                          | 150                   |

Drive System

|                       |         |   |     |     |
|-----------------------|---------|---|-----|-----|
| Belt tension actuator | 5A505-3 | 1 | 1.2 | 1.2 |
|-----------------------|---------|---|-----|-----|

Lights

|                |      |   |     |      |
|----------------|------|---|-----|------|
| Warning lights | 330  | 8 | .08 | .64  |
| Landing lights | 4509 | 2 | 7.7 | 15.4 |

Miscellaneous

|                      |                  |   |     |      |
|----------------------|------------------|---|-----|------|
| Map light            | A-1425A-2-12     | 1 | .58 | *,58 |
| Landing light relay  | MB-1380          | 1 | .20 | .20  |
| Low RPM horn & relay | 16004042-W101PCX | 1 | .35 | .35  |

TOTAL =\*16.18

Instrument Trainer Avionics

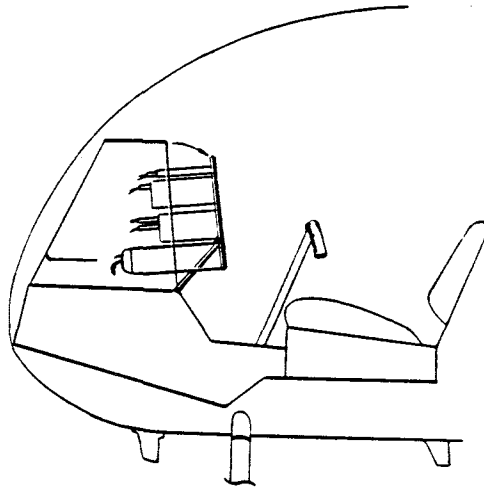
|                 |       |   |      |      |
|-----------------|-------|---|------|------|
| COM Transmitter | KX165 | 1 | *6.8 | *6.8 |
|-----------------|-------|---|------|------|

## 14.1020 IFR Trainer Console Access

Pull circuit breakers on all gyro instruments and allow 5 minutes for gyro run down to prevent gyro damage.

See R22 operator manual for caging instructions upon power application.

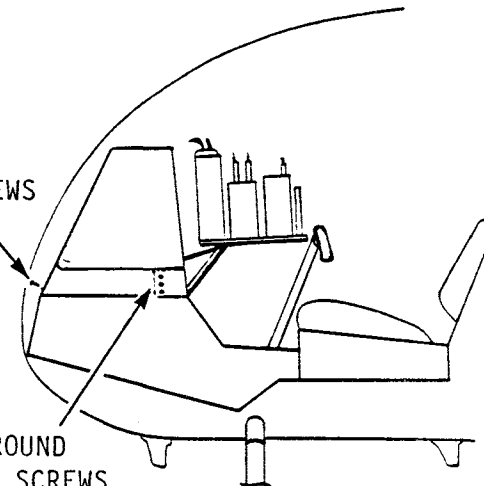
Remove (6) screws holding faceplate to console and carefully pull faceplate and instruments forward.



With cyclic full aft, instrument faceplate will now rotate to a horizontal position for access to back of instruments.

ALLEN SCREWS

GROUND  
PLATE SCREWS



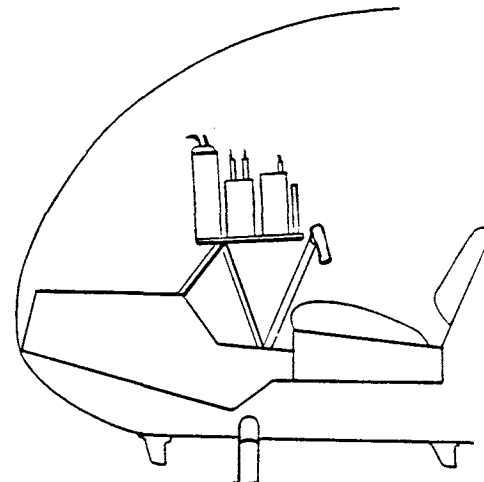
If console shell needs to be removed for access, place support under faceplate as shown.

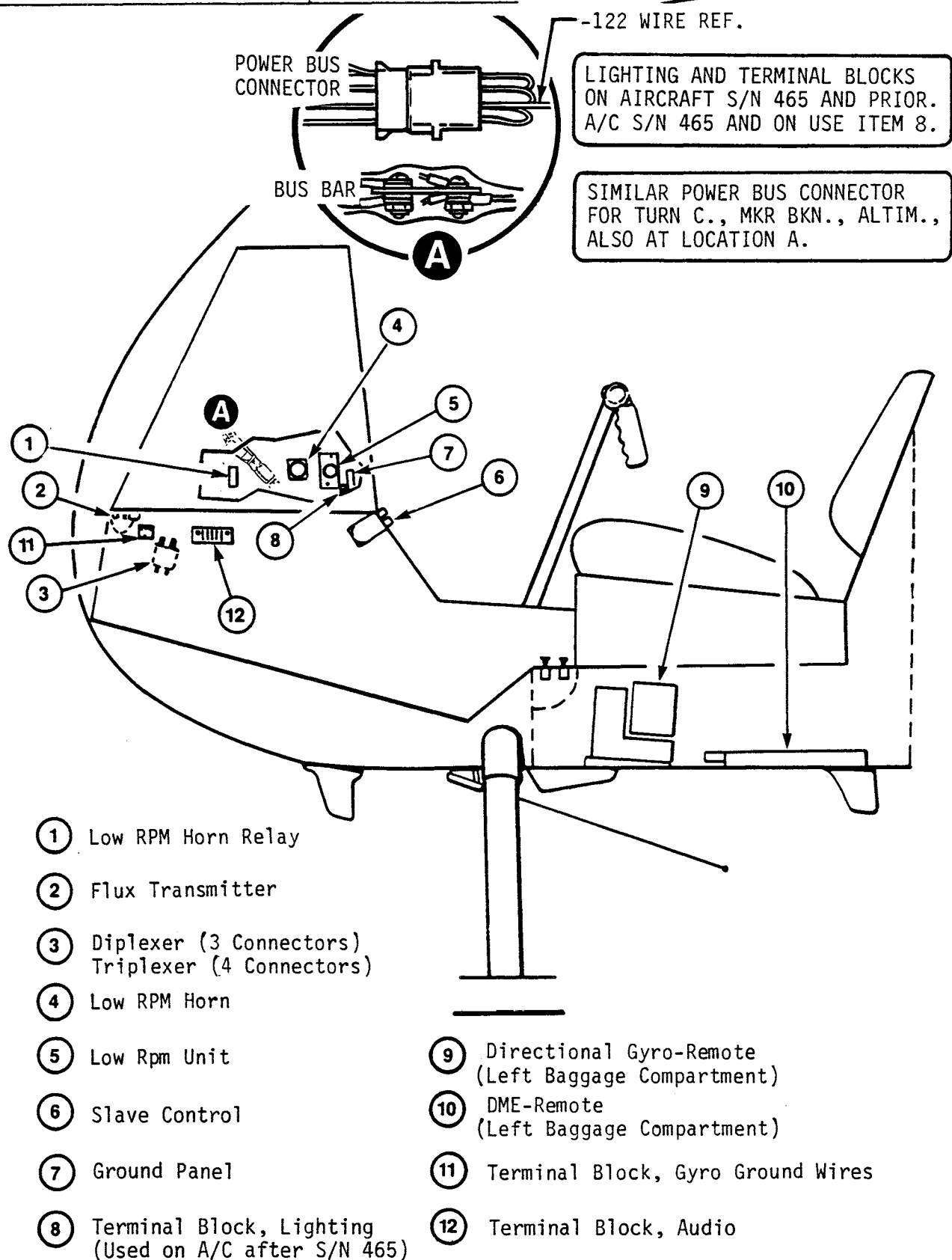
Remove three ground plate screws from each side of console.

Remove two allen head screws in nose of console. Remove two screws from each side of console.

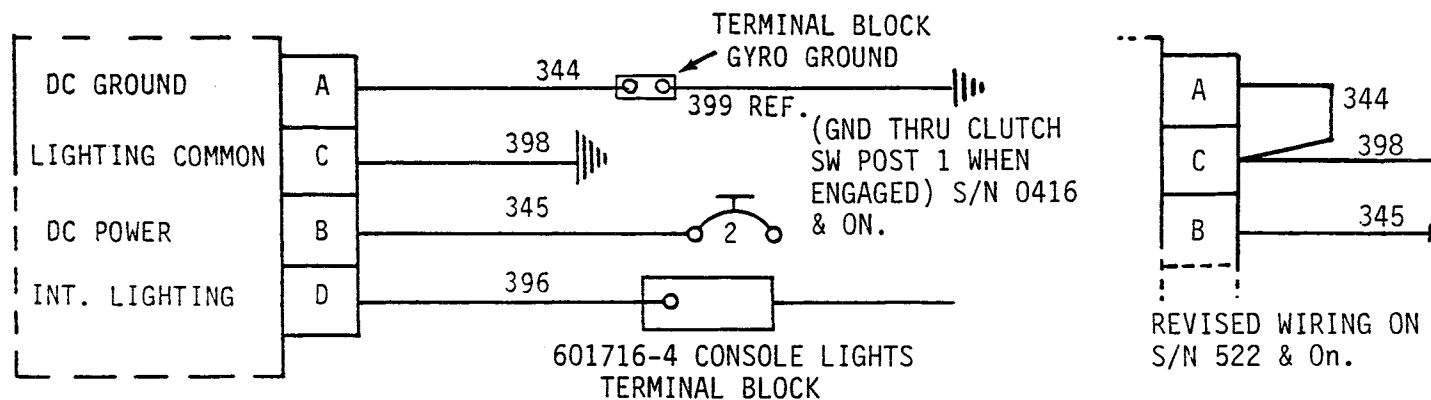
Disconnect wiring from horn, horn relay, and low RPM unit attached to console shell.

Carefully remove console shell.

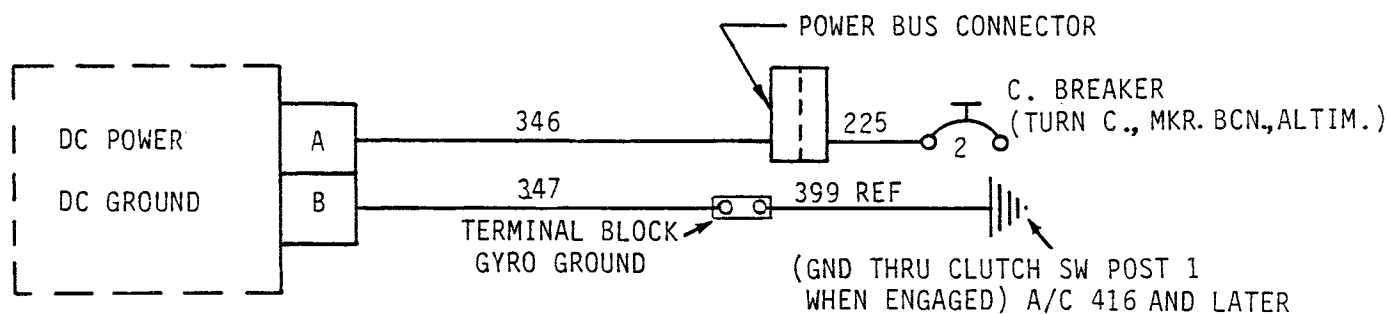


**14.1030 IFR Trainer Component Location**


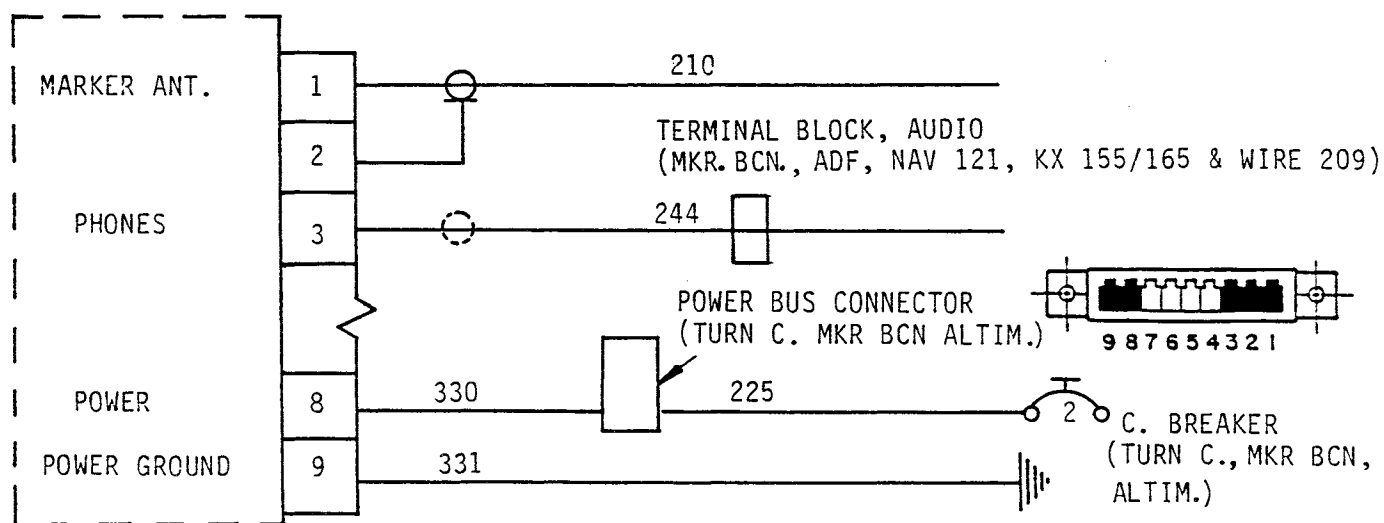
## 14.1040 IFR Trainer Avionics Schematics



AIM 500 HORIZONTAL REFERENCE INDICATOR

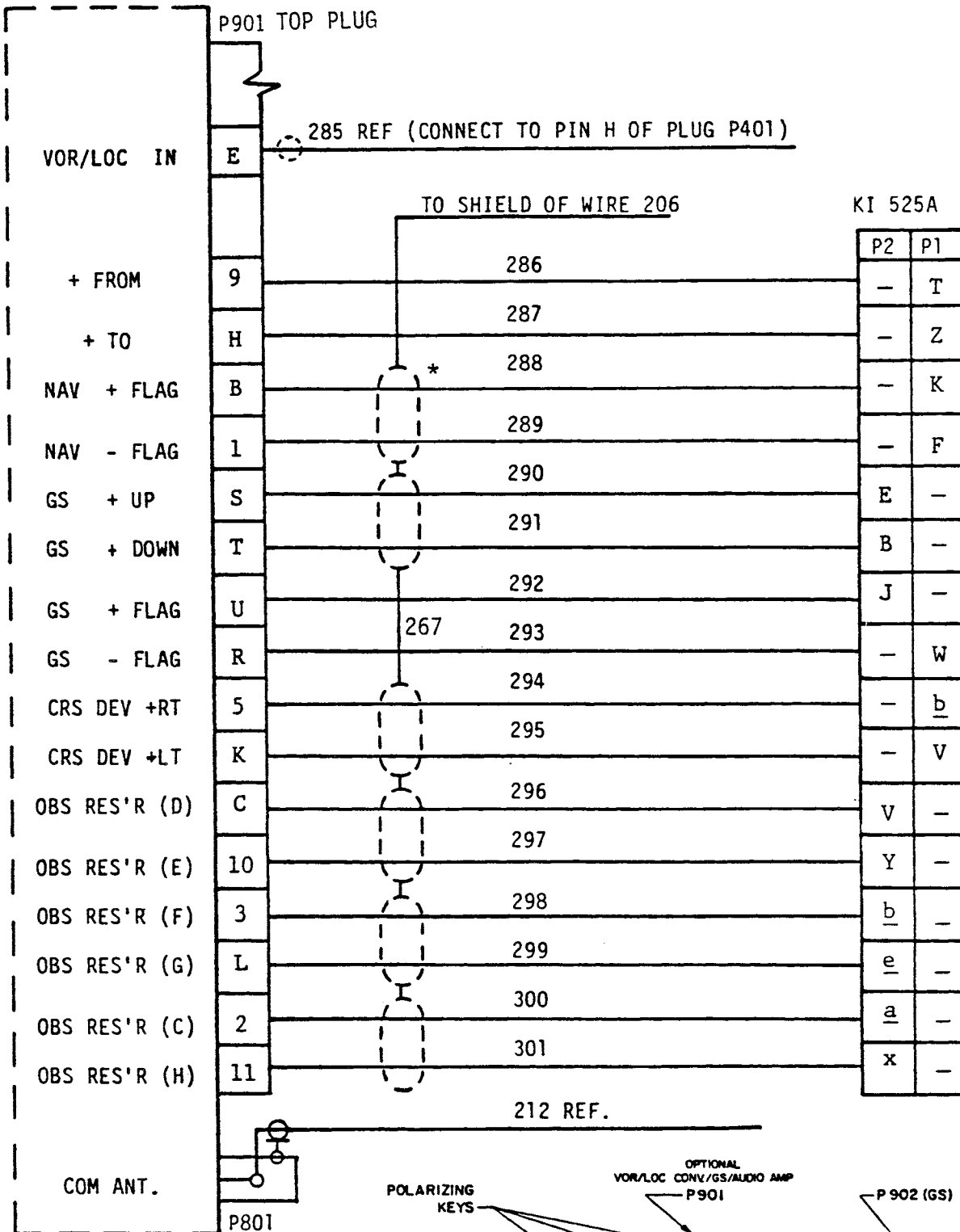


ASTRONAUTICS 303700 TURN COORDINATOR



KING KR 22 MARKER BEACON

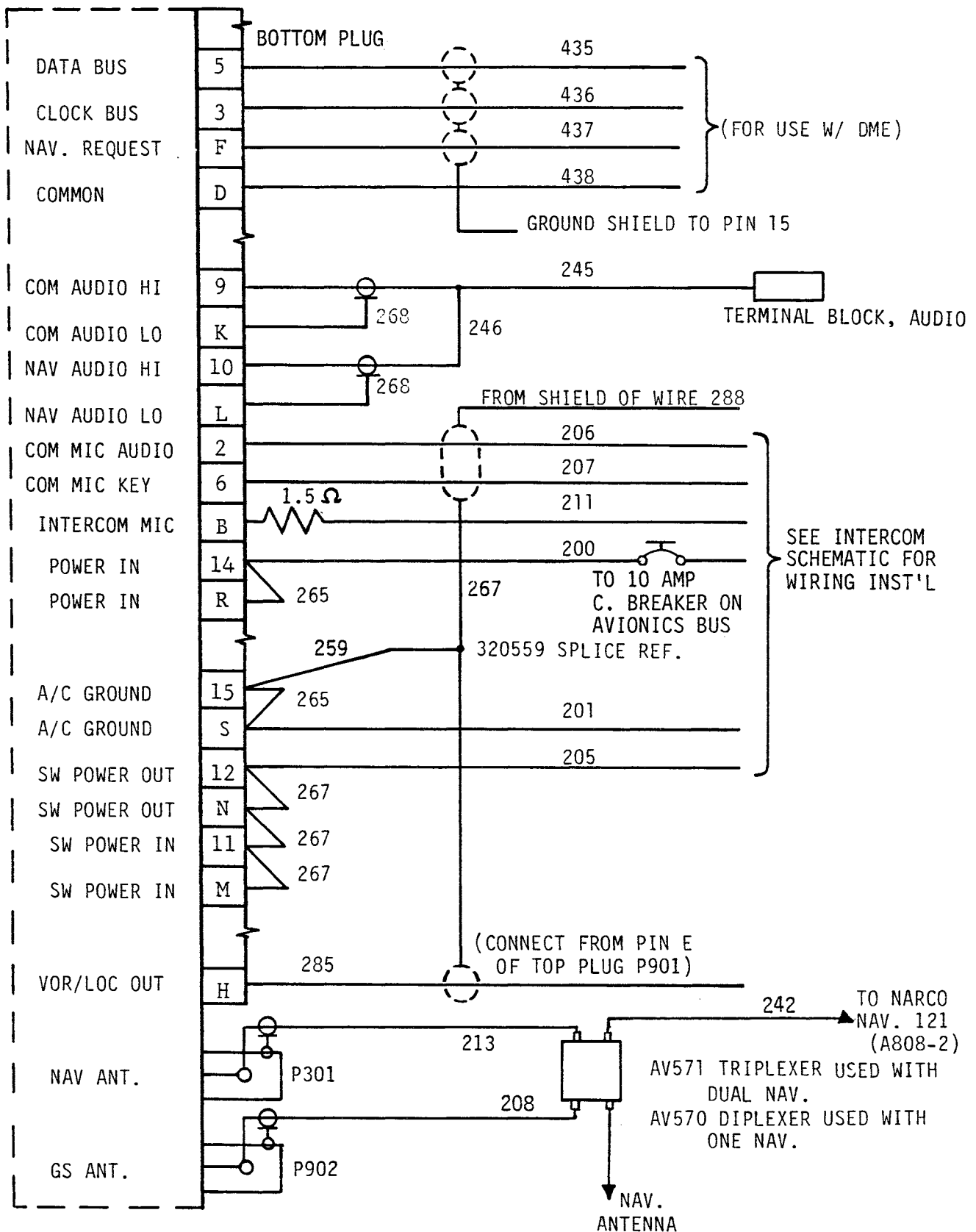
14.1040 (cont'd)



\*This Shield Installed on Earlier Ship S/Ns.

14.1040 (cont'd)

P401



## 14.1040 (cont'd)

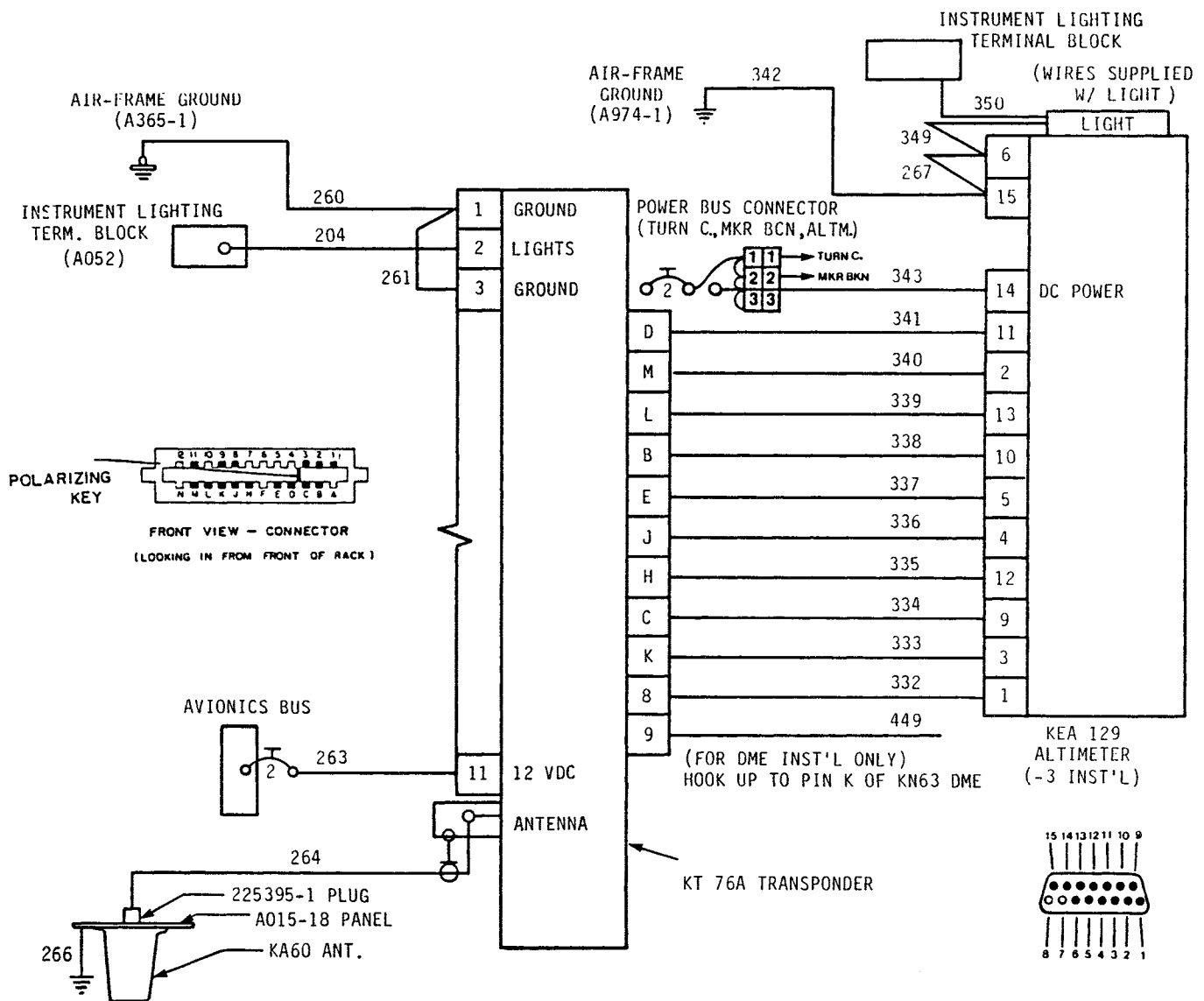


FIGURE 14-27 KING KT76A TRANSPONDER  
WITH  
KING KEA 129 ENCODING ALTIMETER

## 14.1040 (cont'd)

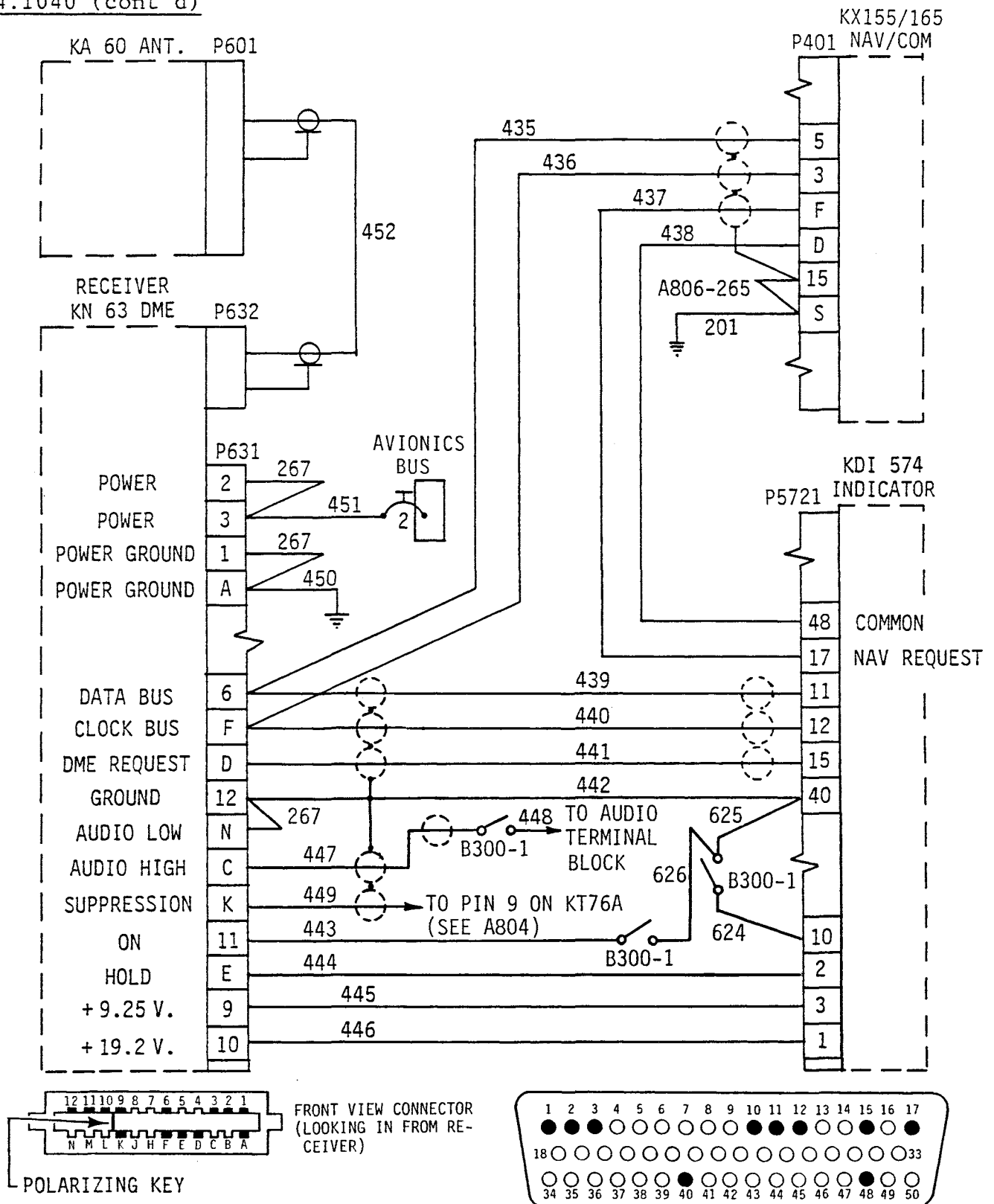


FIGURE 14-28 KING KN63 DME

KDI 574 CONNECTOR P5741/ J5741 PIN 5 KEYED  
PIN VIEW OF MALE OR SOLDER CUP VIEW OF FEMALE CONNECTOR.

14.1040 (cont'd)

VHF NAV/COM  
TRANSCIVER  
KX 165

P 901

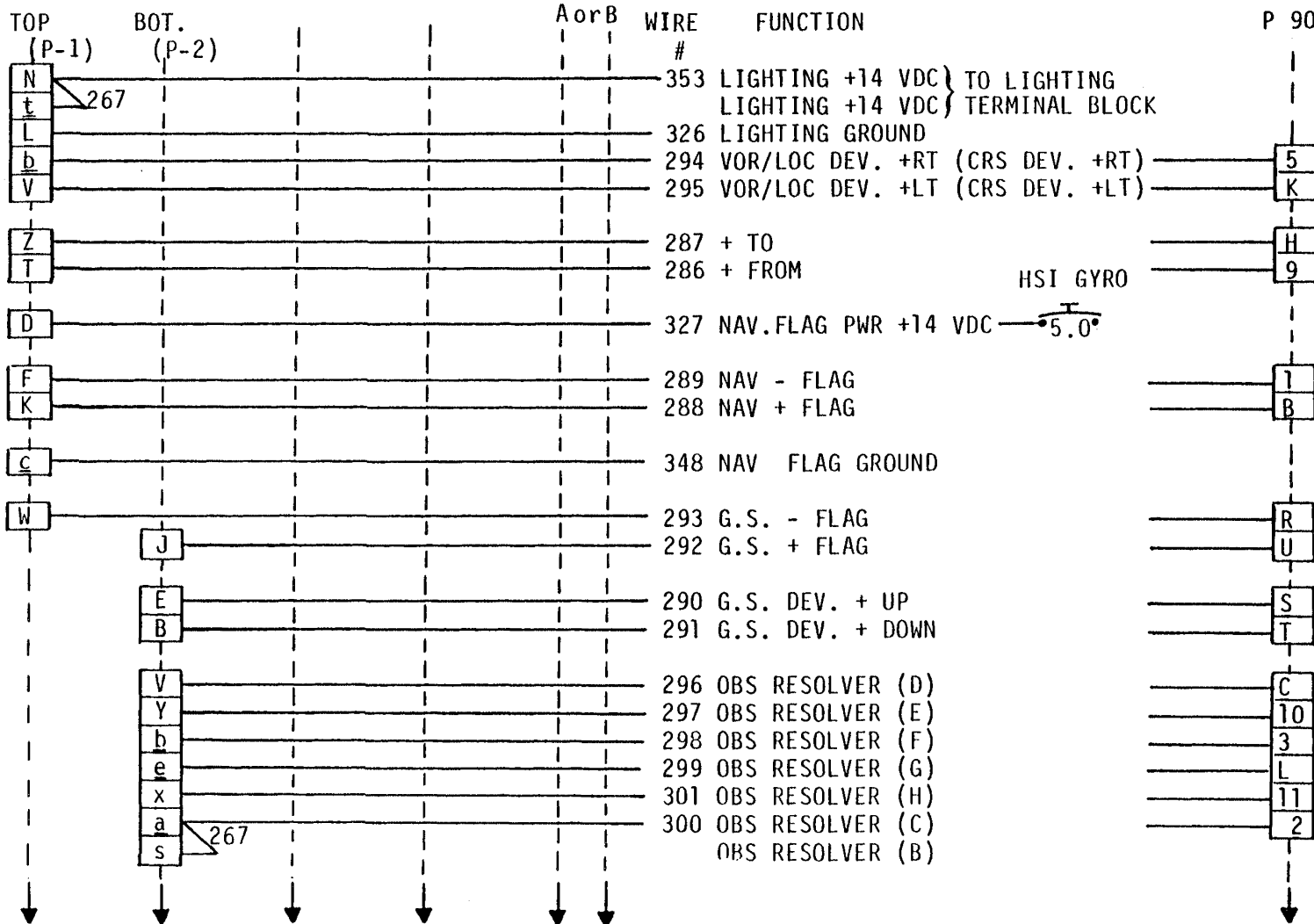
ADF INDICATOR  
KI 227-01

PICTORIAL NAV  
IND. (HSI)  
KI 525A

DIRECTIONAL  
GYRO  
KG 102A

FLUX  
XMTR  
KMT 112

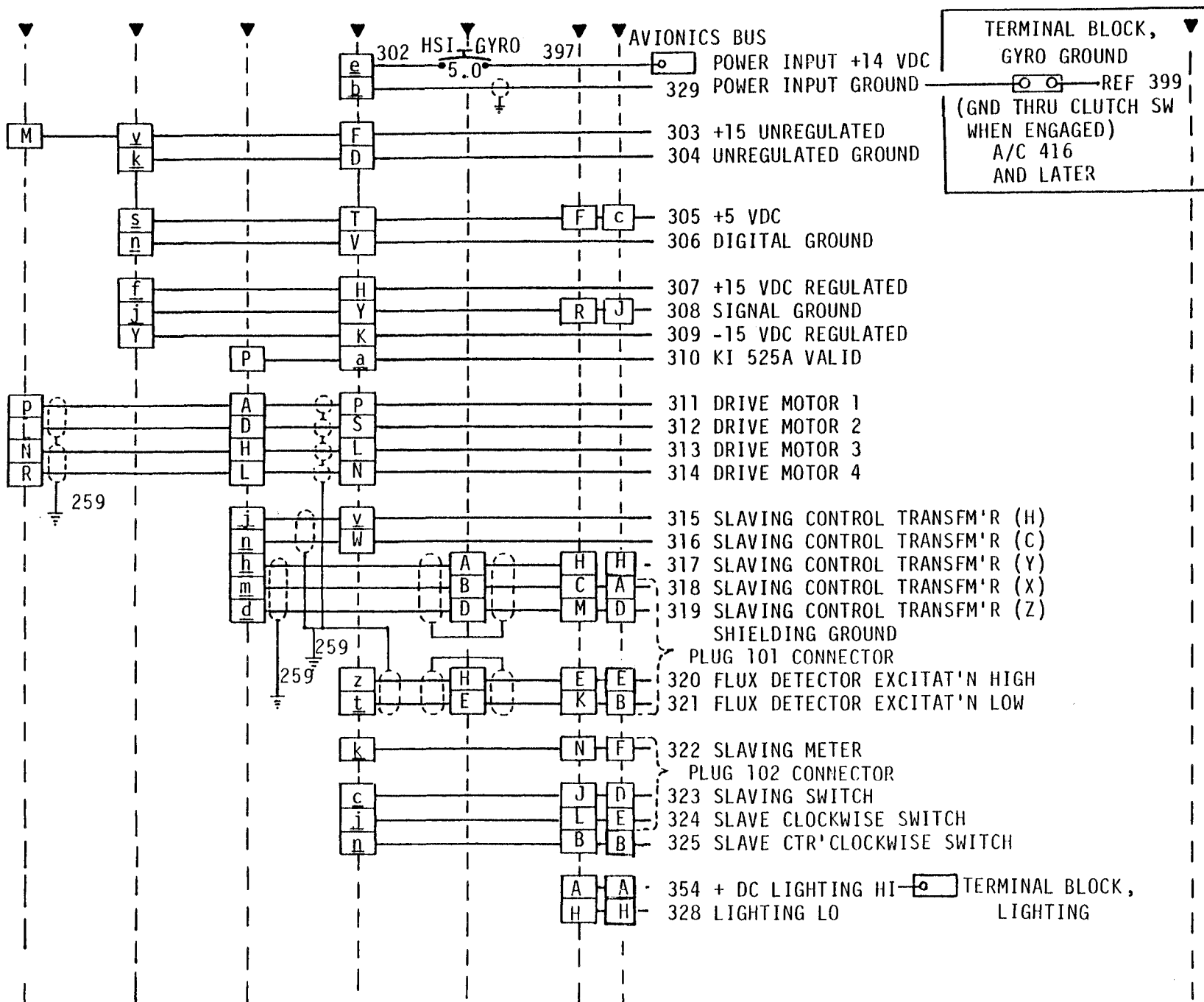
HSI SLAVE  
KA 51



CONT. ON NEXT PAGE

14.1040 (cont'd)

CONTINUED FROM PREVIOUS PAGE



KI 227-01      KI 525A      KI 525A      KG 102A

TOP      BOT.

M — V — F      303 +15 UNREGULATED

P — 311 DRIVE MOTOR 1  
L — 312 DRIVE MOTOR 2  
N — 313 DRIVE MOTOR 3  
R — 314 DRIVE MOTOR 4

259

315  
316  
320  
321

CONNECTOR  
VIEWED FROM  
REAR OF UNIT

Issued 4/22/87

14.1040 (cont'd)

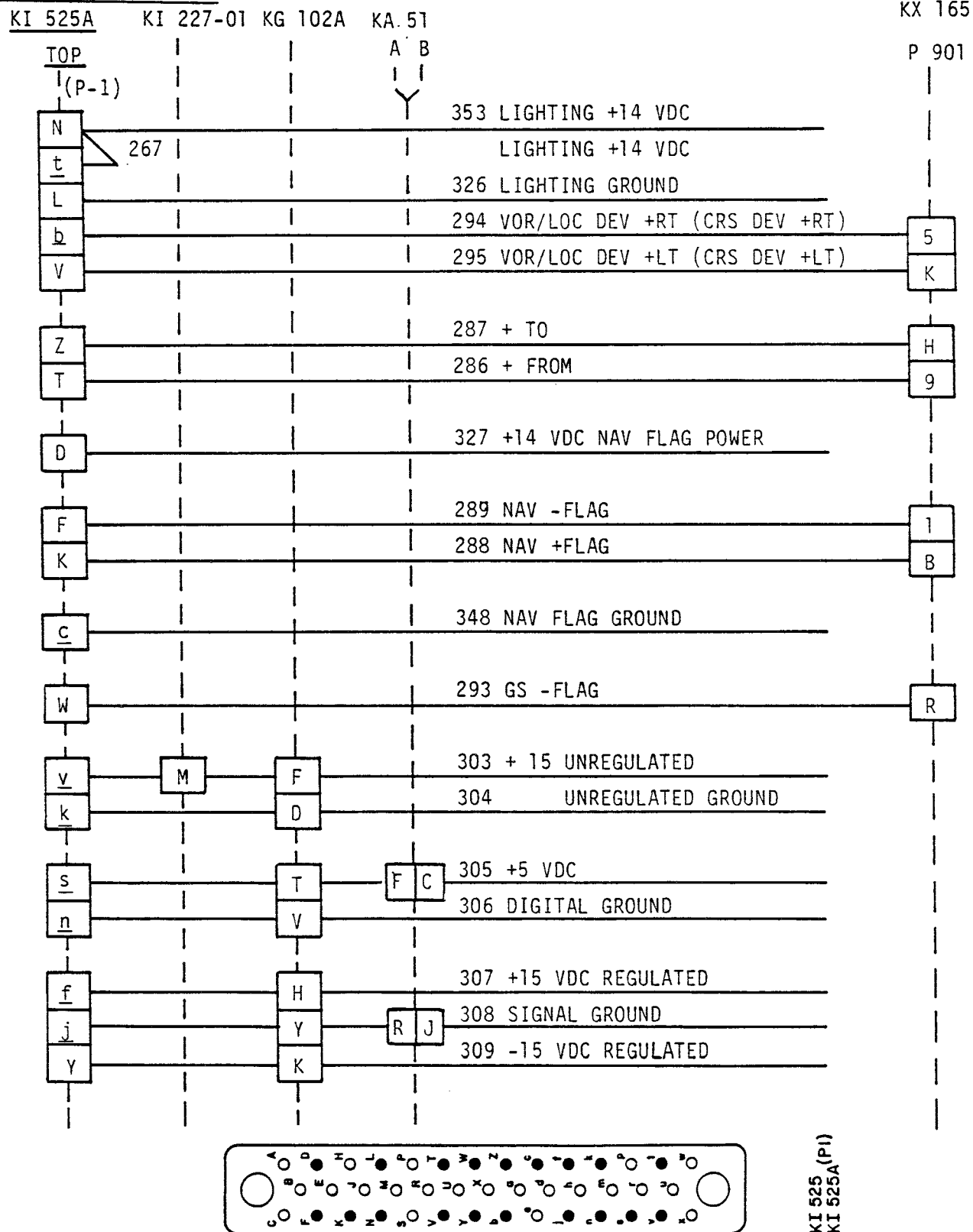


FIGURE 14-31A KI 525A PICTORAL NAV INDICATOR (TOP PLUG)

14.1040 (cont'd)

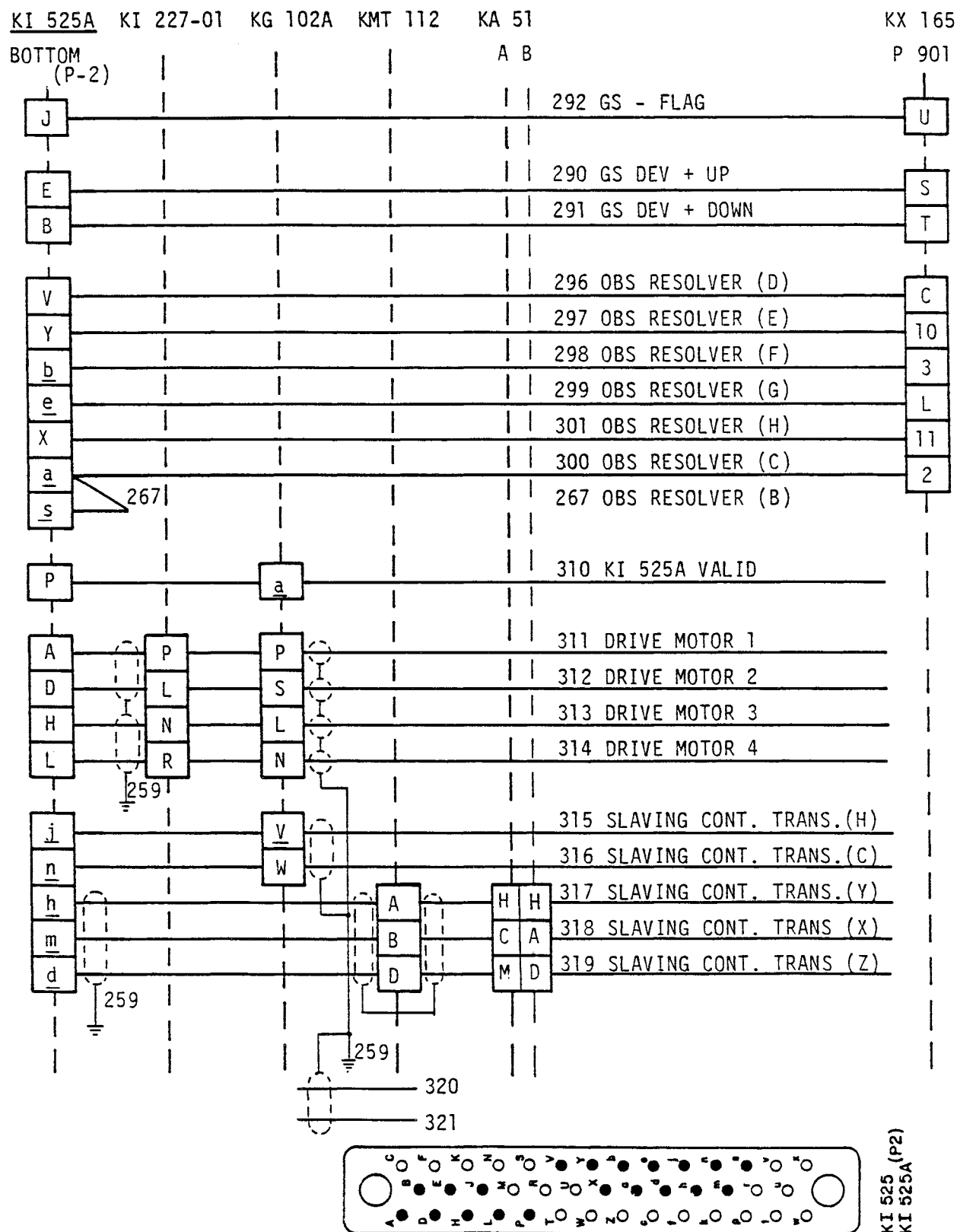
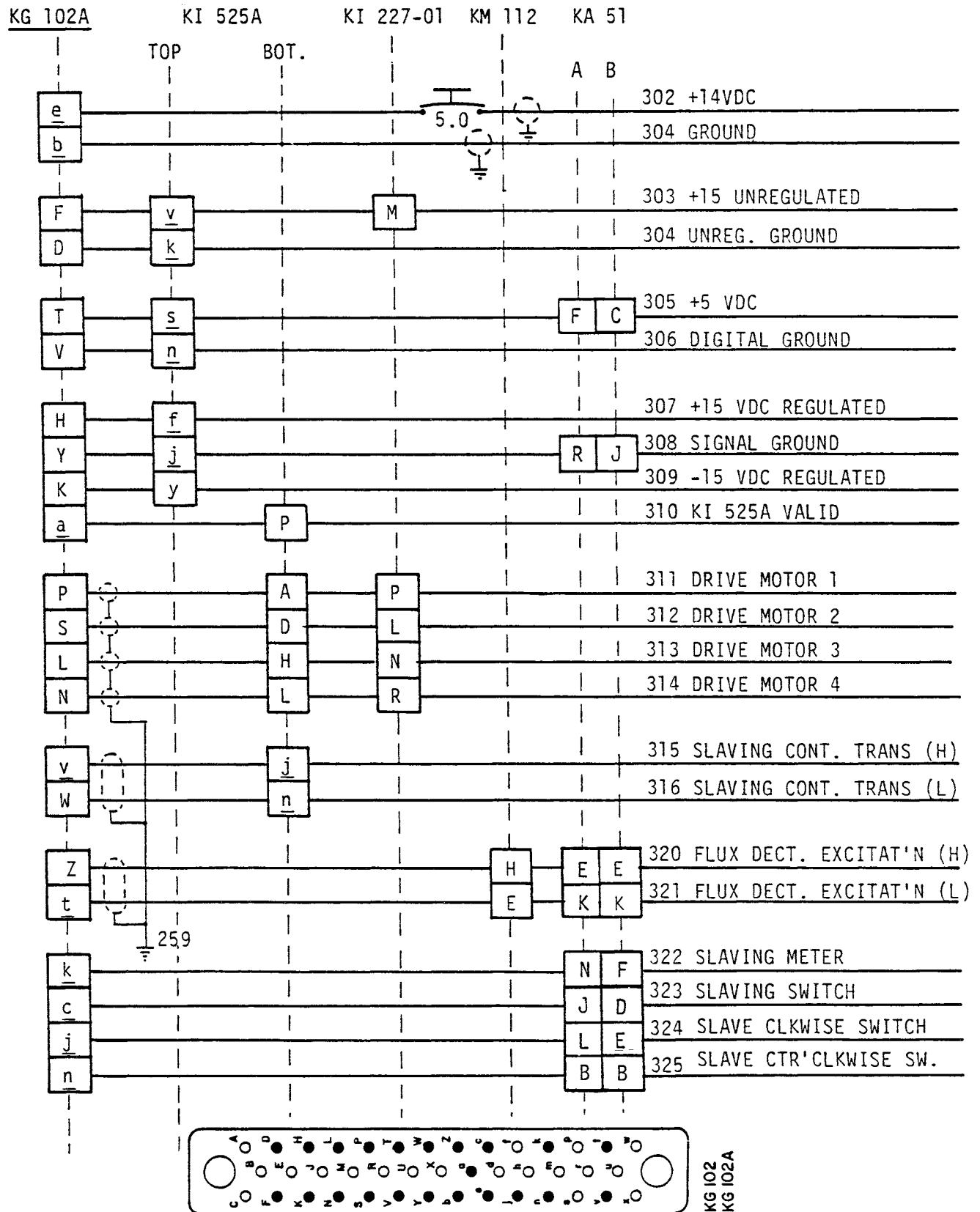
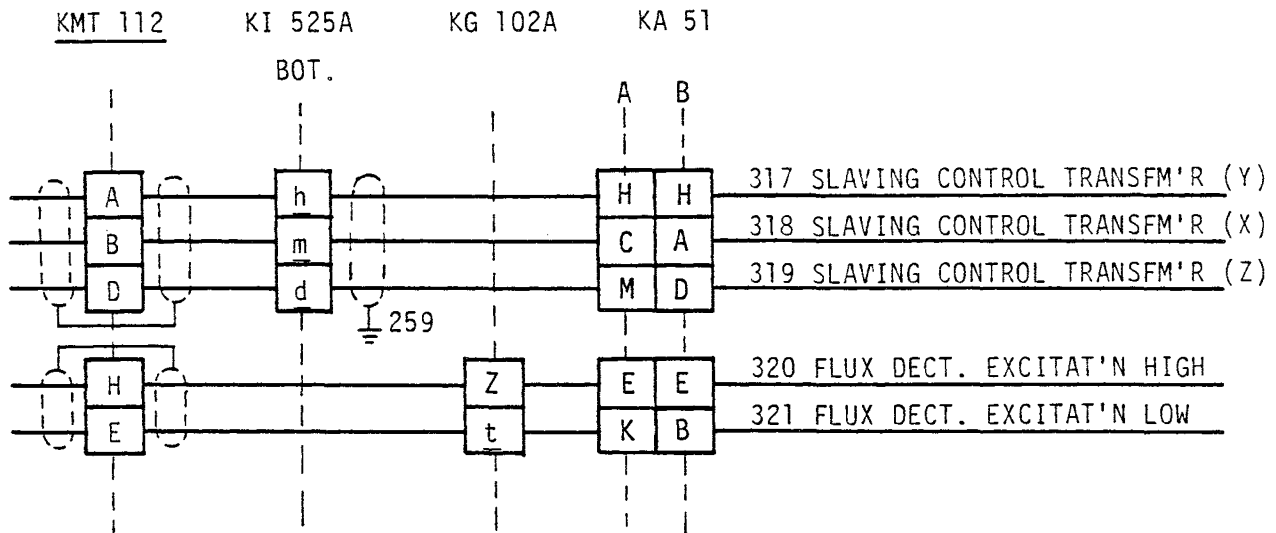


FIGURE 14-31B KI 525A PICTORAL NAV INDICATOR (BOTTOM PLUG)

## 14.1040 (cont'd)



## 14.1040 (cont'd)



KMT 112

FIGURE 14-33 KING KMT 112 FLUX TRANSMITTER

## 14.1040 (cont'd)

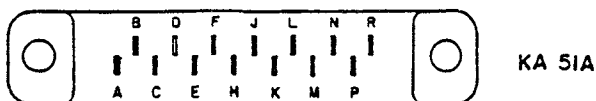
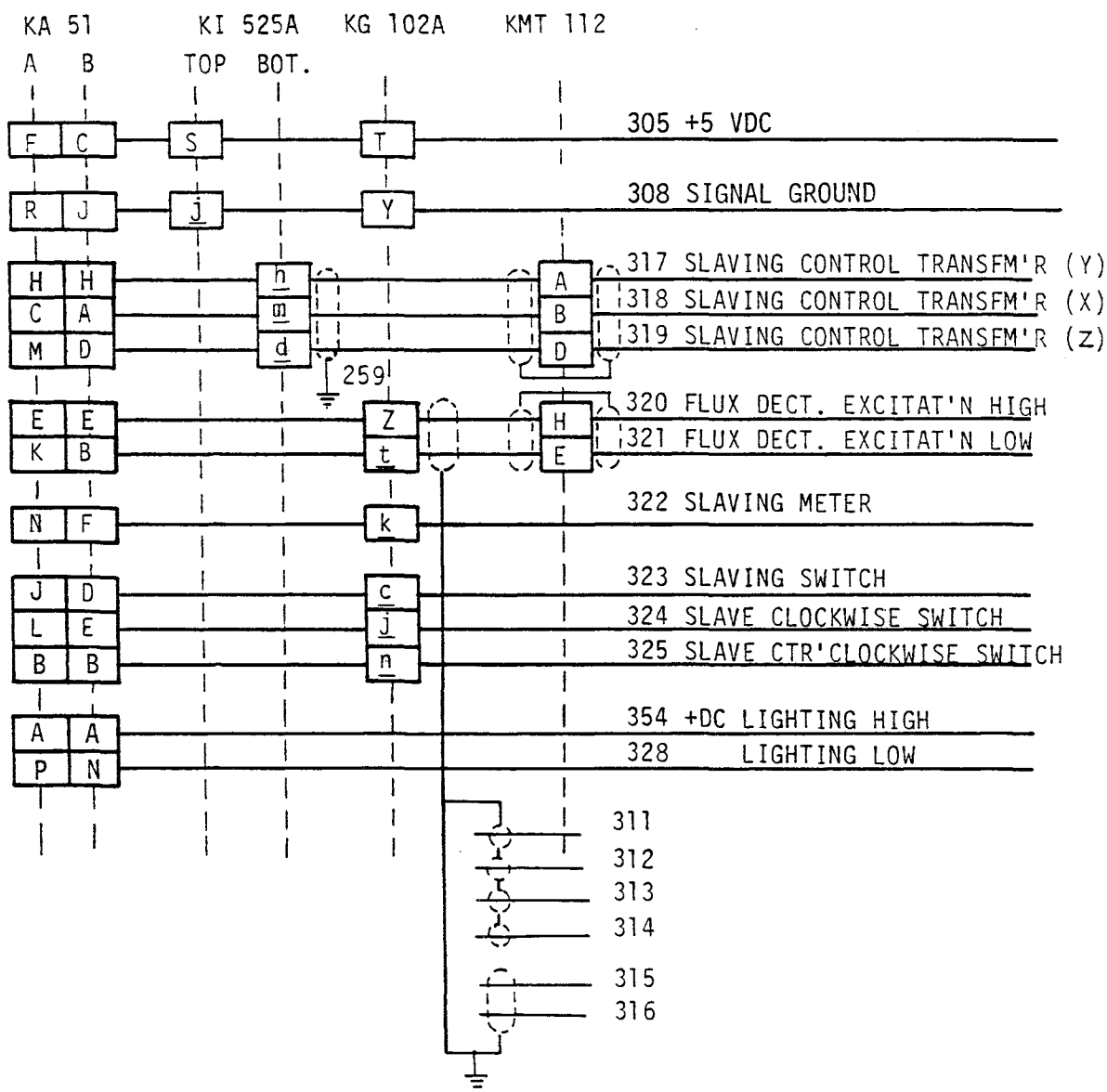
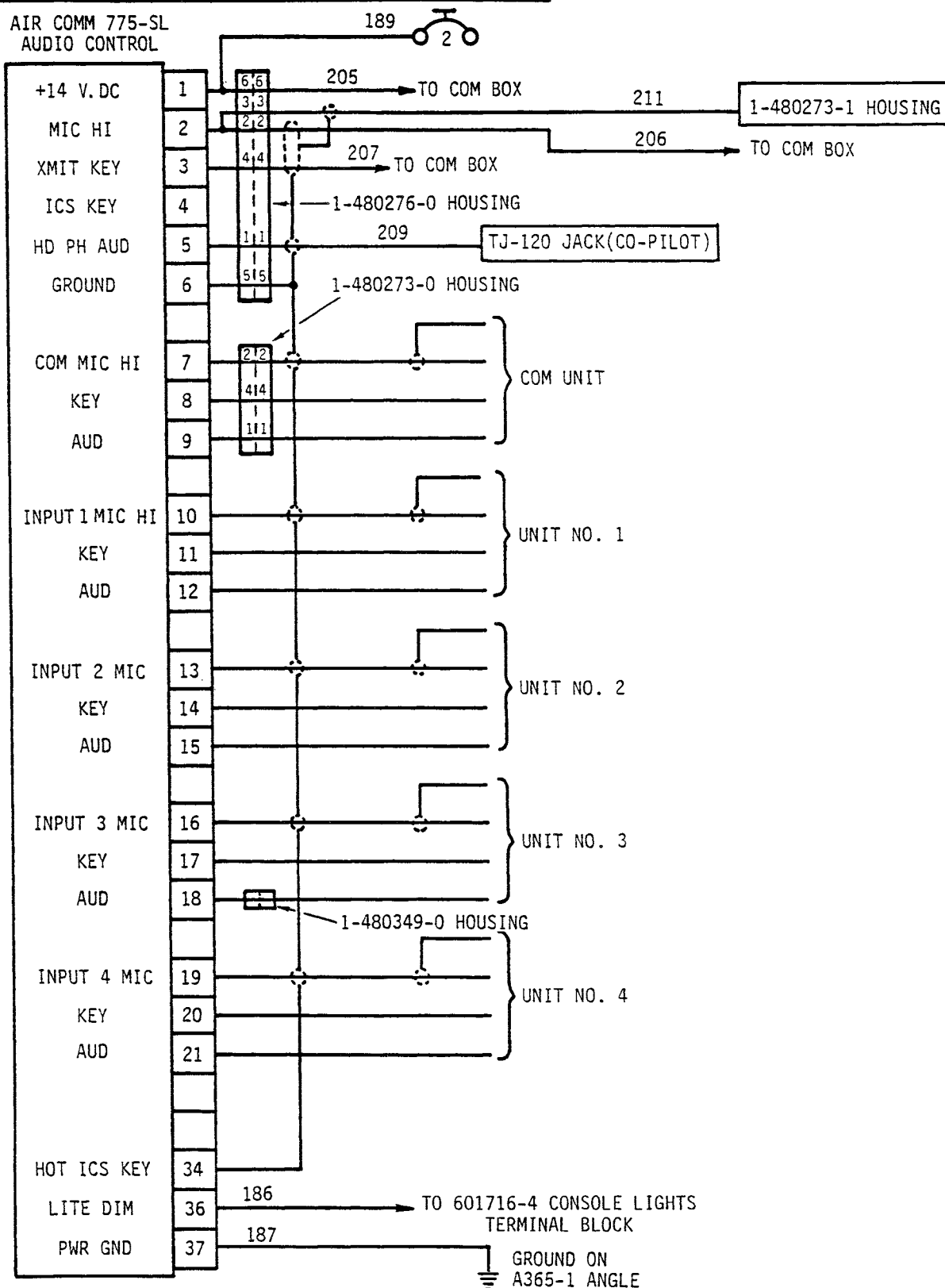


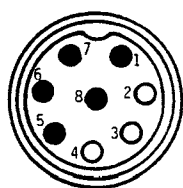
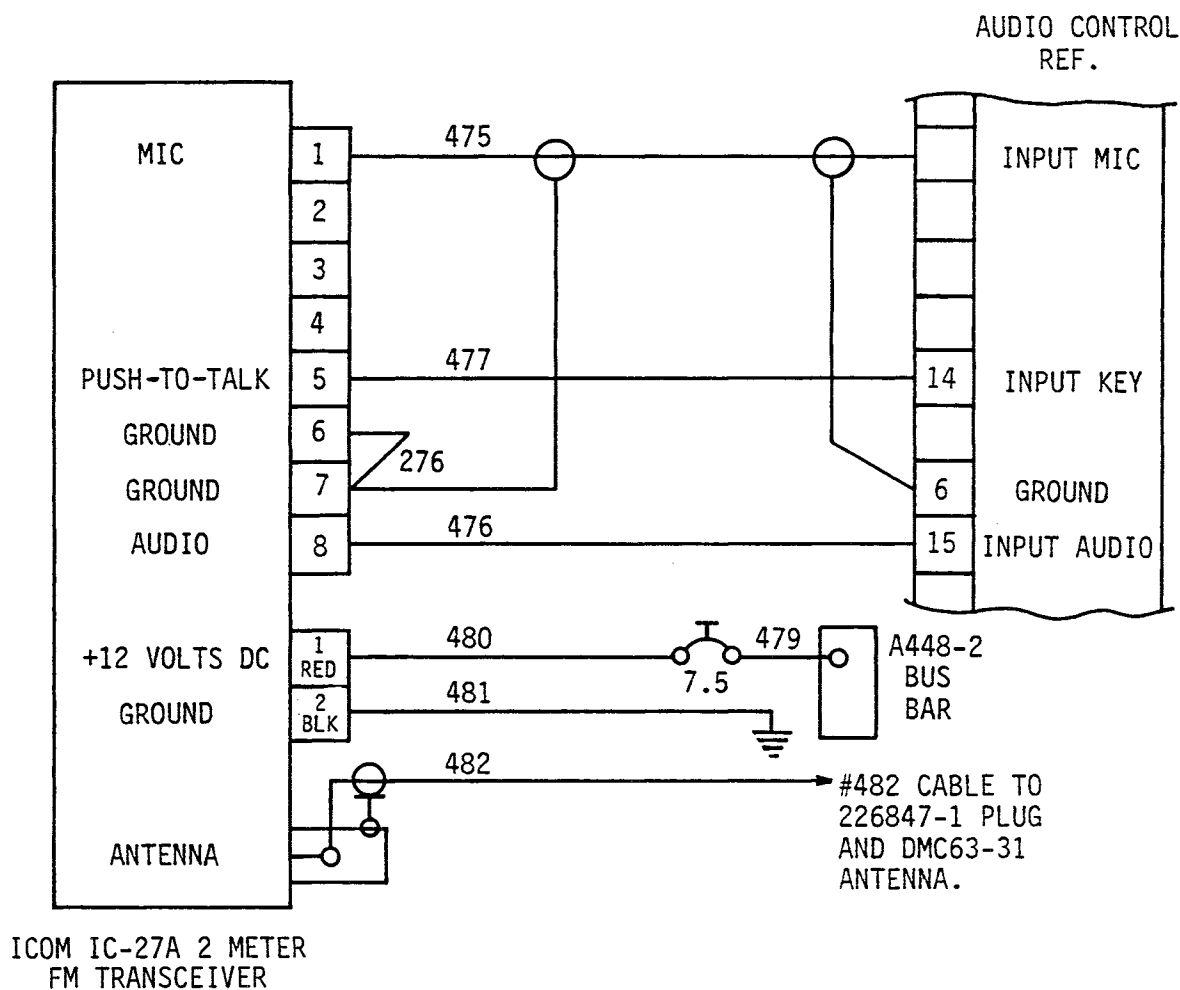
FIGURE 14-34 KING KA 51 (A & B) SLAVING ACCESSORY

## 14.1100 R22 MARINER

### 14.1110 R22 Mariner Avionics Schematics

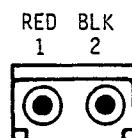


14.1110 (cont'd)



AUDIO/MIC CONNECTOR

(LOOKING TOWARD AIRCRAFT)



POWER CONNECTOR

FIGURE 14-36 ICOM IC-27A 2-METER FM TRANSCEIVER

14.1110 (cont'd)

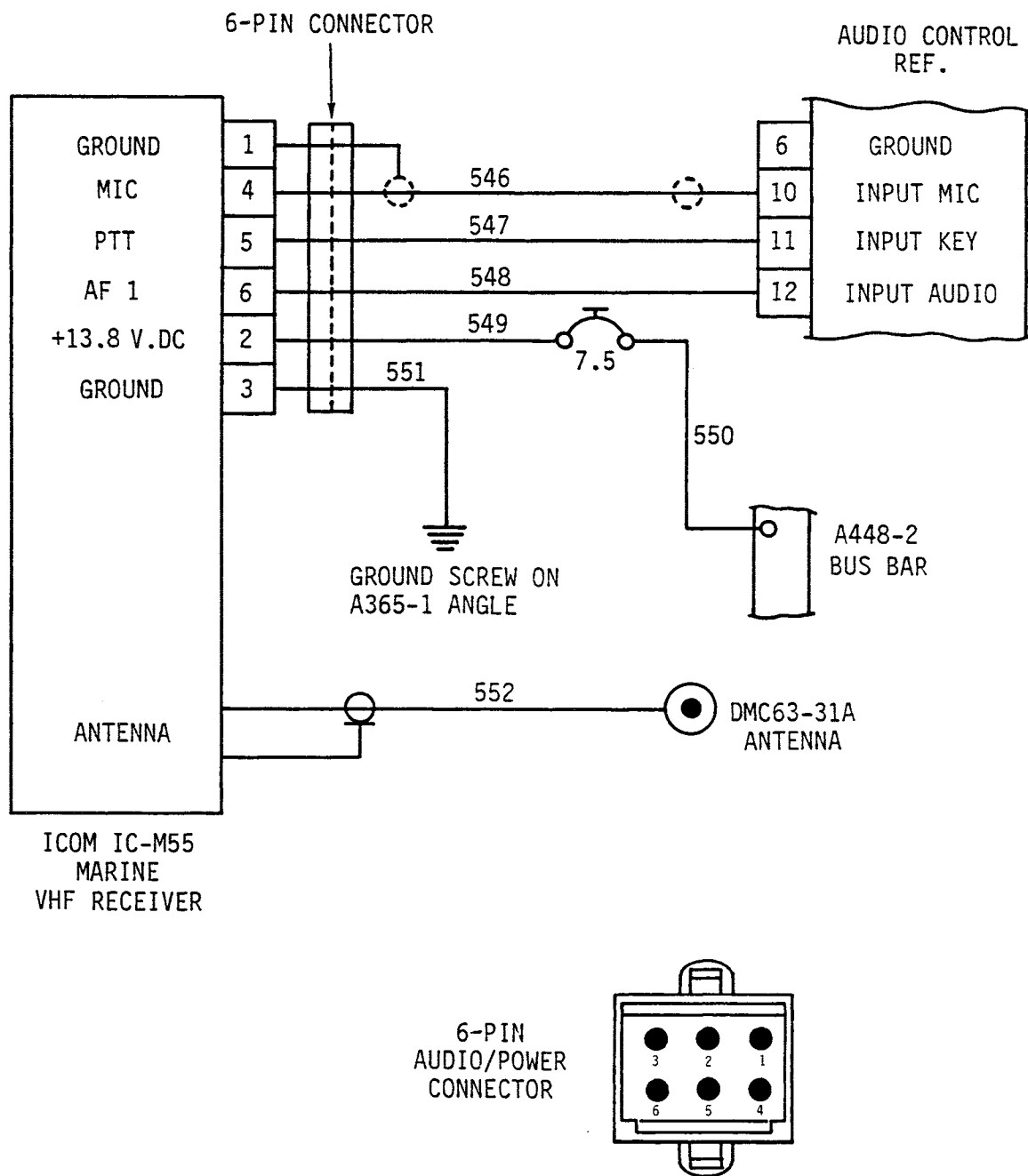


FIGURE 14-37 ICOM IC M55 MARINE VHF RECEIVER

14.1110 (cont'd)

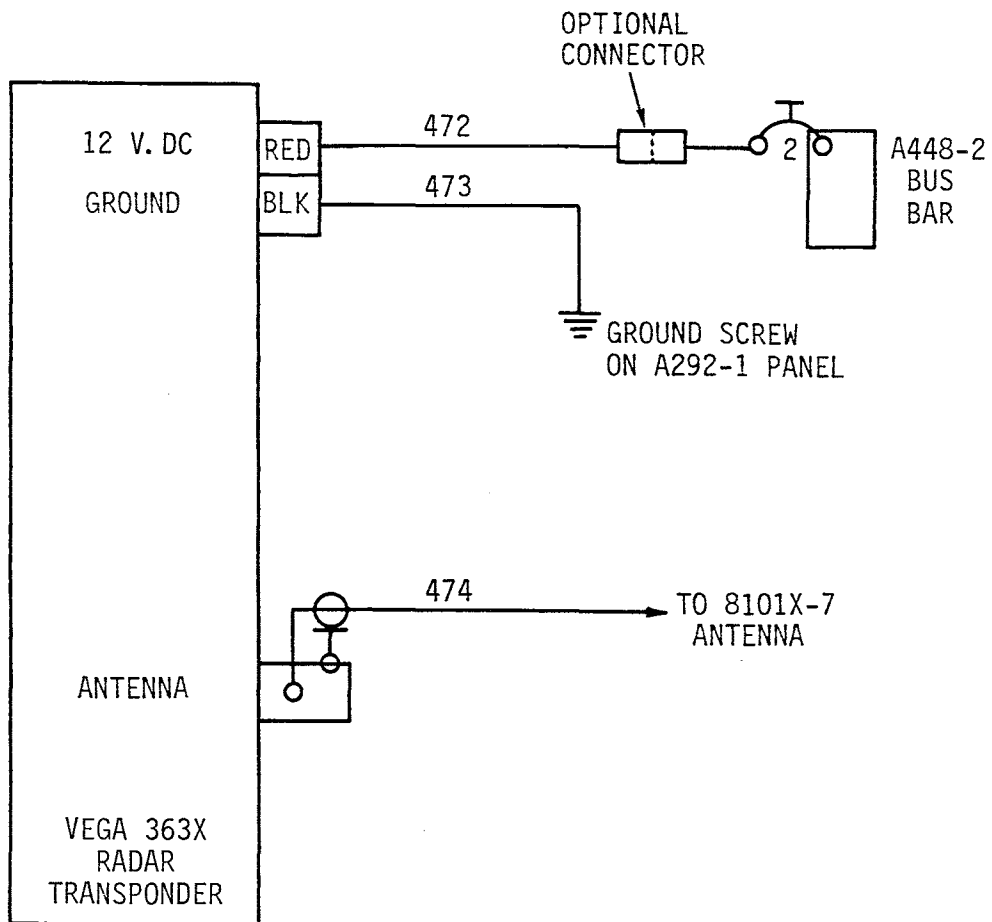
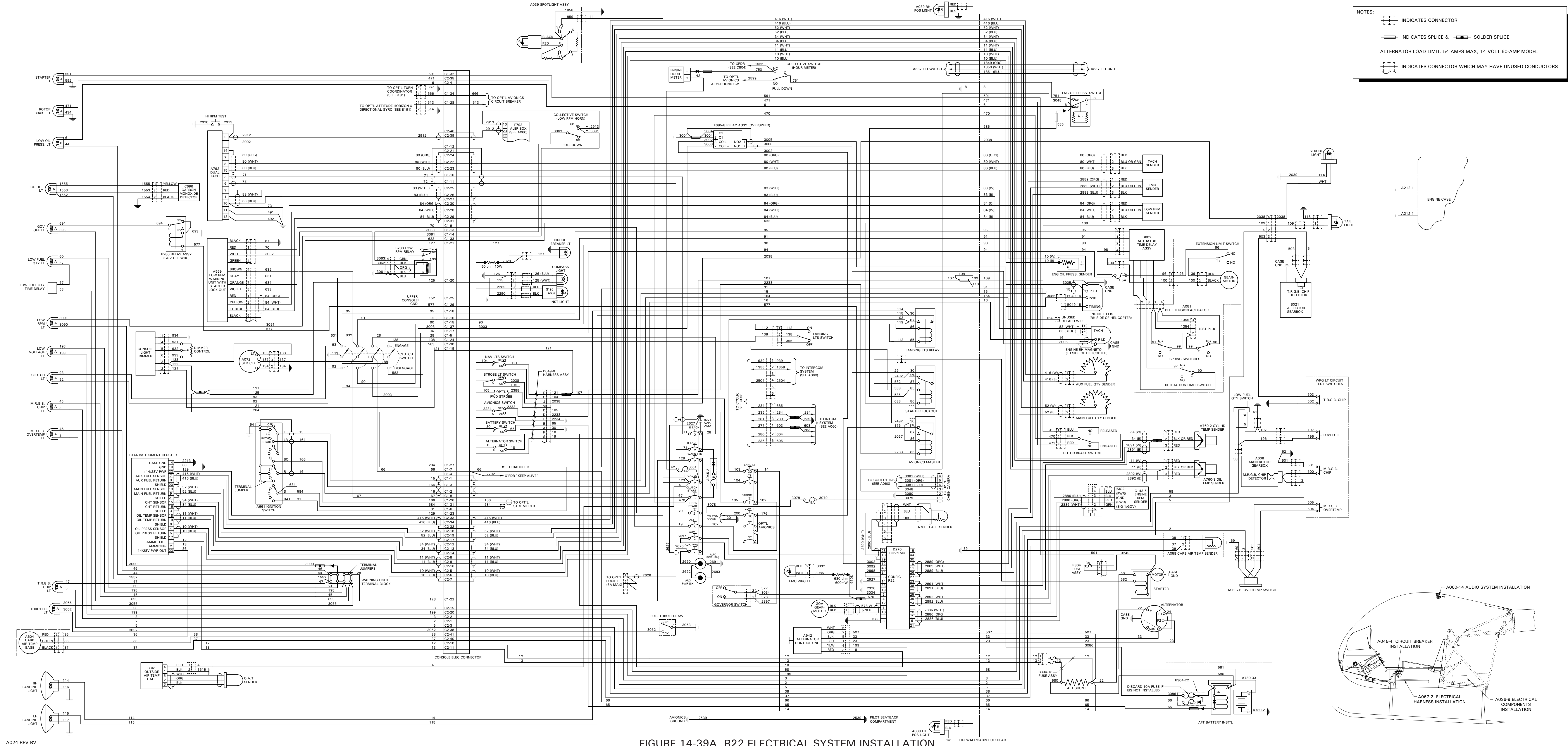
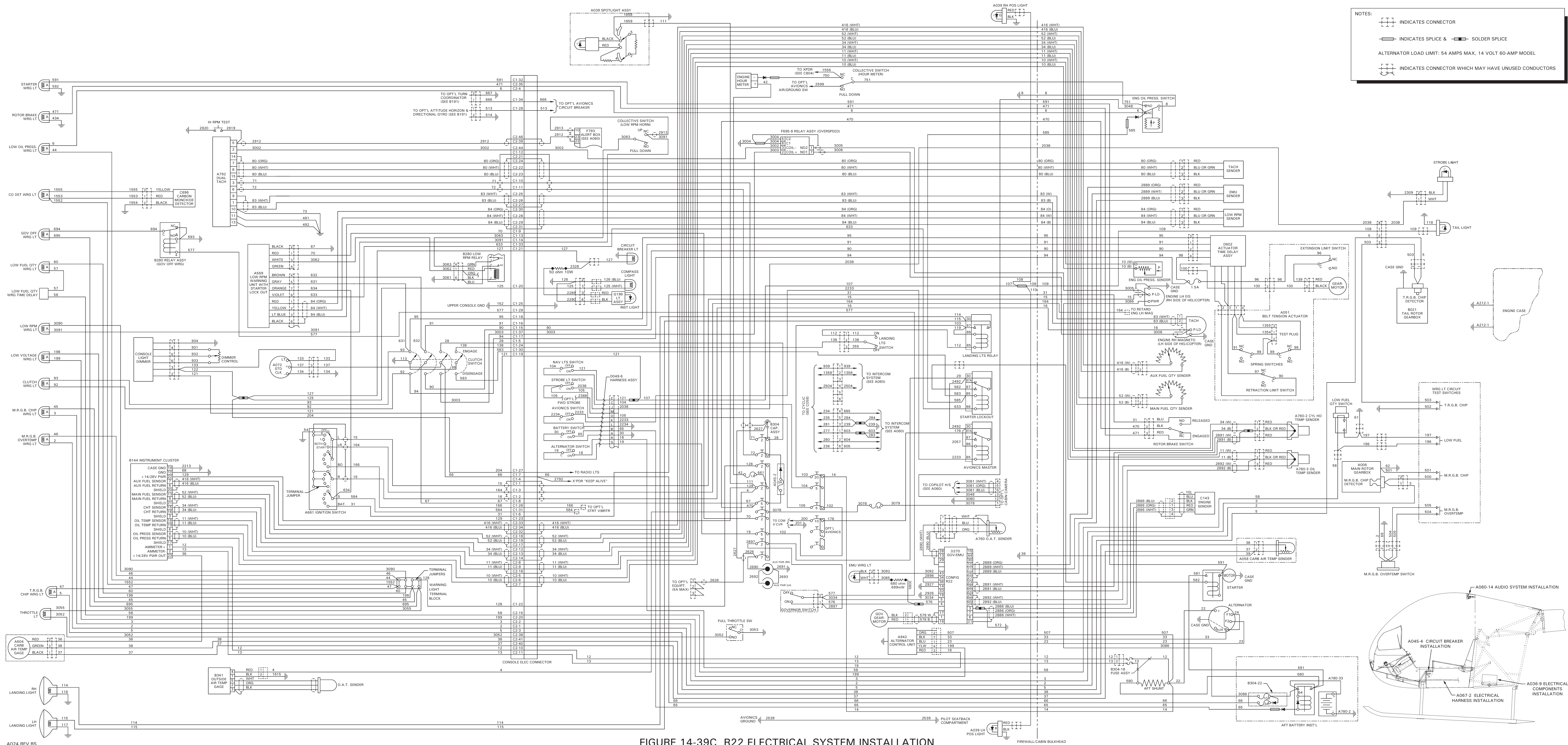


FIGURE 14-38 VEGA 363X RADAR TRANSPONDER

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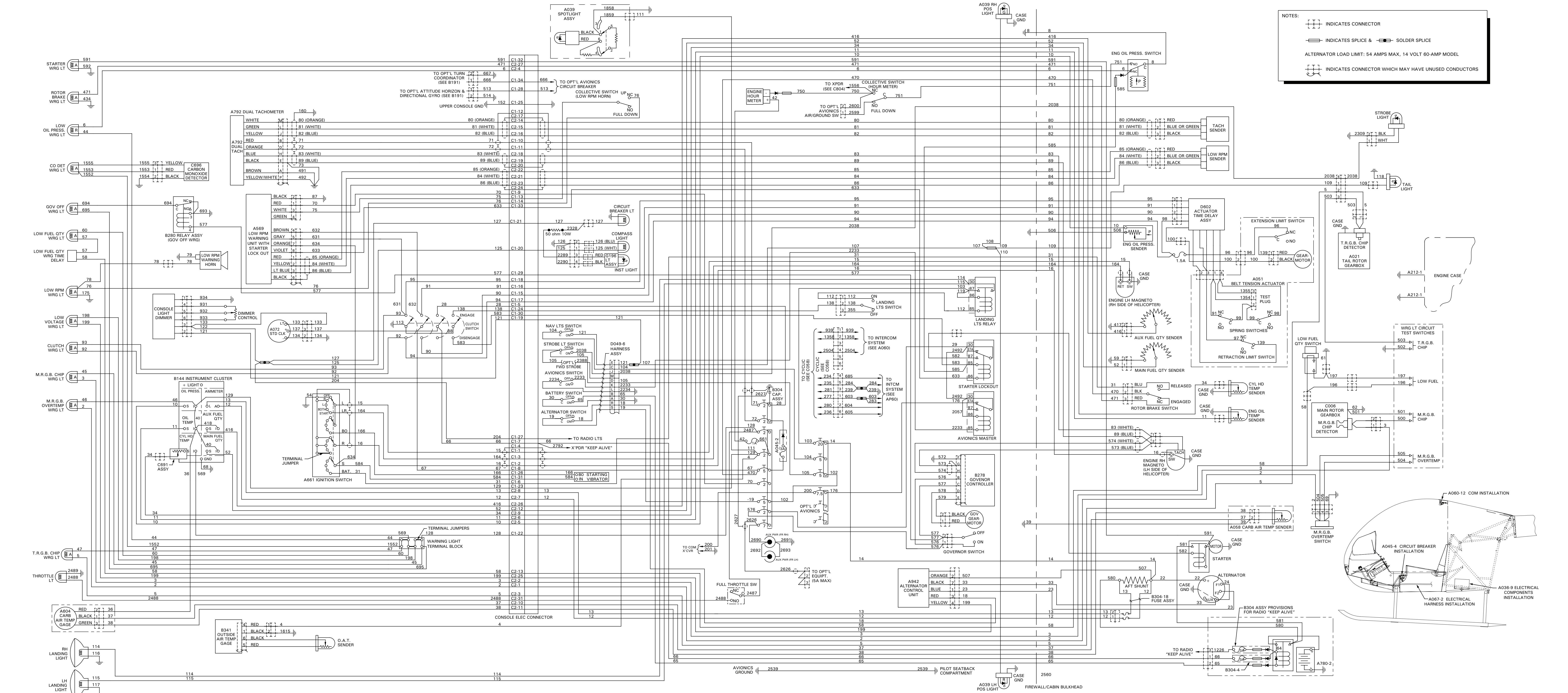


FIGURE 14-39D R22 ELECTRICAL SYSTEM INSTALLATION (A024 Revision BO shown)

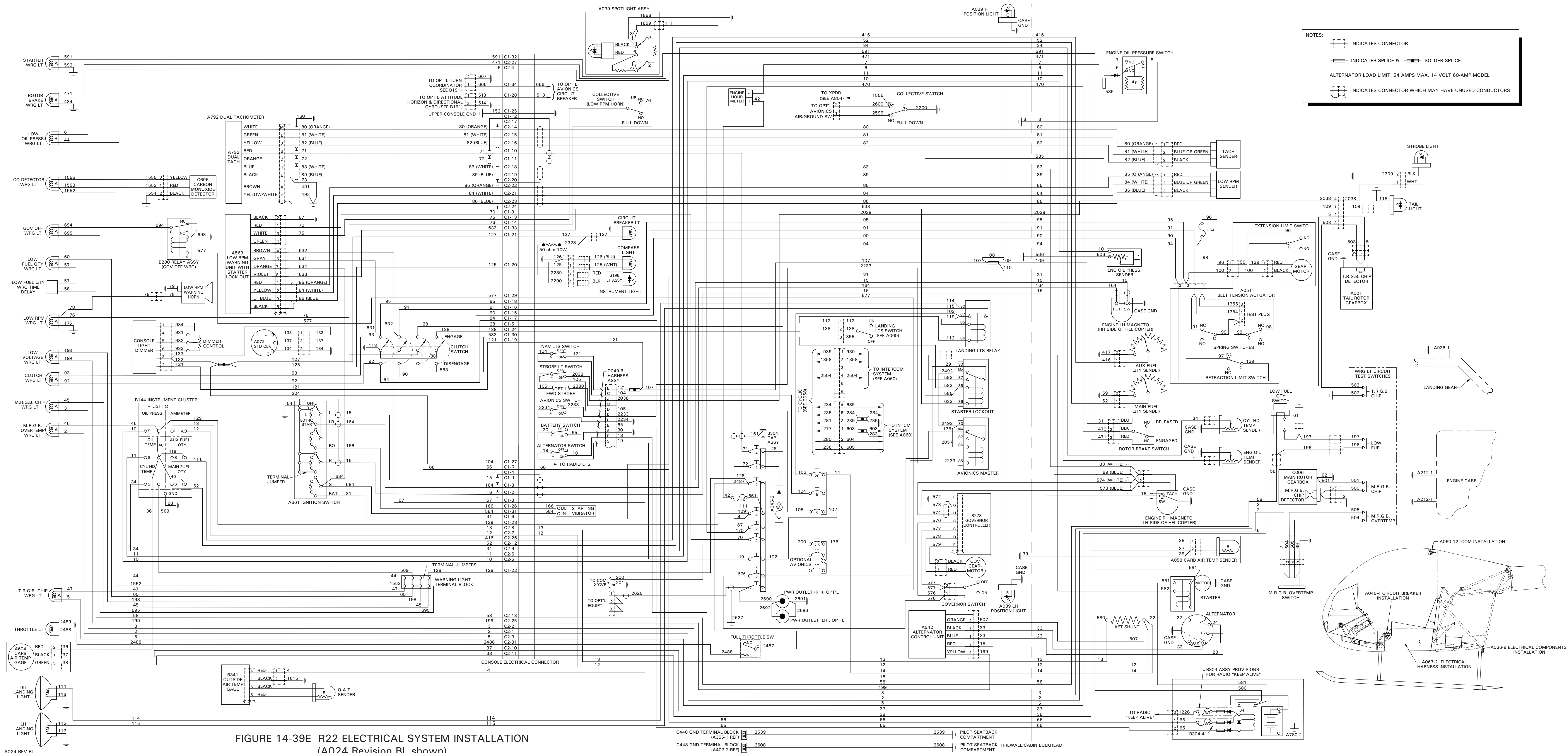
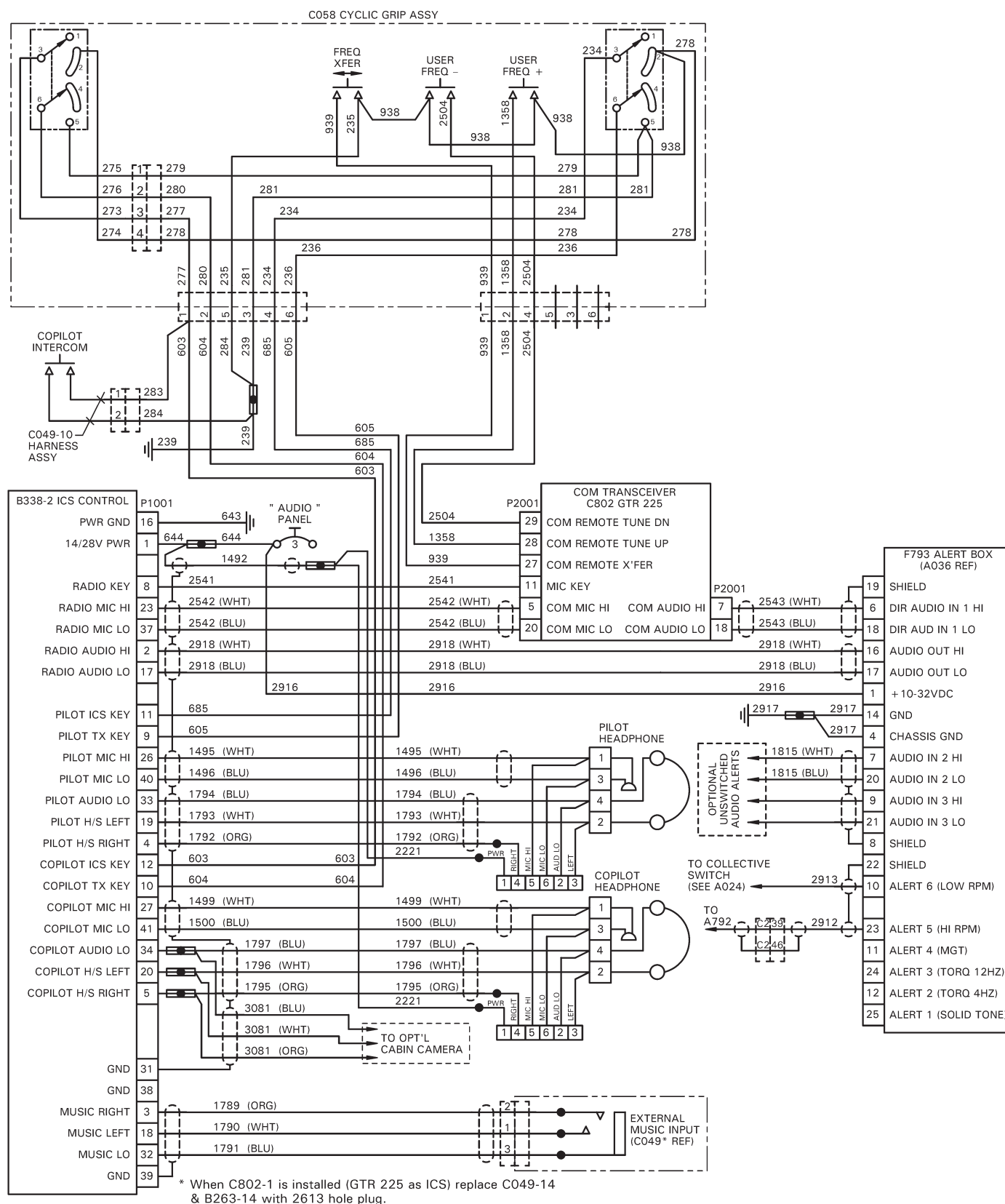


FIGURE 14-39E R22 ELECTRICAL SYSTEM INSTALLATION  
(A024 Revision BL shown)

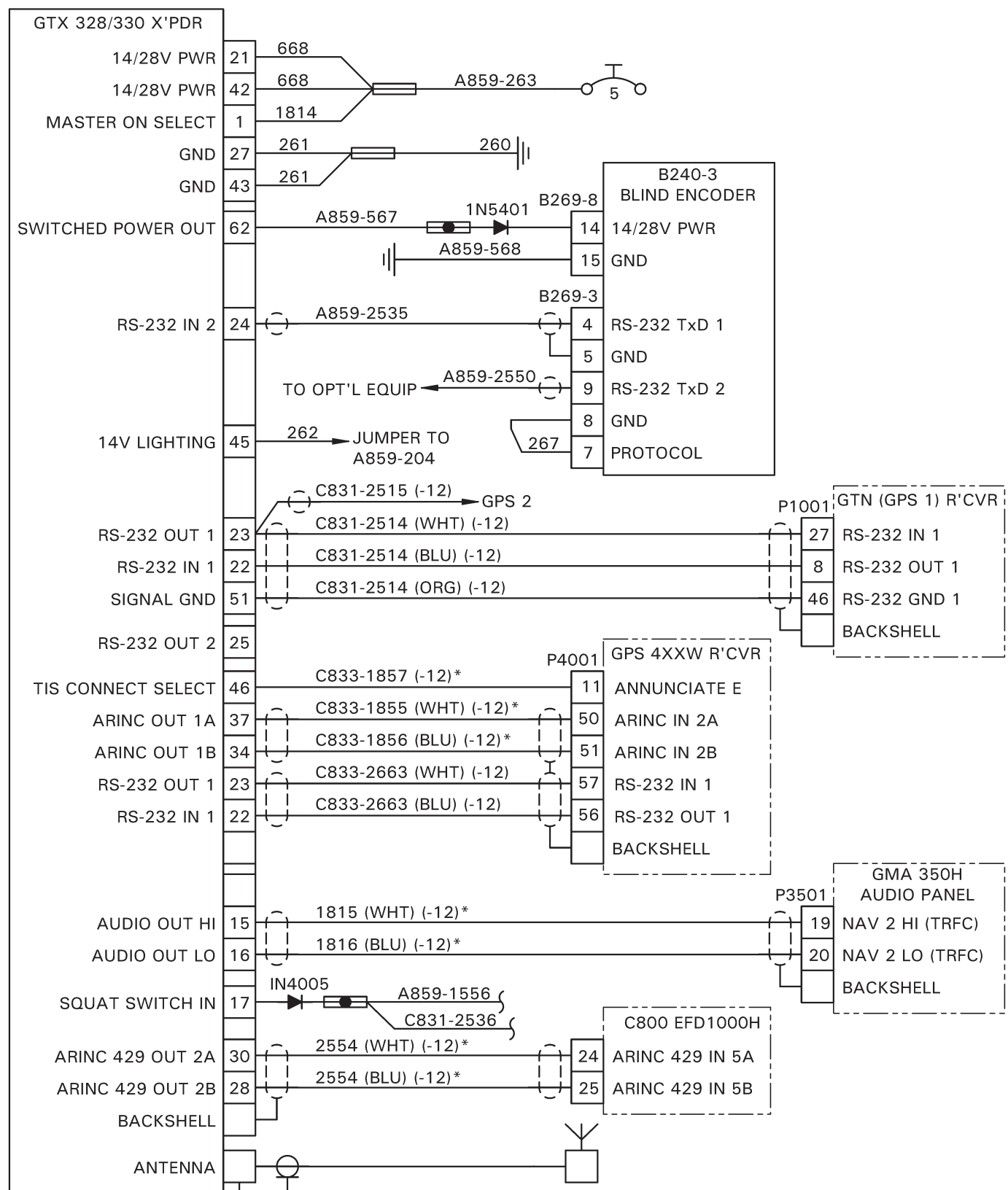
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A060 REV AQ

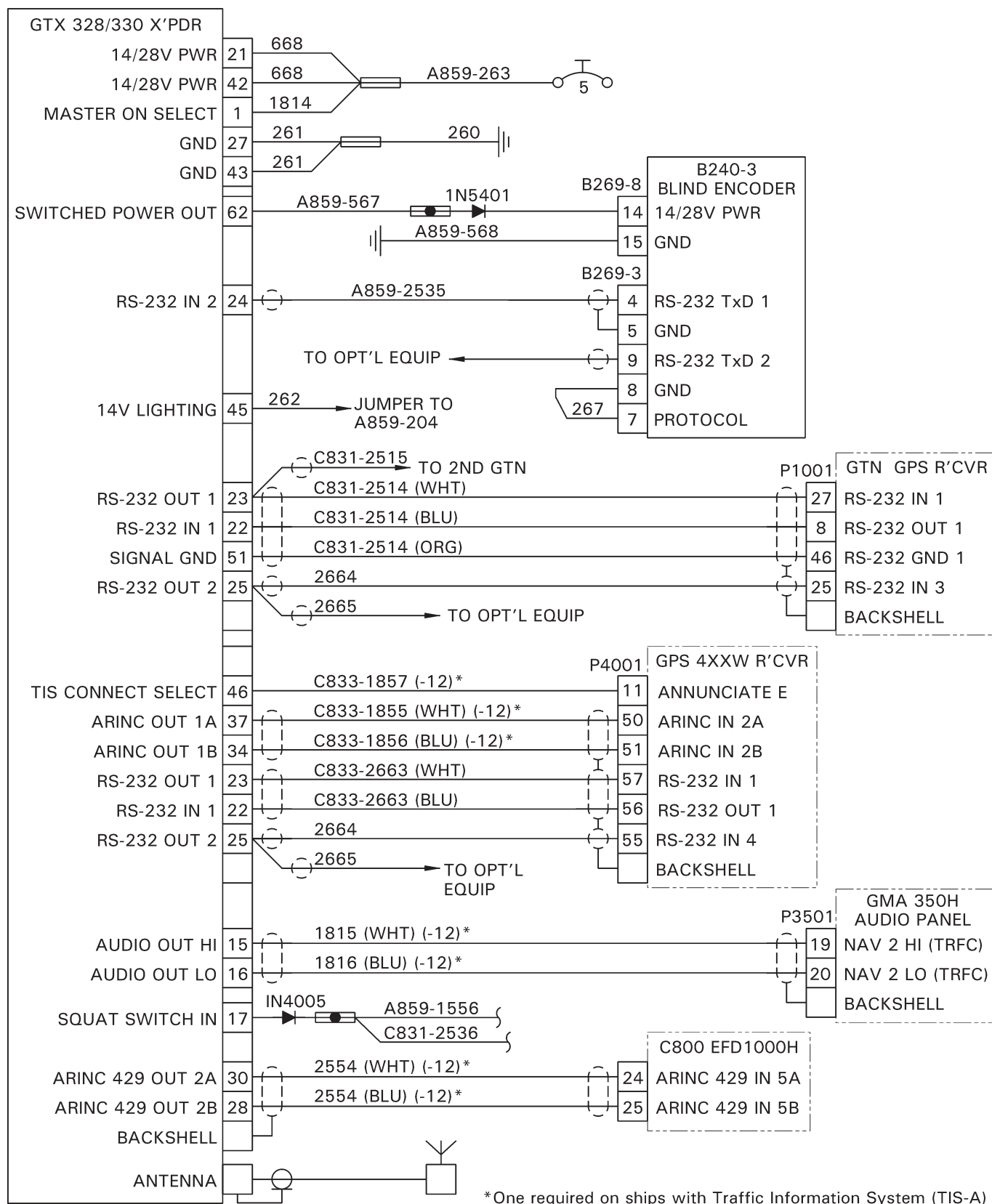
FIGURE 14-40 A060-14 AUDIO SYSTEM INSTALLATION

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A804 REV AH

FIGURE 14-41 A804-12 &amp; -13 TRANSPONDER SCHEMATIC (GARMIN GTX 330 ES)



A804 REV AG

FIGURE 14-42 A804-12 &amp; -13 TRANSPONDER SCHEMATIC (GARMIN GTX 330 ES; EARLIER SHIPS)

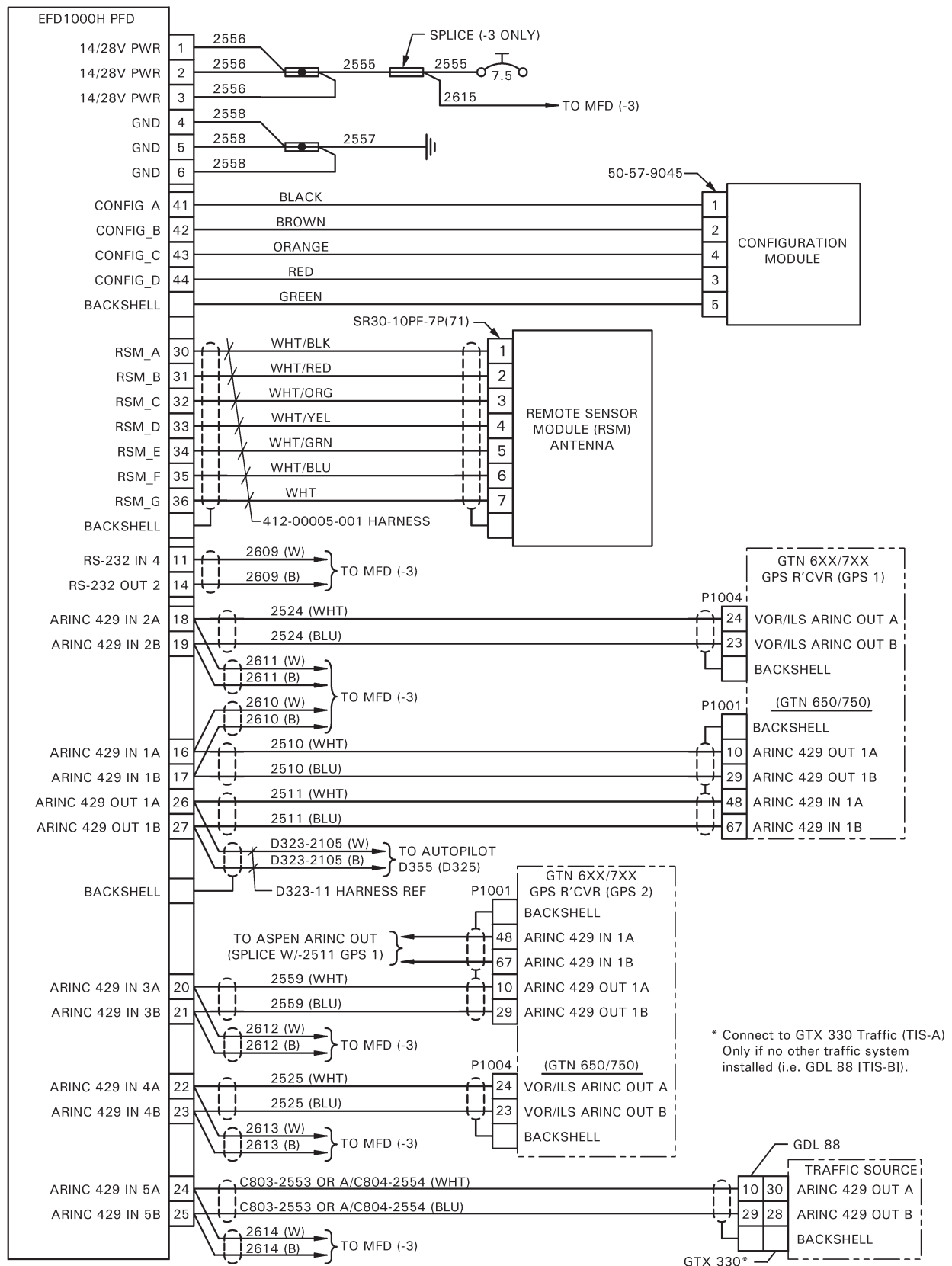


FIGURE 14-43 C800-1 ASPEN PFD ELECTRICAL SCHEMATIC

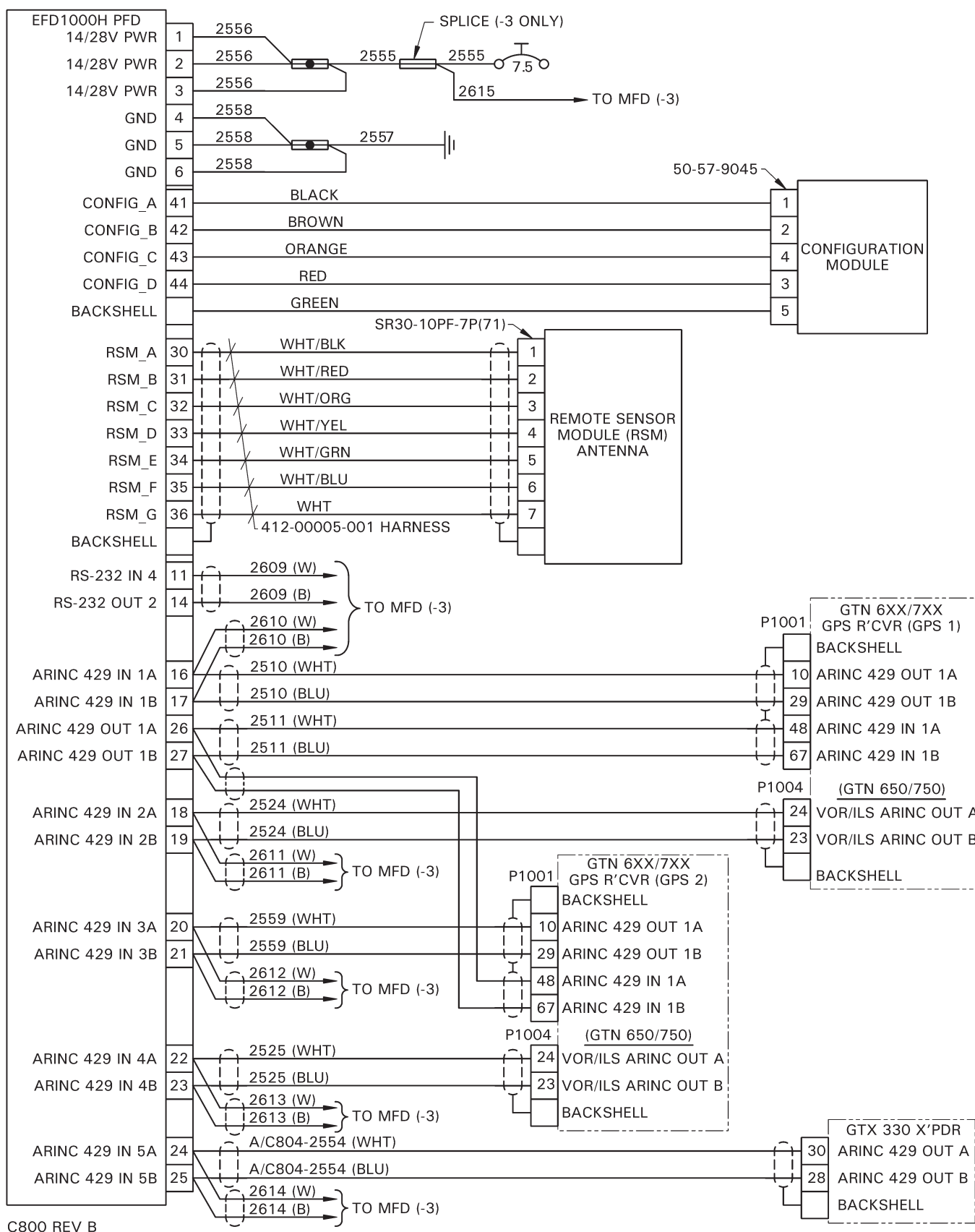
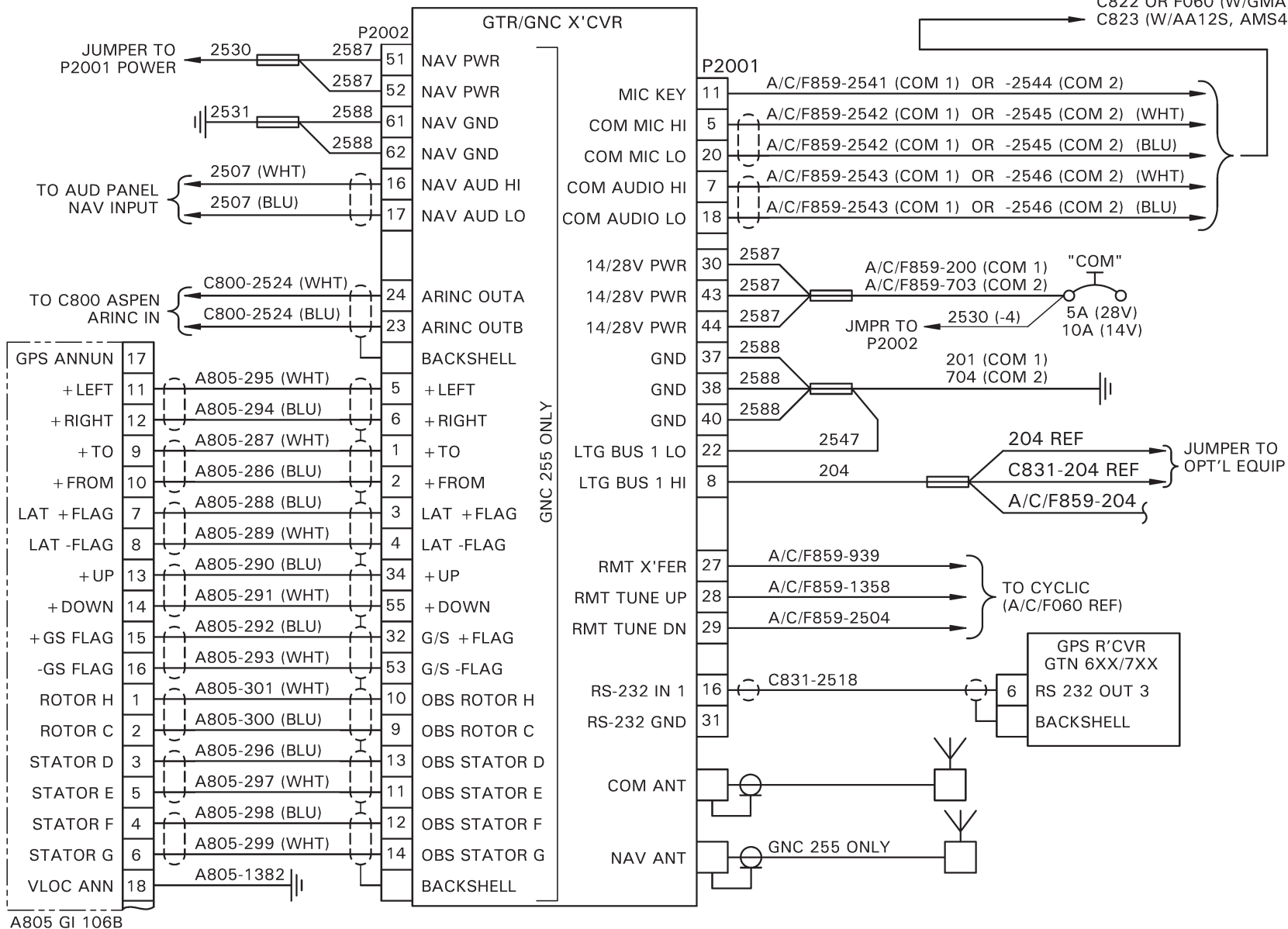
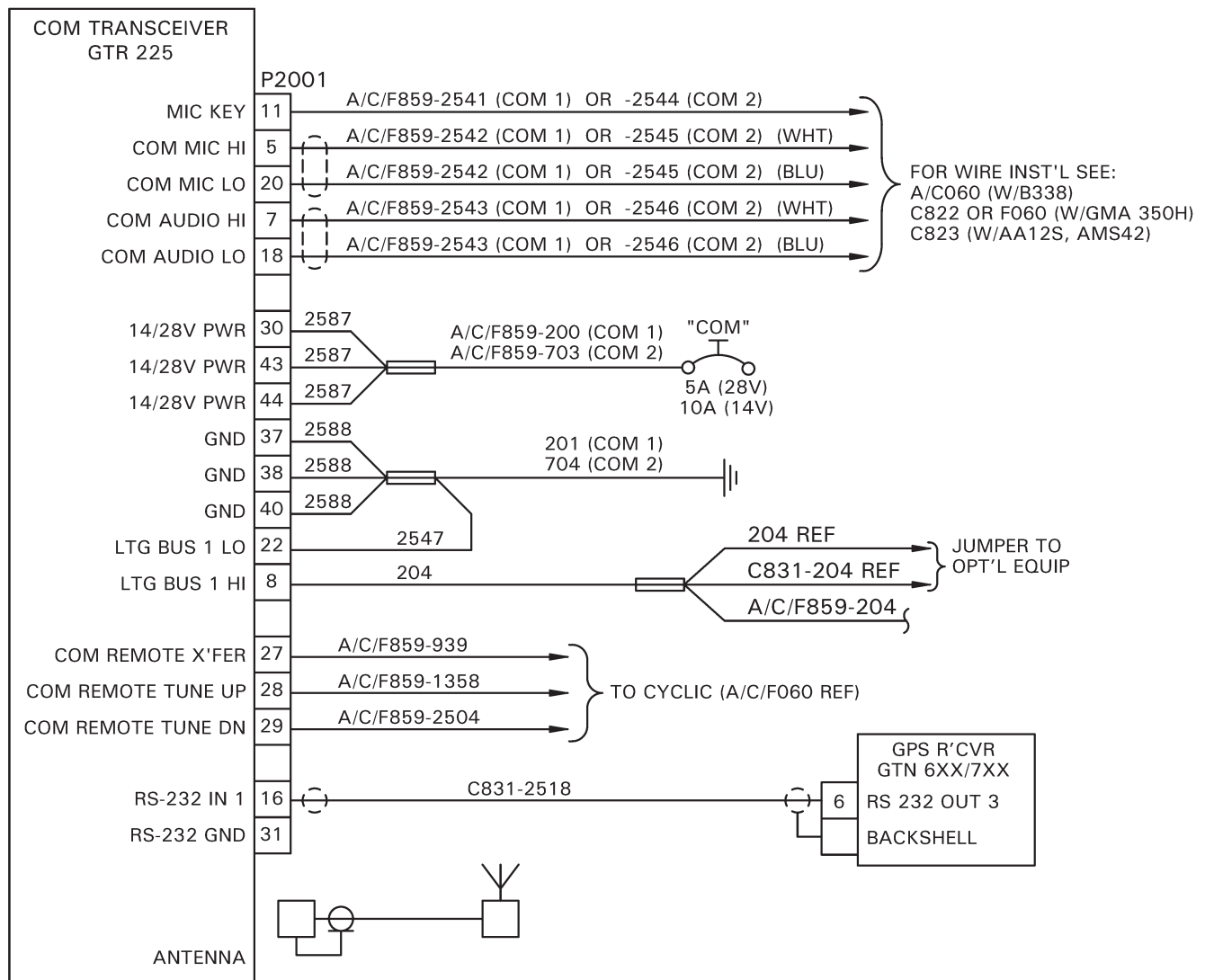


FIGURE 14-44 C800-1 ASPEN PFD ELECTRICAL SCHEMATIC (EARLIER SHIPS)

FOR WIRE INST'L SEE:  
A/C060 (W/B338)  
C822 OR F060 (W/GMA)  
C823 (W/AA12S, AMS42)



C802 REV E -2,-3, &amp; -4



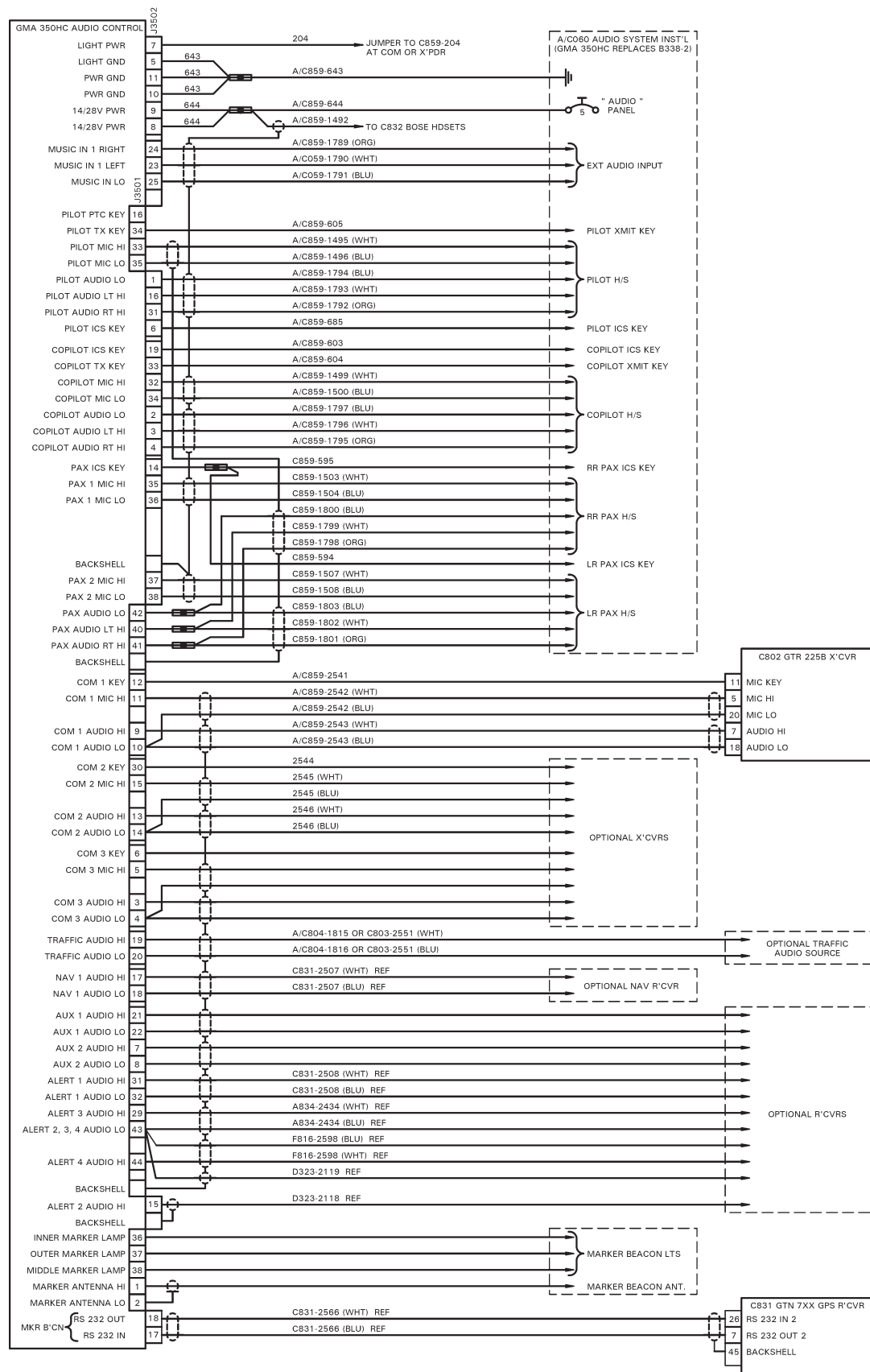
C802 REV D

FIGURE 14-46 C802-2 &amp; -3 COM RADIO SCHEMATIC (GARMIN GTR 225B; EARLIER SHIPS)



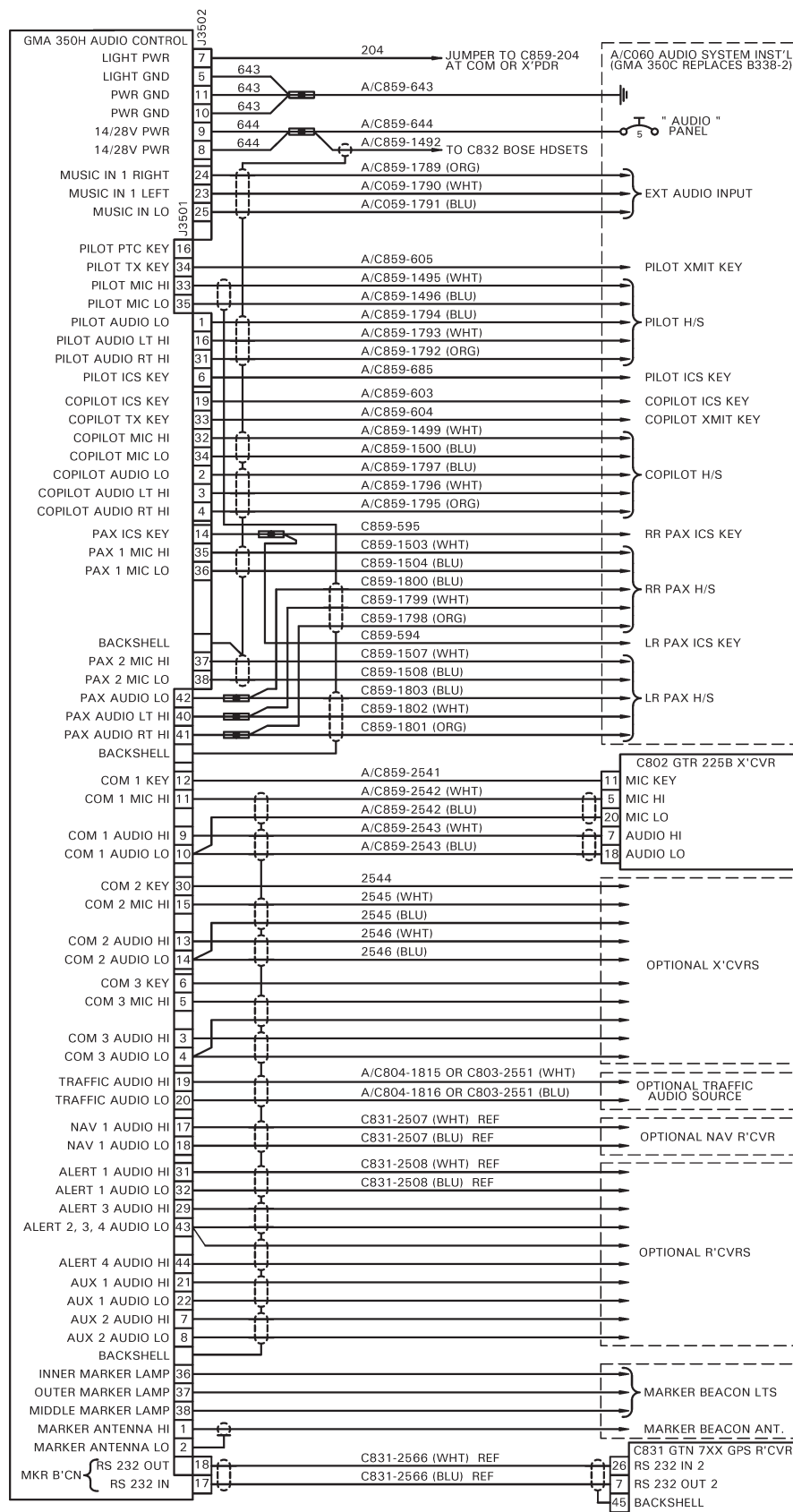
FIGURE 14-47 C822-1 AUDIO CONTROL SCHEMATIC (GARMIN GMA 350HC)

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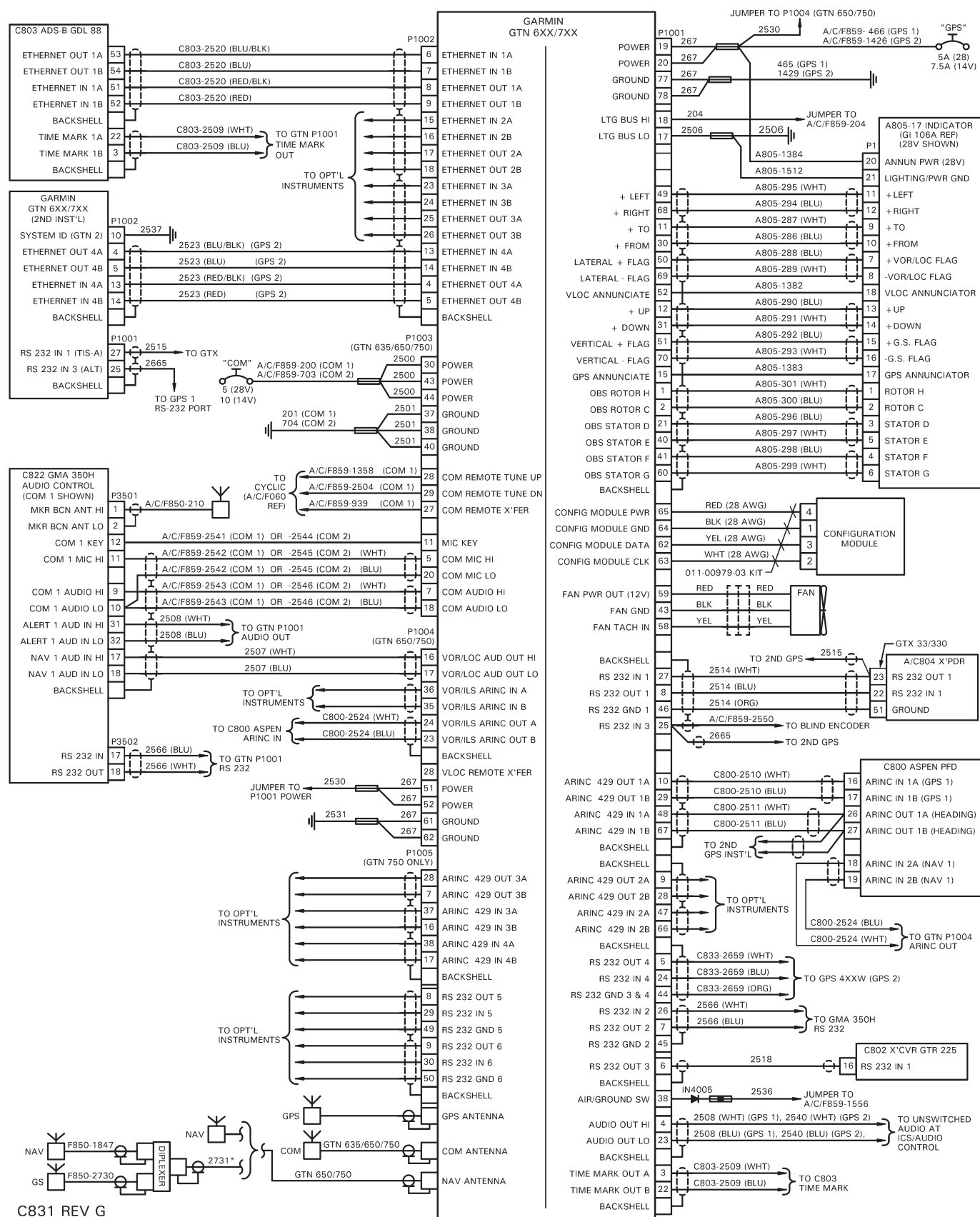
C822 REV D

FIGURE 14-48A C822-1 AUDIO CONTROL SCHEMATIC (GARMIN GMA 350HC)



C822 REV C

FIGURE 14-48B C822-1 AUDIO CONTROL SCHEMATIC (GARMIN GMA 350H; EARLIER SHIPS)



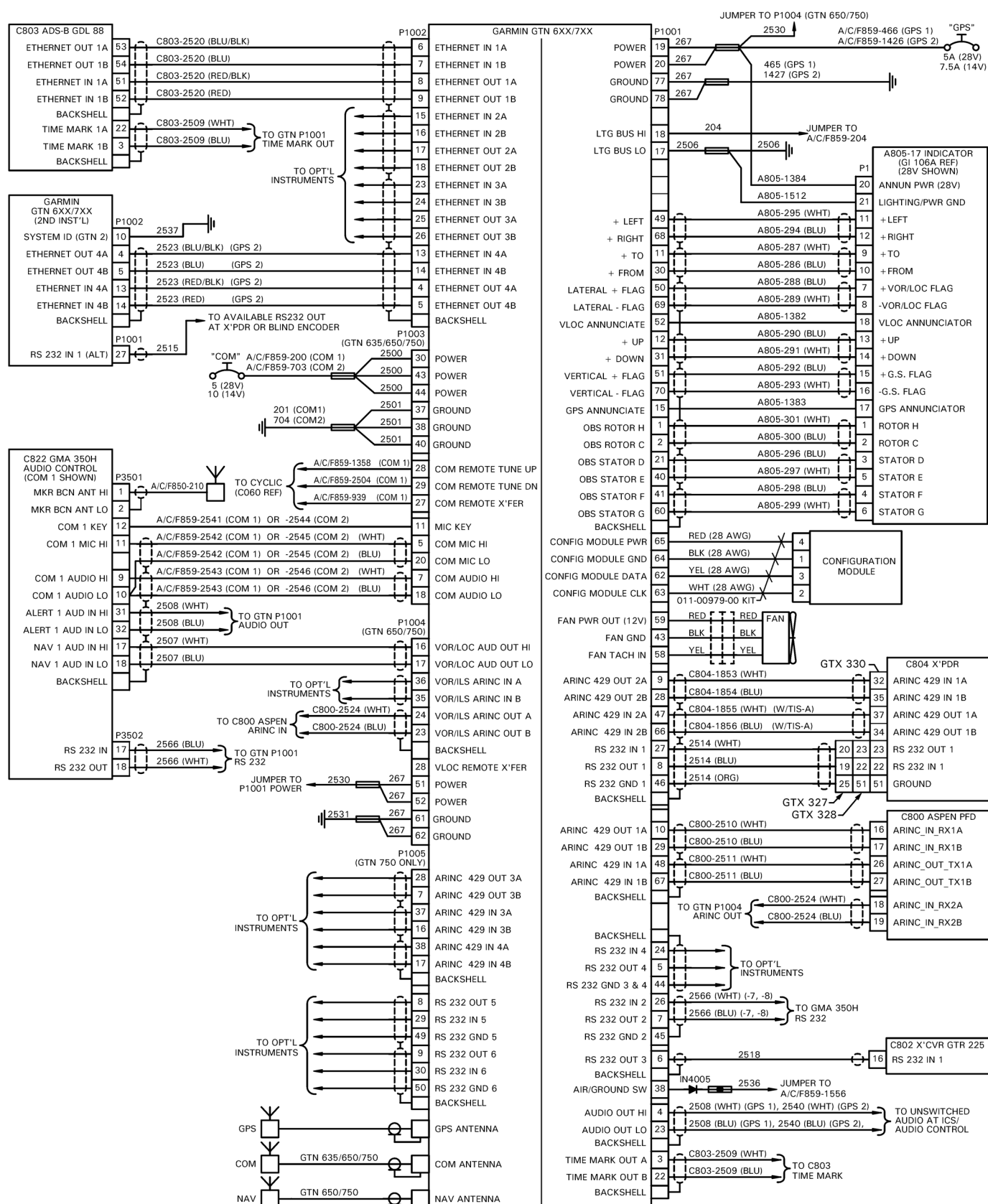
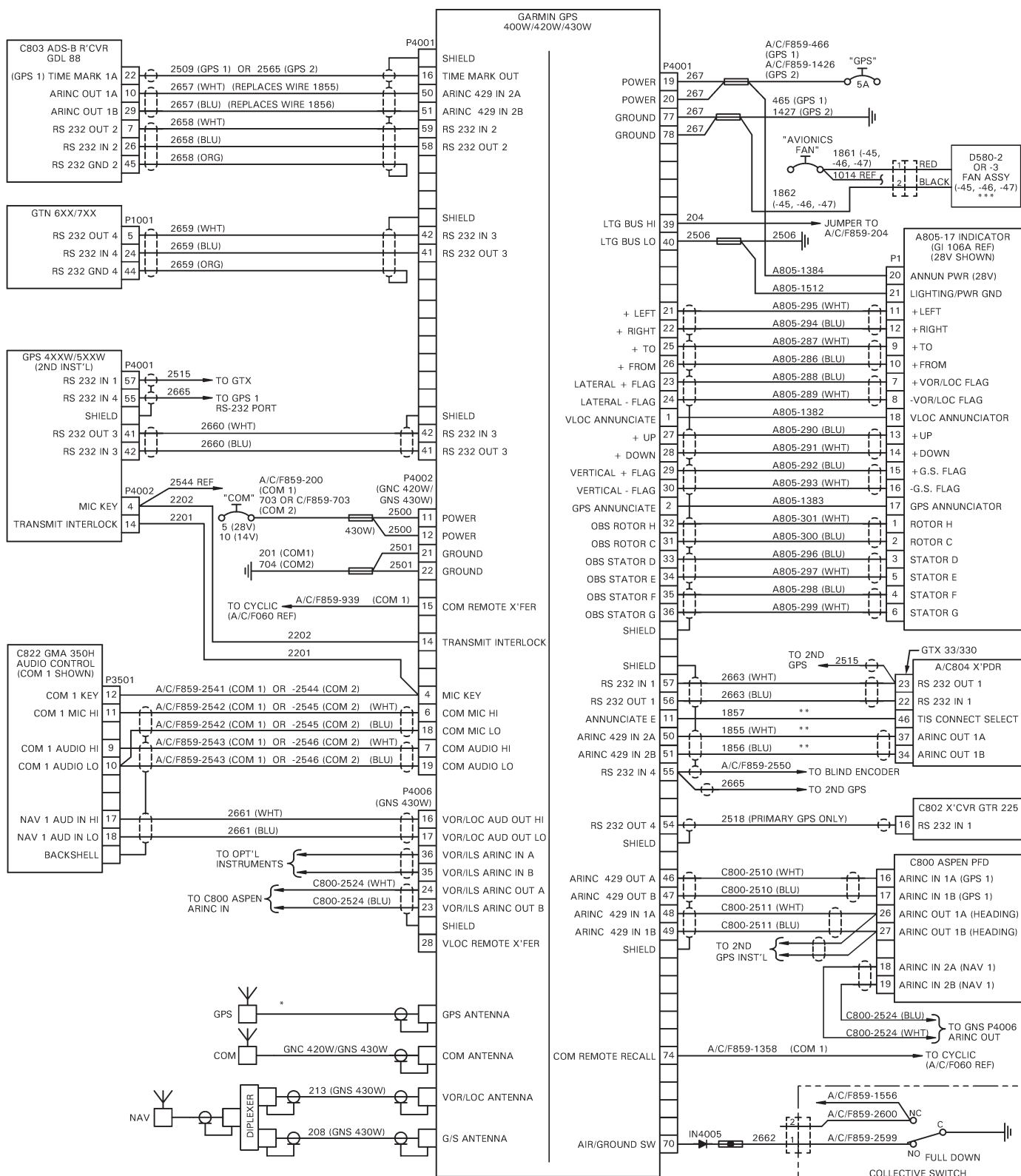


FIGURE 14-50 C831 GPS SCHEMATIC (GARMIN GTN 600 SERIES; EARLIER SHIPS)



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