

EQUIPMENT CHANGES.

This Temporary Correction covers the following changes which were made on Radio Receiver Set AN/FRR-22, AN/FRR-23, and those AN/FRR-21 bearing serial numbers 26 and up.

1. The changes that are common to Radio Receiving Sets AN/FRR-23, AN/FRR-22, and those AN/FRR-21 having serial numbers 26 and up are as follows:

a. The 2ND I.F. BAND PASS FILTERS, Z1001, Z1002 and Z1003 have been replaced by a mechanical filter Z1015 and an LC filter Z1016. Filter Z1015 has two sections which function independently. The section designated Z1015A is a SHARP filter and the section designated Z1015B functions as a MEDIUM filter. Z1016 is a BROAD filter. The following table shows how these filters are utilized in RADIO RECEIVING SETS AN/FRR-21, AN/FRR-22 and AN/FRR-23.

TABLE 1

ORIGINAL FILTER	FUNCTION	BANDPASS	NEW FILTER	FUNCTION	BANDPASS
Z1001	SHARP	3KC	Z1015A	SHARP	1KC
Z1002	MEDIUM	8KC	Z1015B	MEDIUM	3KC
Z1003	BROAD	16KC	Z1016	BROAD	8KC

b. INTERSTAGE transformers Z1005 and Z1007 have been replaced by transformers Z1017 and Z1018. The new transformers utilize capacitive (TOP) coupling. This is achieved by placing C1040 from L1016 to T1015 and C1046 from L1017 to T1016. Coupling was formerly by tertiary windings in T1015 and T1016 but these windings, though still present, have been disconnected and are not used.

The values of PLATE LOAD resistors R1009 (V1001) and R1013 (V1002) have been changed from 15,000 ohms to 20,000 ohms. These changes, together with those made on the INTERSTAGE transformers, were made to correspond to the narrower band pass now being used.

c. The STANDBY switch and its corresponding circuitry have been deleted.

2. The following changes apply to Radio Receiving Sets AN/FRR-22 and AN/FRR-23 only:

a. The STANDBY switch on the front panel is replaced by the POWER switch. The circuitry of the POWER switch remains the same only its physical position is changed.

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b. An AGC, NORM-OFF switch is now in the position formerly occupied by the POWER switch. This enables the operator to turn off the AGC in the following positions of the RECEPTION control: A3 BROAD, A3 SHARP, and FSK. The AGC, NORM-OFF switch is a two-position double-wafer rotary switch. The AGC does not function in A1 position, so the AGC switch has no effect.

c. On the front panel, the designation A2 on the RECEPTION switch is changed to read A1 MEDIUM. This change is also in mode of operation. A2 type reception is no longer used. A1 mode of operation is now employed in the A1 MEDIUM position. Wherever A2 appears in the instruction book text, change it to read A1 MEDIUM and consider it to function the same as normal A1 operation unless otherwise specified. To receive A2 signals, set the RECEPTION control to A3 (preferably SHARP), set the AGC switch to OFF and proceed as specified for A2 reception.

d. Terminal No. 9 on S1301 (BFO sub-assembly chassis) is now connected to terminal No. 10 of S1301. This applies B+ to the plate of the BFO when the RECEPTION control is set in position A1 MEDIUM.

e. The wiring of switches S1001 and S1002 has been changed to accommodate the AGC switch operation. This change also affects the filter selection for the various modes of operation, as shown in the following table. Refer to the connection diagram accompanying this Temporary Correction.

RECEPTION CONTROL POSITION	TABLE 2	
	ORIGINAL SELECTION	NEW SELECTION
FSK	SHARP	MEDIUM
A1 BROAD	SHARP	MEDIUM
A1 SHARP	SHARP	SHARP
A1 MED	MEDIUM	SHARP
A3 SHARP	MEDIUM	MEDIUM
A3 BROAD	BROAD	BROAD
A2*	MEDIUM	MEDIUM

* AN/FRR-21 only

f. The wiring of S1003 has been changed to allow the BFO MIXER signal to be applied to the first audio stage when the RECEPTION control is in position A1 MEDIUM.

3. The following changes apply to Radio Receiving Sets AN/FRR-21 having serial numbers 26 and up.

a. On the RECEPTION CONTROL, A1 BROAD and FSK positions are combined. This entails no circuit change as FSK and A1 BROAD are identical in operation. The fourth position vacated by this shift is occupied by A2 position. Adjacent to A2 position is A1 MEDIUM. (See Table 2 of this Temporary Correction for filter selection in SECOND I.F.)

b. The wiring of S1301 has been changed so that the BFO is inoperative in A2 position of the RECEPTION control.

c. The wiring of S1003 has been changed to accommodate the A1 MEDIUM mode of operation.

INSTRUCTION BOOK CHANGES

The following changes should be made in NAVSHIPS 92211, the Instruction Book for Radio Receiving Sets AN/FRR-21, AN/FRR-22, and AN/FRR-23, to cover the changes mentioned above.

1. For Radio Receivers AN/FRR-22 and AN/FRR-23 change the symbol A2 to read A1 MEDIUM wherever A2 appears in the instruction book text.

2. In paragraph 2h on page 2-9 make the following revisions:

a. Change the first sentence to read, "The second i-f assembly is identical for all receiver types except the AN/FRR-21 having serial numbers 1-25 and the differences are described where applicable.

b. Delete the word "however" from the second sentence.

3. In paragraph 2h(1) on page 2-9 make the following revisions:

a. Change the first sentence to read, "For Radio Receivers AN/FRR-21 having serial numbers 1 to 25 inclusive, the 200-kilocycle input to the second i-f assembly, appearing at J1001B, is filtered before it is applied to the first amplifier, V1001."

b. Insert the following at the end of the paragraph:

For Radio Receivers AN/FRR-22, AN/FRR-23 and those AN/FRR-21 having serial numbers 26 and up the 200-kilocycle input to the second i-f assembly, appearing at J1001B, is filtered before it is applied to the first amplifier, V1001. The filter selected depends on the position of wafer switches S1001 and S1002 which are actuated by the RECEPTION control. When this control is set at F3K, A1 BROAD, or A3 SHARP, the signals are fed through the "medium" filter, Z1015B which provides a band pass of approximately 3kc centered about 200kc. When the RECEPTION control is set at A1 SHARP or A1 MEDIUM, the "sharp" filter Z1015A, is used, which provides a band pass of approximately 1kc centered about 200kc. Signals are fed through the "broadly" tuned filter, Z1016, when the RECEPTION control is at A3 BROAD. Z1016 (together with Z1017, Z1018, Z1011 and T901 of the first i-f) provides a pass-band of approximately 8kc centered about 200kc.

4. On page 2-10 paragraph 2h(2) make the following revisions for Radio Receivers AN/FRR-22, AN/FRR-23 and those AN/FRR-21 having serial numbers 26 and up:

a. In the first sentence change the symbol Z1005 to read Z1017.

b. In the third sentence change symbol Z1007 to read Z1018.

c. In the seventh line change L1011 and T1011 to read L1016 and T1015 respectively.

5. For Radio Receivers AN/FRR-22, AN/FRR-23 and those AN/FRR-21 having serial numbers 26 and up delete all I-F SELECTIVITY notations in Table 2-2 on page 2-19 and refer to Table 2 of this Temporary Correction.

6. For Radio Receivers AN/FRR-22 and AN/FRR-23 make the following changes in Table 2-2 on page 2-19:

a. In the column marked MEDIUM-FREQ RECEIVERS change the AGC notations for A3 BROAD, A3 SHARP, and FSK to read NORM-OFF.

b. In the column marked HIGH-FREQ RECEIVERS change the AGC notations for A3 BROAD, A3 SHARP, and FSK to read NORM-OFF.

7. On pages 2-21 and 2-22 for figure 2-8, see revised schematic accompanying this Temporary Correction for final authority.

8. On pages 2-23 and 2-24 for figure 2-9, see revised schematic accompanying this Temporary Correction for final authority.

9. On pages 2-25 and 2-26 for figure 2-10, see revised schematic accompanying this Temporary Correction for final authority.

10. When referring to figure 4-2, page 4-3, see paragraph 2a and 2b on page 2 of this Temporary Correction.

11. When referring to figure 4-1, page 4-3 see paragraph 1c page 1 of this Temporary Correction.

12. On page 4-4 add the following to paragraph 4c:

(6) A1 MEDIUM. - Adjust controls as given for the A1 BROAD position. The A1 MEDIUM setting should be used for the approximate same purpose as A1 SHARP. The A1 BROAD position should be used whenever possible for reception of c.w. signals.

13. On page 6-1, delete paragraph 2 of SECTION VI, PREVENTIVE MAINTENANCE, and insert the following:

2. SLIDE ASSEMBLY ADJUSTMENTS.

The two eccentric hex nuts (located on the inside of the chassis-slides at the tilting fulcrum stud) are provided to adjust the chassis up or down in the case. It is necessary to remove the POWER SUPPLY to make this adjustment. These nuts must be securely locked in place with the lock nuts after the adjustment has been made.

An additional adjustment is provided to work in conjunction with the eccentric hex nuts. This is an eccentric stud at the fulcrum of the tilting lock lever. This adjustment is used to reset the chassis to a horizontal position after adjusting the eccentric nuts. It is necessary to loosen the nut on the inside of the chassis slightly before making this adjustment. Make sure this nut is tightened after the adjustment is made.

In order to make the cases and chassis interchangeable, it was necessary to allow the manufacturer a tolerance in regard to the fit of the removable section and the stationary section of the slide. It will be noted that there is a variation in the slide fit when a chassis is changed from one case to another. It may be necessary

to readjust the eccentrics when cases and chassis are interchanged. Occasionally the latches on the slides may not fall in place when the chassis is fully withdrawn from the case. This can usually be corrected by bending the lever slightly so that it will fall in the slot.

14. For Radio Receivers AN/FRR-22 and AN/FRR-23 delete all SENSITIVITY data for A1 MEDIUM (A2) in SECTION 6 of Instruction Book. This information is not available at this time.

15. For Radio Receivers AN/FRR-21 having serial numbers 26 and up the SENSITIVITY data for A1 MEDIUM is not available at this time.

16. In SECTION 7 of Instruction Book no STAGE GAIN measurements for the A1 MEDIUM position on any receiver are available at this time.

17. For Radio Receivers AN/FRR-22, AN/FRR-23 and those AN/FRR-21 having serial numbers 26 and up make the following revisions:

a. Replace figures 7-20, 7-21 and 7-22 with revised schematic diagrams accompanying this Temporary Correction.

b. Delete figure 7-9 on pages 7-72 and 7-73. This information is not available at this time.

c. Replace figure 7-38 on pages 7-129 and 7-130 with the revised connection diagram for the SECOND I-F amplifier. This diagram accompanies this Temporary Correction.

d. On pages 7-133 and 7-134 when referring to figure 7-40 see revised schematic diagram accompanying this Temporary Correction.

e. Replace figures 7-47, 7-48 and 7-49 with the revised MAIN FRAME connection diagrams accompanying this Temporary Correction.

18. For Radio Receiver AN/FRR-23 make the following revisions:

a. On page 1-6, TABLE 1-6 change the tube complement for LOCAL OSCILLATOR from one (I) 5840 to one (1) 5718.

b. On page 2-7 replace paragraph 2e(3) with the following:

OSCILLATOR (AN/FRR-23). - See revised schematic (figure) accompanying this Temporary Correction. The oscillator used in the AN/FRR-23 receiving set is a Hartley circuit. The cathode and control grid, pin 1, of the oscillator tube V4401 are connected in the oscillatory circuit through contacts on S4401A, which is controlled by the band selector. The tuned circuit consists of coils L4401, L4402, L4403, L4404, or L4405 fixed and trimmer capacitors, and the oscillator section of the ganged tuning capacitor, C4451A. The E tap of one of coils L4401 to L4405 is connected to the control grid (pin 1), as selected by a portion of S4401A, through the grid leak network C4422 and R4401. The D tap of one of the coils, as selected by a portion of S4401A, is connected in the cathode circuit in band I, to improve the stability of the circuit. A portion of the S4401B shorts unused coils to prevent absorption of signal on the band in use.

The plate (pin 8) is connected to the bottom side (ground) of the tuned circuit, through capacitor C4424. This arrangement along with the cathode tap mentioned previously, provides proper feedback to sustain oscillations.

The plate voltage of V4401 is regulated to insure stable output from the oscillator. In order to reduce hum on band 4 and 5, one side of the heater is connected the cathode through a portion of S4401B. Choke L4406 and ballast resistor R1605, located in the power supply, are provided in the other heater line to minimize heater current variations. The oscillator tracks 1600 kilocycles higher than the signal frequency on all five bands.

c. On pages 7-171, 7-172 replace figure 7-53 with the revised OSCILLATOR PLUG-IN BOARD diagram accompanying this Temporary Correction.

TABLE 8-1. MAINTENANCE PARTS LIST

Page 8-3

Add A-1302 through A-1600 Not Used

Page 8-4

Change A-2012 through A-2100 Not Used to A-2014 through A-2100 Not Used

Add A-2012 - Desc. - BRACKET, MOUNTING: for mounting equipment to rack; aluminum alloy, light Navy gray enamel finish; rectangular shape; 12 in. lg by 8 in. wide by 7/8 in. thick; mounts by six 0.228 in. dia mounting holes; right-hand side: has four slots 35/64 in. deep by 0.250 in. wide in flange, spaced 1-3/4 in., 2-1/4 in., 1-3/4 in. C to C for securing to rack; RCA part/dwg B-459848-1

Function - Mounts Chassis

Add A-2013 - Desc. - BRACKET, MOUNTING: for mounting equipment to rack; aluminum alloy, light Navy gray enamel finish; rectangular shape; 12 in. lg by 8 in. wide by 7/8 in. thick; mounts by six 0.228 in. dia mounting holes; left-hand side: has four slots 35/64 in. deep by 0.250 in. wide in flange, spaced 1-3/4 in., 2-1/4 in., 1-3/4 in. C to C for securing to rack; RCA part/dwg B-459848-2

Function - Mounts Chassis

Change A-2115 through A-2200 Not Used to A-2117 through A-2200 Not Used

Add A-2115 - Desc. - Same as A-2012
Function - Mounts Chassis

Add A-2116 - Desc. - Same as A-2013
Function - Mounts Chassis

A-2207 - Change Desc. to - COVER: main frame channel cover; c/o 1 cover, 1 plate, 1 grounding spring, and 1 insulation strip; phosphor bronze white nickle plate; "U" shape; 5-3/16 in. lg by 1.883 in. wide by 7/8 in. high overall approx; mounts by two 0.173 in. dia holes spaced 3-1/3 in. C to C, 1-21/64 in. down from edge; one "U" shape and two rectangular shape notches on one side, one "U" shape and three rectangular shape notches in other side; has four 0.102 in. dia holes spaced 7/32 in. from one edge vertically and 1-5/16 in. to centerline of first hole, 0.437 in. from center of first to center of second hole, 1.468 in. from center of second hole to center of third hole and 0.437 in. from center of third hole to center of fourth hole horizontally; RCA part/dwg C-744574-505

Change A-2215 through A-3000 Not Used to A-2218 through A-3000 Not Used

Add A-2215 - Desc. - COVER: main frame channel cover; c/o 1 insulation strip, 1 cover, and 1 plate; phosphor bronze white nickle plate; "U" shape; 4-15/32 in. lg by 1-27/32 in. wide by 11/16 in. high overall; two 0.173 in. dia mounting holes on a 2-3/4 in. mounting center; has two "U" shape and two rectangular shaped notches in one side, and two "U" shape (1 large and 1 small) and one rectangular shaped notche in other side; the latter side also has an 11/16 in. high by 3/16 in. wide cutout one end and 5/8 in. high by 3/8 in. wide cutout other end; RCA part/dwg C-744574-504

Function - Covers Chassis Wiring

Add A-2216 - Desc. - Same as A-2012
Function - Mounts Chassis

Add A-2217 - Desc. - Same as A-2013
Function - Mounts Chassis

A-3708 - Change Desc. to - COVER: aluminum alloy, optical black; rectangular shape; 3-1/8 in. lg by 1-5/64 in. wide by 0.110 in. thick overall; mounts by two keyhole shape 0.296 in. wide by 0.398 in. lg holes spaced 2.625 in. C to C, 3/4 in. up from flanged edge; marked I-3701, I-3702, X-3701, and X-3702; lower edge bent on a 1/32 in. radius to form 5/64 in. lg flange; RCA part/dwg A-8821403-2

A-3808 - Change Desc. to - COVER: aluminum alloy, optical black; rectangular shape; 3-1/8 in. lg by 1-5/64 in. wide by 0.110 in. thick overall; mounts by two keyhole shape 0.296 in. wide by 0.398 in. lg holes spaced 2.625 in. C to C, 3/4 in. up from flanged edge; marked I-3801, I-3802, X-3801, and X-3802; lower edge bent on a 1/32 in. radius to form 5/64 in. lg flange; RCA part/dwg A-8821403-3

Change C-1002 through C-1026 Not Used to C-1002 through C-1028 Not Used

C-1027 - Delete entire item and mark "Not Used"

C-1028 - Delete entire item and mark "Not Used"

C-1033 - Add to Desc. - Used on serial 1 to 25, AN/FRR-21

C-1034 - Add to Desc. - Used on serial 1 to 25, AN/FRR-21

C-1037 - Add to Desc. - Used on serial 1 to 25, AN/FRR-21

C-1038 - Add to Desc. - Used on serial 1 to 25, AN/FRR-21

C-1040 - Change Desc. to - CAPACITOR, FIXED, CERAMIC DIELECTRIC: JAN Type CC20CH150G; 15 mmf capacity $\pm 2\%$; 0 mmf per mf per deg. C temp coefficient, $+60$ -112 tolerance; 500 v DC working; 0.400 in. lg by 0.200 in. dia; 2 radial wire lead terminals; terminal mounted; ceramic insulation; color coded; RCA part/dwg P-722401-65; p/o Z-1018. Cut in at serial 26, AN/FRR-21

Function - Top Coupling L-1016 to T1015

C-1046 - Change Desc. to - Same as C-1040; p/o Z-1018. Cut in at serial 26, AN/FRR-21

Function - Top Coupling, L-1017 to T-1016

C-1057 - Change Desc. to - Same as C-814; p/o Z-1017. Cut in at serial 26, AN/FRR-21

Function - Tunes L-1016

C-1059 - Change Desc. to - Same as C-814; p/o Z-1017. Cut in at serial 26, AN/FRR-21

Function - Tunes L-1016

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Change C-1067 through C-1100 Not Used to C-1069 through C-1100 Not Used

Add C-1067 - Desc. - Same as C-814; p/o Z-1018. Cut in at serial 26, AN/FRR-21
Function - Tunes L-1017

Add C-1068 - Desc. - Same as C-814; p/o Z-1018. Cut in at serial 26, AN/FRR-21

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C-1201 - Change Function to - Adjustment of Frequency of Y-1201

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C-2101 - Change Desc. to - CAPACITOR, VARIABLE, AIR DIELECTRIC: plate meshing type; 5 sections; 235 mmf max, 15 mmf min; straight line tuning characteristic; 230 rms test voltage; dim., excluding shaft and bushing, 8-3/8 in. lg by 2.701 in. wide by 3-5/8 in. high; bushing dim., 0.195 in. lg by 1/4 in. dia by 3-5/8 in. ID; shaft dim. beyond bushing, 41/64 in. lg by 1/4 in. dia; extension shaft adjustment, 187 deg cw rotation; ceramic base insulated; 10 solder lug type terminals; two no. 6-32 tapped mounting holes on 1 in. mounting center in block on top and three no. 10-32 mounting studs on 1.953 in. by 7.437 in. mounting center on bottom; ea section shielded from all other sections; all sections shielded against liquids and gases for a differential up to ±3 psi; resistant to 200 hrs salt water spray test; 25 plates per section, front section steel, other sections brass; RCA part/dwg C-744506-2

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C-2102 - Change Desc. to - CAPACITOR, FIXED, MICA DIELECTRIC: 270 mmf ±2%; 500 v DC working; -20 to +100 parts per million per deg C temp coefficient; molded low loss bakelite case; case dim., 33/64 in. lg by 19/64 in. wide by 7/32 in. high; 2 axial wire lead type terminals, one ea end; terminal mounted; color coded; RCA part/dwg C-737837-441

Function - Tunes T-2101 Primary

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C-2201 - Change Desc. to - CAPACITOR, VARIABLE, AIR DIELECTRIC: plate meshing type; 5 sections 235 mmf max, 15 mmf min; straight line frequency tuning characteristic; 230 rms test voltage; dim., excluding shaft and bushing, 8-3/8 in. lg by 2.781 in. wide by 3-5/8 in. high; bushing dim., 0.195 in. lg by 1/4 in. OD by 0.116 in. ID; shaft dim. beyond bushing, 41/64 in. lg by 1/4 in. dia; extension shaft adjustment, 187 deg cw rotation; ceramic base insulated; 10 solder lug type terminals; two no. 6-32 tapped mounting holes on 1 in. mounting center in block on top and three no. 10-32 mounting studs on 1.953 in. by 7.437 in. mounting center on bottom; ea section shielded from all other sections; all sections sealed against liquids and gases for a differential up to ±3 psi; resistant to 200 hrs salt spray test; 25 plates per section, front section steel, other sections brass; RCA part/dwg C-744506-1

Change C-2210 through C-3000 Not Used to C-2211 through C-3000 Not Used

Add C-2210 - Desc. - CAPACITOR, FIXED, CERAMIC DIELECTRIC: 22 mmf ±10%; 500 v DC working; 30 mmf per mf per deg C positive, ±60 mmf tolerance; uninsulated; case dim., 0.460 in. lg by 0.240 in. dia; 2 radial wire lead type terminals; terminal mounted; color coded; RCA part/dwg C-722423-18
Function - Suppressor Coupling, V-551

E-129 - Change Desc. to - SHIELD, ELECTRON TUBE: phosphor bronze, spring temper, 0.010 in. thick, silver plate; cylindrical shape w/ end tag extension; 1-7/16 in. lg by 13/32 in. wide by 3/8 in. high overall; mounts by 0.086 in. dia hole in one end, tag for rivet; to withstand 48-hr salt spray test, riveted and soldered electrical connections at tags serves as tube mount; RCA part/dwg A-8832370-2; p/o E-135

E-135 - Change Desc. to - TERMINAL BOARD: laminated glass cloth silicone resin; incl 16 solder post feedthru type, 2 solder post type, and 1 solder lug type terminals; w/o barriers; 3 in. lg by 1-7/16 in. wide by 1/16 in. thick; mounted by two terminal pins spaced on 1.156 in. mounting center; w/ shield and shield mount; RCA part/dwg T-629844-507; p/o Z-126

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- E-556 - Change Desc. to - Same as E-129; p/o E-563
- E-557 - Change Desc. to - Same as E-129; p/o E-563
- E-558 - Change Desc. to - TERMINAL, STUD: solder connection, brass, tin and zinc alloy finish; overall dim., 7/16 in. lg by 3/32 in. dia; mounts by rivet-like action of split base of shank; RCA part/dwg A-8817183-2; p/o E-563
- E-559 - Change Desc. to - Same as E-558; p/o E-563
- E-560 - Change Desc. to - Same as E-360
- E-563 - Change Desc. to - TERMINAL BOARD: laminated glass cloth silicone resin; incl 23 stud terminals, and 1 solder lug terminal; w/o barriers; 3 in. lg by 1-7/16 in. wide by 15/16 in. deep; mounted by two terminal pins at one end in corners, 0.098 in dia 1.156 in. C to C, 0.328 in. lg projecting; w/ shield and shield mount, grounding straps; RCA part/dwg T-629844-508; p/o Z-551

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- E-566 - Change Desc. to - TERMINAL, STUD: solder connection; brass, tin and zinc alloy finish; overall dim., 11/32 in. lg by 3/32 in. dia; mounts by rivet-like action of split base of shank; RCA part/dwg A-8817183-1; p/o E-563
- Function - Delete "P/o E-563"

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- E-1004 - Add to Desc. - Used on serial 1 to 25, AN/FRR-21
- E-1005 - Add to Desc. - Used on serial 1 to 25, AN/FRR-21
- E-1008 - Delete entire item and mark "Not Used"

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- E-1019 - Add to Desc. - Used on serial 1 to 25, AN/FRR-21
- E-1020 - Add to Desc. - Used on serial 1 to 25, AN/FRR-21
- E-1022 - Delete entire item and mark "Not Used"

Change E-1023 through E-1100 Not Used to E-1027 through E-1100 Not Used

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- Add E-1023 - Desc. - Same as E-1006; p/o Z-1017. Cut in at serial 26, AN/FRR-21
Function - Connection for Z-1017
- Add E-1024 - Desc. - Same as E-1006; p/o Z-1018. Cut in at serial 26, AN/FRR-21
Function - Connection for Z-1018
- Add E-1025 - Desc. - Same as E-1019; p/o E-1023. Cut in at serial 26, AN/FRR-21
Function - Insulates Wiring in Z-1017
- Add E-1026 - Desc. - Same as E-1019; p/o E-1024. Cut in at serial 26, AN/FRR-21
Function - Insulates Wiring in Z-1018

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- E-2010 - Delete entire item and mark "Not Used"
- E-2011 - Delete entire item and mark "Not Used"
- Change E-2033 through E-2100 Not Used to E-2034 through E-2100 Not Used
- Add E-2033 - In Notes column - add "2"
Desc. - INSULATOR, BUSHING: teflon, white, wax finish; 3/16 in. lg
by 0.088 in. OD by 0.031 in. ID; mounts by association; in-
sulator tapers from 0.088 in. to 0.062 in. within a distance
of 1/16 in.; RCA part/dwg A-8903605-1
Function - Heat Insulator for Coaxial Cable

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- E-2107 - Delete entire item and mark "Not Used"
- E-2110 - Delete entire item and mark "Not Used"
- E-2111 - Change Desc. to - INSULATOR, PLATE: flat rectangular shape; glass fabric,
tetrafluoroethylene coated; 1-53/64 in. lg by 5/8 in.
wide by 0.005 in. thick; four 0.128 in. dia mounting
holes spaced on 5/16 in., 0.858 in., 5/16 in. centers;
"I" shape slit on same centerline holes 17/64 in. lg
by 5/16 in. high; Dupont no. 405; RCA part/dwg
A-3825747-6
- E-2132 - Change Desc. to - Same as E-2033
Function - Heat Insulator for Coaxial Cable

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- E-2207 - Delete entire item and mark "Not Used"
- E-2210 - Delete entire item and mark "Not Used"

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- E-2211 - Change Desc. to - Same as E-2111
- E-2232 - Change Desc. to - Same as E-2033
Function - Heat Insulator for Coaxial Cable.
- E-2235 - Change Function to - With E-2236, Insulates C-2201 from Chassis
- E-2236 - Change Function to - With E-2235, Insulates C-2201 from Chassis

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- E-3007 - Delete entire item and mark "Not Used"
- E-3014 - Change Desc. to - Same as E-129; p/o E-3016

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Change E-3017 through E-3100 Not Used to E-3017 through E-3034 Not Used

Add the following new items:

- E-3035 - Desc. - Same as E-101
Function - Connection to C-2101C
- E-3036 - Desc. - Same as E-101
Function - Connection to C-2101C
- E-3037 - Desc. - Same as E-101
Function - Connection to C-2101D
- E-3038 - Desc. - Same as E-101
Function - Connection to C-2101D
- E-3039 - Desc. - TERMINAL BOARD: laminated glass cloth silicone resin, 1/16 in. thick; incl six hot solder dipped terminals, 4 stud type, 2 lug type; w/o barriers; 1-13/16 in. lg by 21/32 in. wide by 11/16 in. deep overall; mounts by means of "L" shaped aluminum bracket riveted to board at one end w/ 2 holes w/ no. 4-40 self-clinching steel nut inserts on bent end 11/32 in. C to C; marked w/ 3/32 in. satin black standard characters; 4 stud terminals evenly spaced 1-13/32 in. by 11/32 in. centers w/ 2 lug terminals at back of 2 end posts 11/32 in. C to C; RCA part/dwg B-464047-505
Function - Supports Capacitors

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- E-3040 - Desc. - TERMINAL BOARD: laminated glass cloth silicone resin, 1/16 in. thick; incl 10 stud type brass hot solder dipped terminals; w/o barriers; 4-1/8 in. lg by 1/4 in. wide by 17/64 in. deep overall; 5 mounting holes 0.078 in. dia 0.781 in. C to C in line evenly spaced w/ reference to terminals; marked w/ 1/16 in. satin black standard characters; terminals placed one ea end 3.875 in. C to C and 4 pairs evenly between, center spacings 0.687 in., 0.156 in., 0.625 in., 0.156 in., 0.625 in., 0.156 in., 0.625 in., 0.156 in., 0.687 in.; RCA part/dwg B-469419-501
Function - Supports Capacitors
- E-3041 - Desc. - PLATE, ELECTRICAL GROUNDING: brass sheet 0.0403 in. thick; silver plate and clear water dip finish; pronged "Z" shaped strip; 3-31/32 in. lg by 1-27/64 in. wide by 15/16 in. deep overall; mounts by means of 5 holes on center line of solid section of strip 0.261 in. by 0.198 in. ea, 0.781 in. C to C; marked on plate w/ 1/16 in. high standard black characters; strip terminal at one end, lance formation on ea prong; RCA part/dwg T-630899-18
Function - Supports Wiring
- E-3042 - Desc. - TERMINAL BOARD: laminated glass cloth silicone resin, 1/16 in. thick; incl 10 stud type brass hot solder dipped terminals; w/o barriers; 4-1/8 in. lg by 1/4 in. wide by 17/64 in. deep overall; 5 mounting holes 0.078 in. dia 0.781 in. C to C in line evenly spaced w/ reference to terminals; marked C-3058; terminals placed one ea end 3.875 in. C to C and 4 pair evenly between center spacings 0.687 in., 0.156 in., 0.625 in., 0.156 in., 0.625 in., 0.156 in., 0.625 in., 0.687 in., RCA part/dwg B-469419-503
Function - Supports Capacitors
- E-3043 - Desc. - PLATE, ELECTRICAL GROUNDING: brass sheet 0.0403 in. thick; silver plate and clear water dip finish; pronged "Z" shaped strip; 3-31/32 in. lg by 1-27/64 in. wide by 15/16 in. deep overall; mounts by means of 5 holes on centerline of solid section of strip 0.261 in. by 0.198 in. ea, 0.781 in. C to C; marked on plate w/ 1/16 in. high standard black characters; strip terminal at one end, lance formation on ea prong; RCA part/dwg T-630899-16
Function - Supports Wiring
- E-3044 - Desc. - TERMINAL BOARD: laminated glass cloth silicone resin, 1/16 in. thick; 4 stud, 2 lug hot solder dipped terminals; w/o barriers; 1-13/16 in. lg by 21/32 in. wide by 11/16 in. deep overall; mounts by means of "L" shaped aluminum bracket riveted to board at one end w/ 2 holes w/ no. 4-40 self clinching steel nut inserts on bent end 11/32 in. C to C; marked w/ 3-32 in. satin black standard characters; 4 stud terminals evenly spaced 1-13/32 in. by 11/32 in. centers w/ 2 lug terminals at back of 2 end posts 11/32 in. C to C; RCA part/dwg B-464047-506
Function - Supports Capacitors

- E-3045 - Desc. - TERMINAL, STUD: solder connection; brass, tin-zinc alloy finish; 9/16 in. lg by 1/4 in. OD across flats overall; single axial mounting hole no. 4-40 tapped thread by 1/4 in. lg threaded portion; spacing between solder prongs 0.089 in. dia; RCA part/dwg A-8864519-1
Function - Insulates W-3039 from Chassis
- E-3046 - Desc. - Same as E-136
Function - Insulates E-3041 and E-3043 from Chassis
- E-3047 - Desc. - Same as E-360
Function - Wiring Connection to Chassis
- E-3048 - Desc. - Same as E-108
Function - With E-3049, Supports Wiring
- E-3049 - Desc. - Same as E-107
Function - With E-3048, Supports Wiring
- E-3050 - Not Used
- E-3051 - Desc. - Same as E-129; p/o E-3053
Function - Supports V-3051
- E-3052 - Desc. - Same as E-3015; p/o Z-3035
Function - Wiring Connection to Chassis
- E-3053 - Desc. - TERMINAL BOARD: laminated glass cloth silicone resin board, 1/16 in. thick; 16 stud and 1 "L" lug type terminals; w/o barriers; 3 in. lg by 1-7/16 in. wide by 1 in. deep overall; mounts at 2 spring terminals and 1 spring pin, terminals at one end 1.156 in. C to C, pin at other end 2-5/8 in. from terminal centerline and 1 in. from outer edge; marked in 3/32 in. high standard characters 1/16 in. numerals "1" to "7" in. legible black; assembly incl shield mount, shield and grounding strap, also bracket across mounting terminals; RCA part/dwg C-748787-505; p/o Z-3035
Function - Foundation for Z-3035
- E-3054 through E-3100 Not Used
- E-3107 - Delete entire item and mark "Not Used"
- E-3114 - Change Desc. to - Same as E-129; p/o E-3116

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E-3603 - Change Desc. to - "KNOB: rd shape; black bakelite; designed to accommodate 1/4 in. dia shaft by set screws; brass insert; 1-5/8 in. lg by 1-1/2 in. wide by 7/8 in. thick overall; has finger indentations, one edge has raised boss "pointers"; RCA part/dwg A-8864599-1

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E-4406 - Change Desc. to - Same as E-129; p/o E-4413

F-1601 - Change Desc. to - FUSE, CARTRIDGE: 1 amp, 125 v; time delay 135% for 0-1 hr and 200% for 60 sec max, 5 sec min; two 1/4 in. dia ferrule type terminals; glass body; indicating; 1-1/4 in. lg by 1/4 in. dia overall; Littelfuse Inc. Catalog no. 313001 type 3AG; RCA part/dwg K-896698-4. Cut in at serial 26, AN/FRR-21

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Add H-1302 through H-2000 Not Used

Page 8-42

H-2010 - Delete entire item and mark "Not Used"

H-2011 - Change Desc. to - RING, RETAINER: steel SAE 1085-1090, cadmium plated; cylindrical washer shape; no dim. in this item is greater than one in.; mounts around 0.188 in. dia shaft and OD of ring snap fits into groove 0.175 in. dia; RCA part/dwg B-458549-155

Function - Secures O-2013

Change H-2024 through H-2100 Not Used to H-2025 through H-2100 Not Used

Add H-2024 - Desc. - WASHER, FLAT: phosphorous bronze, nickel plated; rf; 5/16 in. OD by 0.191 in. ID by 0.0201 in. thick; RCA part/dwg A-59218-128

Function: Secures O-2013

Page 8-43

H-2110 - Delete entire item and mark "Not Used"

H-2111 - Change Function to - Secures O-2113

Change H-2124 through H-2200 Not Used to H-2125 through H-2200 Not Used

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Add H-2124 - Desc. - Same as H-2024
Function - Secures O-2113

H-2210 - Delete entire item and mark "Not Used"

H-2211 - Change Function to - Secures O-2213

Change H-2224 through H-3000 Not Used to H-2225 through H-3000 Not Used

Add H-2224 - Desc. - Same as H-2024
Function - Secures O-2213

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H-3603 - In Notes column - Add "3"
Change Desc. to - RING, RETAINER: steel, cadmium plate finish; "E" shape;
0.335 in. OD by 0.025 in. thick overall; fits around
0.145 in. dia shaft; RCA part/dwg A-93605-106

Change H-3613 through H-3700 Not Used to H-3613 through H-3615 Not Used

Add H-3616 - Desc. - WASHER, SPRING TENSION: rd w/ wave bend, beryllium copper,
white nickel finish; 5/8 in. OD by 0.390 in. ID, 0.050 in.
thick overall; RCA part/dwg A-8864594-1
Function - Applies Pressure to Dial Collar

Add H-3617 through H-3700 Not Used

H-3703 - Change Desc. to - Same as H-3603

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Change H-3713 through H-3800 Not Used to H-3713 through H-3715 Not Used

Add H-3716 - Desc. - Same as H-3616
Function - Applies Pressure to Dial Collar

Add H-3717 through H-3800 Not Used

H-3803 - Change Desc. to - Same as H-3607

H-3808 - Change Function to - Bearing Between H-3807 and O-3827

H-3809 - Change Function to - To Stabilize O-3827

H-3810 - Change Function to - To Assemble O-3827

Change H-3813 through H-4400 Not Used to H-3813 through H-3815 Not Used

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Add H-3816 - Desc. - Same as H-3616
Function - Applies Pressure to Dial Collar

Add H-3817 through H-4400 Not Used

H-4401 - Change Function to - Spacer for E-4401

H-4402 - Change Function to - Spacer for E-4401

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J-3101 - Change Function to - Plug-in Connector for Type III Antenna Unit

J-3104 - Change Function to - Antenna Trimmer Connection for Type III Antenna Unit

J-3135 - Change Function to - Plug-in Connector for Type III RF Unit

Page 8-50

J-4009 - Change Desc. to - CONNECTOR, RECEPTACLE: 14 rd female contacts; polarized; straight type; 3-3/8 in. lg by 1-11/16 in wide by 1-3/4 in. high excluding protruding contacts; six 10 amp contacts, four 15 amp contacts, four 10 amp coaxial contacts, grounded; rectangular, aluminum cadmium plated body; mica-filled phenolic insert; mounts by four 0.152 in. dia countersunk holes on a 2-7/8 in. by 1 in. mounting center; one coaxial contact has 90 deg offset for attaching to cable; Cannon Electric Co. type DPD-A14-33S type G; RCA part/dwg P-744589-5

K-1701 - Change Desc. to - RELAY, THERMAL: spst, normally closed, AC-DC, 20 v, 1 amp; AC-DC heater, 1.12 W; 2 heater element non-plug-in type terminals; hermetically sealed; glass envelope; ambient temp range compensated for operation is 90 deg C; dim., excluding terminals, 2-1/4 in. max lg by 9/16 in. dia; mounts by means of three 0.136 in. dia holes located on mounting flange and spaced 120 deg apart on terminal board; RCA part/dwg B-474116-501

Add K-1702 through K-4000 Not Used

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K-4001 - Change Desc. to - RELAY, THERMAL: spst, normally closed, AC, 150 ma, 60 cycles to 32 mc; AC heater, 5 W; non-plug-in type terminals, 2 terminals for contacts; non-hermetically sealed; contacts remain closed at all times up to an ambient temp of 90 deg C; the relay shall open in one second or less for any current exceeding 150 ma; overall dim., 1-5/8 in. lg by 1-1/16 in. wide by 19/32 in. high; mounts by four 0.140 in. dia mounting holes on a 0.687 in. by 0.812 in. mounting center; stops incorporated to limit spring travel to 0.025 in. max above closed contact position; slow acting; continuously adjustable to a minimum operating current at 100 ma; Royson Engineering Co., type TC-1000; RCA part/dwg C-748210-1

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Change L-1000 through L-1009 Not Used to L-406 through L-1010 Not Used

L-1010 - Delete entire item and mark "Not Used"

L-1011 - Add to Desc. - Used on serial 1 to 25, AN/FRR-21

L-1012 - Add to Desc. - Used on serial 1 to 25, AN/FRR-21

Change L-1014 through L-1600 Not Used to L-1014, L-1015 Not Used

Add L-1016 - Desc. - Same as L-1011; p/o Z-1017. Cut in at serial 26, AN/FRR-21
Function - Element of Z-1017

Add L-1017 - Desc. - Same as L-1011; p/o Z-1018. Cut in at serial 26, AN/FRR-21
Function - Element of Z-1018

Add L-1018 through L-1600 Not Used

Add L-1602 through L-2000 Not Used

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Change L-2003 through L-2100 Not Used to L-2003 through L-2200 Not Used

L-2101 - Delete entire item and mark "Not Used"

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O-1006 - Delete entire item and mark "Not Used"

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Add 0-1701 through 0-2000 Not Used

0-2002 - Change Desc. to - BAR, ACTUATOR, ELECTRICAL SWITCH: stainless steel, passivating dip finish; irregular shape; 8-31/64 in. lg by 1-25/32 in. wide by 0.093 in. thick; mounts by two slots; one slot 3/4 in. lg by 9/16 in. wide; other slot 0.941 in. lg by 0.281 in. wide located at one end of bar; has four teeth 1/2 in. wide spaced 1.736 in., 2.860 in. C to C; ea tooth has one 1/8 in. wide by 17/32 in. deep notch in end; 13 equally spaced teeth one end, four unequally spaced notches on same edge near center; RCA part/dwg B-456851-3

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0-2022 - Change Desc. to - SPRING: helical extension type; dog actuator; 0.035 in. dia music wire, cadmium plated; 0.187 in. OD by 1-1/16 in. lg (free lgth) overall; approx 25 active turns; parallel hook terminals; terminal mounted; barrel shape; RCA part/dwg B-468089-2

Change Function to - Spring Loading, 0-2-23, 0-2024

0-2024 - Change Desc. to - SPRING: helical extension type; dog actuator; 0.035 in. dia music wire, cadmium plated; 0.250 in. OD by 1-7/8 in. lg (free lgth) overall; approx 35 active turns parallel hook terminals; terminal mounted; barrel shape; RCA part/dwg B-468089-1

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0-2107 - Delete entire item and mark "Not Used"

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Change 0-2131 through 0-2200 Not Used to 0-2132 through 0-2200 Not Used

Add 0-2131 - Desc. - BUTTON PLUG: brass nickel and satin black synthetic finish; 1/2 in. dia by 15/64 in. thick overall; 6 prongs; to be inserted in 25/64 in. dia hole 0.078 in. min, 0.090 in. max thick material; United Carr Fastener Catalog no. 48136; RCA part/dwg K-99051-143

Function - Cover for Diversity Gain Balance Control.

0-2207 - Delete entire item and mark "Not Used"

Change 0-2230 through 0-3000 Not Used to 0-2230 through 0-2232 Not Used

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Add 0-2233 - Desc. - Same as 0-2131
Function - Cover for Diversity Gain Balance Control

Add 0-2234 through 0-3000 Not Used

Change 0-3004 through 0-3100 Not Used to 0-3004 through 0-3034 Not Used

Add 0-3035 - Desc. - Same as 0-104
Function - Shaft Extension for S-3035 and S-3036

Add 0-3036 - Desc. - Same as 0-103
Function - Coupling for 0-3035

Add 0-3037 through 0-3100 Not Used

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0-3720 - Change Desc. to - COUPLING, FLEXIBLE: couples dial scale and capacitor shaft; c/o 1 plate, 1 bellows and 1 hub, rectangular shape; 1-1/2 in. lg by 3/4 in. wide by 0.536 in. thick overall; mounts by two 0.147 in. dia holes on a 1.25 in. mounting center; shall withstand up to 48 in. oz of torque, couples shaft by two no. 6-32 set screws; RCA part/dwg A-8864583-501

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0-3820 - Change Desc. to - Same as 0-3720

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Add P-1302 through P-1400 Not Used

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R-554 - Change Desc. to - RESISTOR, FIXED, COMPOSITION: MIL Type RC20GF222K; 2200 ohms $\pm 10\%$; 1/2w; characteristic F; 0.375 in. lg by 0.138 in. dia; insulated; resistant to salt water and humidity; two axial wire lead type terminals, 1.5 in. lg by 0.028 in. dia; RCA part/dwg C-722320-66

R-557 - Change Desc. to - Same as R-554; p/o Z-551

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R-1003 - Delete entire item and mark "Not Used"

R-1004 - Delete entire item and mark "Not Used"

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Change R-1002 Not Used to R-1002 through R-1004 Not Used

R-1008 - Add to Desc. - Used on serial 1 to 25, AN/FRR-21

R-1009 - Change Desc. to - RESISTOR, FIXED, COMPOSITION: JAN Type RC20BF203J;
20,000 ohms $\pm 5\%$; 1/2 w; characteristic F; 0.406 in. lg
by 0.175 in. dia; insulated, resistant to salt water
and humidity; two axial wire lead type terminals,
1-1/2 in. lg; RCA part/dwg P-722318-190; p/o Z-1017.
Cut in at serial 26, AN/FRR-21

Function - Loads L-1016

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R-1012 - Add to Desc. - Used on serial 1 to 25, AN/FRR-21

R-1033 - Change Desc. to - Same as R-355

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R-1114 - Change Desc. to - RESISTOR, FIXED, COMPOSITION: JAN Type RC20BF333J;
33,000 ohms $\pm 5\%$; 1/2 w; characteristic F; 0.406 in.
lg by 0.175 in. dia; insulated; resistant to salt
water and humidity; two axial wire lead type terminals;
spec JAN-R-11; RCA part/dwg P-722318-195; p/o Z-1104

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R-1204 - Change Desc. to - RESISTOR, FIXED, COMPOSITION: JAN Type RC20BF562J;
5600 ohms $\pm 5\%$; 1/2 w; characteristic F; 0.406 in. lg
by 0.175 in. dia; insulated; resistant to salt water
and humidity; two axial wire lead terminals; spec
JAN-R-11; RCA part/dwg P-722318-177

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R-1605 - Desc. - 3rd line down, delete "Amperite Type LHT4;"

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Add S-1102 through S-1300 Not Used

Add S-1302 through S-2000 Not Used

S-2003 - Delete entire item and mark "Not Used"

S-2103 - Delete entire item and mark "Not Used"

Change S-2106 through S-2200 Not Used to S-2107 through S-2200 Not Used

Add S-2106 - Desc. - SWITCH, ROTARY: 2 sections; 2 positions, max no. of switching positions possible; non pile-up type. 2 poles 2 throws; 110 v AC, 60 cycles, 1 amp; 1-25/64 in. lg by 1 in. dia excluding protruding terminals; mounts by 1/4 in. lg 3/8-32 thread bushing; supplied w/ one 3/8 in. 32 hex mounting nut 3/32 in. thick by 9/16 in. across flats; 5/8 in. lg by 1/4 in. dia flatted type shaft; solder lug type terminals; has split bushing to prevent turning, located at 3 o'clock; supplied w/ non-turn washer; has internal stop provided to limit rotation to range of terminals required; -55 deg C to +85 deg C operating temp range; Grayhill no. 24 series, Type 24YY2032-2; RCA part/dwg B-459699-1

Function - AGC On/Off Switch

Add S-2106A - Desc. - P/o S-2106

Add S-2106B - Desc. - P/o S-2106

Change S-2206 through S-3000 Not Used to S-2206, S-2207 Not Used

Add S-2208 - Desc. - Same as S-2106
Function - AGC On/Off Switch

Add S-2208A - Desc. - P/o S-2208

Add S-2208B - Desc. - P/o S-2208

Add S-2209 through S-3000 Not Used

S-3135 - Change Function to - Band Switch Type III, RF Unit Coils

Add S-3602 through S-3700 Not Used

Add S-3702 through S-3800 Not Used

Add T-802 through T-900 Not Used

T-1011 - Add to Desc. - Used on serial 1 to 25, AN/FRR-21

T-1012 - Add to Desc. - Used on serial 1 to 25, AN/FRR-21

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Change T-1015 through T-1100 Not Used to T-1017 through T-1100 Not Used

Add T-1015 - Desc. - Same as T-1011; p/o Z-1017. Cut in at serial 26, AN/FRR-21
Function - Element of Z-1017

Add T-1016 - Desc. - Same as T-1011; p/o Z-1018. Cut in at serial 26, AN/FRR-21
Function - Element of Z-1018

Add T-1102 through T-1600 Not Used

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Add T-1602 through T-2100 Not Used

Add T-2101 - Desc. - TRANSFORMER, RADIO FREQUENCY: 2 windings, single layer
wound; 2.18 mh at 200 kc, 14.3 mh at 200 kc; pri 300.5
turns no. 38 AWG copper wire; secd 22.5 turns no. 38 AWG
copper wire; pri 12.7 ohms DC; secd 1.35 ohms DC; not tuned;
184 kc to 216 kc frequency range; shielded cylindrical,
aluminum can, corrosion resistant coating; 0.601 in. lg by
0.572 in. dia; powdered iron core; 0.281 in. lg by 0.369 in.
OD by 0.128 in. ID coil form; screwdriver adjusted powdered
iron core, thru top of can; mounts by 1/4-32 thread by 0.516
in. lg bushing thru top of can; four post type terminals
located on base of can; marked in three lines w/ RCA part/
dwg no., Government Stock Number, and line three w/ 200 kc;
-54 deg C to +85 deg C operating temp range; RCA part/dwg
C-746104-33

Function - With Capacitor, Filters 200 Kc

Add T-2102 through T-3000 Not Used

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T-3103 - Desc. - 3rd line down - change "12.4 microhenries" to "1.24 microhenries"

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V-4401 - Change Desc. to - Same as V-552

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Change W-3003 through W-3100 Not Used to W-3003 through W-3034 Not Used

Add the following new items:

W-3035 - Desc. - Same as W-126
Function - Connects E-3035 to Circuit Wiring

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W-3036 - Desc. - BUS BAR: copper; rectangular cross section; solid; cross sectional dim., 1/8 in. wide w/ 1/4 in. wide section at end; 0.0201 in. thk thick; 1.502 in. lg overall, 21/64 in. deep; 0.120 in. dia hole at 1/4 in. wide end for mounting; bent as shown in RCA dwg w/ hook at one end and mount at other; silver plate and gold plate finish; RCA part/dwg A-8827784-2
Function - Connects E-3036 to Circuit Wiring

W-3037 - Desc. - BUS BAR: copper rectangular cross section; solid; 1/8 in. wide w/ 1/4 in. sq at one end; 0.020 in. thick; 1-7/32 in. lg; one 0.120 in. dia hole in center of sq end for mounting; "L" shaped; 1-3/16 in. lg side w/ sq at end; silver and gold plate finish; RCA part/dwg A-8816319-2
Function - Connects E-3037 to Circuit Wiring

W-3038 - Desc. - BUS BAR: copper; rectangular; solid; cross sectional dim., 1/8 in. wide by 0.020 in. thick; 2-5/32 in. lg overall; one 0.120 in. mounting hole in 1/4 in. section at one end; right angle bend 11/32 in. lg at mounting end and hook at other end; silver plate and gold plate finish; RCA part/dwg A-8829176-3
Function - Connects E-3038 to Circuit Wiring

W-3039 - Desc. - BUS BAR: copper; rectangular cross section; solid; 1/8 in. wide by 0.020 in. thick; 2-9/16 in. lg; one 0.046 in. dia hole 1-1/2 in. from end, bent over ends in fork terminals; bent over 3/16 in. at ea end 1/32 in. inside radius; silver and gold plate finish; RCA part/dwg A-8816319-1
Function - Connects E-3039 to Circuit Wiring

W-3040 through W-3100 Not Used

Change W-3102 through W-3135 Not Used to W-3102 through W-3134 Not Used

Add W-3135 - Desc. - Same as W-126
Function - Connects E-3135 to Circuit Wiring

Z-1001 - Add to Desc. - Used on serial 1 to 25, AN/FRR-21

Z-1002 - Add to Desc. - Used on serial 1 to 25, AN/FRR-21

Z-1003 - Delete entire item and mark "Not Used"

Z-1005 - Add to Desc. - Used on serial 1 to 25, AN/FRR-21

Z-1007 - Add to Desc. - Used on serial 1 to 25, AN/FRR-21

Change Z-1015 through Z-1100 Not Used to Z-1019 through Z-1100 Not Used

Add the following new items:

- Z-1015 - Desc. - FILTER, BANDPASS: 200 kc center operating frequency, 199.5 kc to 200.5 kc ± 0.15 kc bandwidth at 6 db attenuation for first bandpass; 200 kc center operating frequency, 198.5 kc to 201.5 kc ± 0.3 kc bandwidth at 6 db attenuation for second bandpass; 810 ohms input impedance, 30,000 ohms output impedance; 3-13/16 in. lg by 2-7/16 in. wide by 1-1/4 in. deep overall; metal rectangular case; mounts by four no. 6-32 thread by 3/8 in. lg studs on a 2-3/8 in. by 1-3/8 in. by 39/64 in. mounting center; 6 stud type terminals; -40 deg C to +85 deg C operating temp range; vacuum sealed; RCA part/dwg A-8903610-1. Cut in at serial 26, AN/FRR-21
- Z-1015A - Desc. - P/o Z-1015
Function - Sharp Selectivity Filter, Second IF Unit
- Z-1015B - Desc. - P/o Z-1015
Function - Medium Selectivity Filter, Second IF Unit
- Z-1016 - Desc. - FILTER, BANDPASS: 200 kc operating frequency, 196 kc to 204 kc bandwidth at 6 db down; 55,000 ohms input and output impedance; 2-15/32 in. lg by 1-9/32 in. wide by 2.415 in. high; rectangular metal case; mounts by four no. 4-40 nuts located two on one edge 1.718 in C to C and two on other edge 0.610 in. from centerline of the first two, spaced 0.660 in. C to C; four thru type terminals; RCA part/dwg A-8832387-503. Cut in at serial 26, AN/FRR-21
Function - Broad Selectivity Filter, Second IF Unit
- Z-1017 - Desc. - TRANSFORMER, INTERMEDIATE FREQUENCY: 200 kc peak frequency; inter-stage type; unshielded; 1-7/32 in. lg by 5/8 in. wide by 2-1/16 in. high; ceramic coil form, powdered iron core; double tuned; adjustable iron core tuning; mounts by no. 2-56 thread by 1/4 in. lg machine screws and two no. 2 split lockwashers located in diagonally opposite corners of top on a 7/8 in. by 3/8 in. mounting center; 12 stud and 4 feedthru type terminals; c/o capacitors, C-1040, C-1057, and C-1059; 1 terminal board, E-1023; 1 insulator, E-1025; 1 coil radio frequency, L-1016; 1 resistor, R-1009 and 1 transformer, radio frequency, T-1015; RCA part/dwg A-8848510-505. Cut in at serial 26, AN/FRR-21
Function - Couples V-1001 to V-1002

Z-1018 - Desc. - TRANSFORMER, INTERMEDIATE FREQUENCY: 200 kc peak frequency; inter-stage; unshielded; 1-7/32 in. lg by 5/8 in. wide by 2-1/16 in. high overall; ceramic coil forms, powdered iron core; double tuned; adjustable iron core tuning; mounts by two no. 2-56 thread by 1/4 in. lg machine screws and two no. 2 split washers located in diagonally opposite corners of top on a 7/8 in. by 3/8 in. mounting center; 12 stud type and 4 feedthru type terminals; c/o 3 capacitors, C-1046, C-1067, C-1068; 1 terminal board, E-1024; 1 insulator, E-1026; 1 coil radio frequency, L-1017; 1 resistor R-1013 and 1 transformer, radio frequency, T-1016; RCA part/dwg A-3848510-506. Cut in at serial 26, AN/FRR-21
Function - Couples V-1002 to V-1003

TABLE 8-3. STOCK NUMBER IDENTIFICATION

Page 8-102

Add C-1040 and SNSN-N16-C-15978-6001

Page 8-103

Delete C-2101 and SNSN

Add C-2201 and SNSN-N16-C-63656-1001

Add E-2111 and SNSN-N17-I-64066-2690

Delete E-3603 and SNSN

Delete F-1601 and SNSN

Page 8-104

Change K-1701 to K-4001

Page 8-105

R-403 - Change SNSN to - N16-R-49841-818

Add R-554 and SNSN-N16-R-50012-816

Delete R-1004 and SNSN

Add R-1009 and SNSN-N16-R-50362-431

Page 8-106

Add R-1114 - Federal RC20BF333J and SNSN-N16-R-50416-431

Contracts: NObsr-52623
NObsr-57135

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of 48 pages

Page 8-106 (Continued)

Add R-1204 - Federal RC20BF562J and SNSN-N16-R-50164-431

R-1605 - Change SNSN to - N16-R-85003-4144

Delete S-2003 and SNSN

Page 8-107

Add Z-1015 and SNSN-N16-F-32631-2017

TABLE 8-9. CROSS REFERENCE PARTS LIST

Page 8-118

Add JAN Type RC20BF333J, Key Symbol R-1114

Add JAN Type RC20PF562J, Key Symbol R-1204

Add SNSN-N16-C-15978-6001, Key Symbol C-1040

Page 8-119

Change N16-C-63657-1001 to N16-C-63656-1001 and Key Symbol C-2101 to C-2201

Add SNSN-N16-F-32631-6001, Key Symbol Z-1015

Delete SNSN-N16-K-700349-674 and Key Symbol E-3603

Change N16-R-49705-431 to N16-R-49841-813 for Key Symbol R-403, and transpose in proper sequence

Add SNSN-N16-R-50012-816, Key Symbol R-554

For SNSN-N16-R-50164-431 - Change Key Symbol to R-1204

Page 8-120

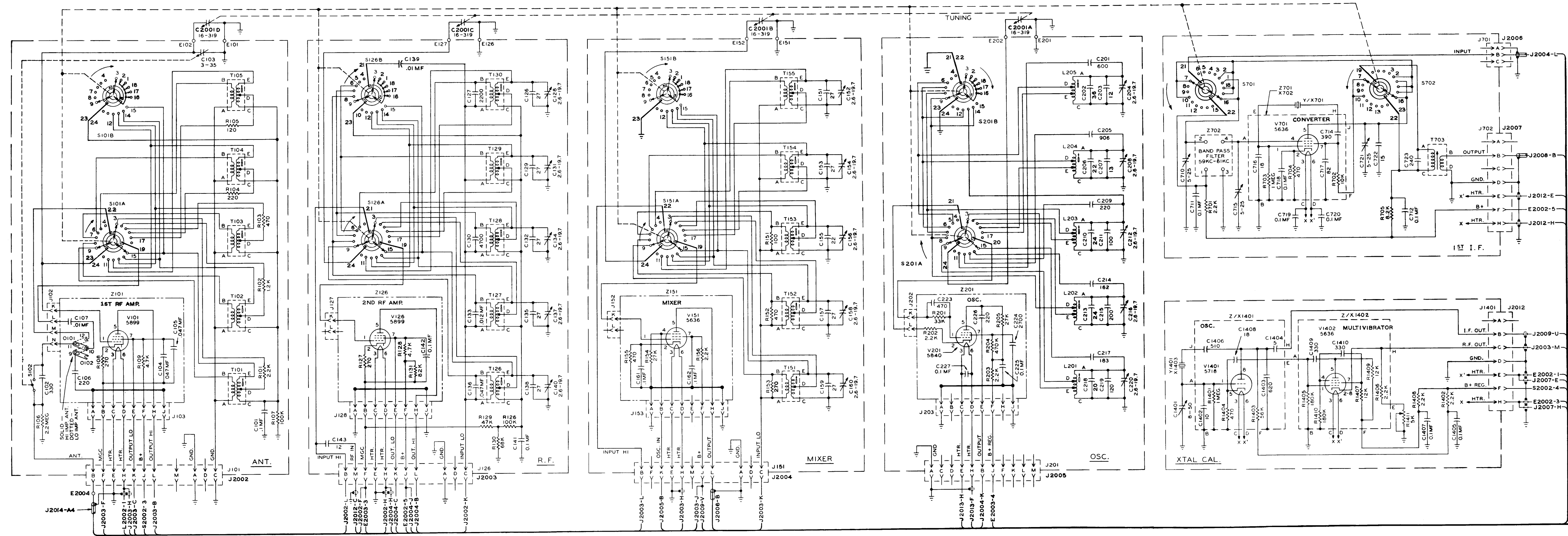
Add SNSN-N16-R-50362-431, Key Symbol R-1009

For SNSN-N16-R-50416-431 - change Key Symbol to R-1114

For SNSN-N17-R-99999-0038 - change Key Symbol to K-4001

Change N16-R-85002-6871 to N16-R-85003-4144, Key Symbol R-1605

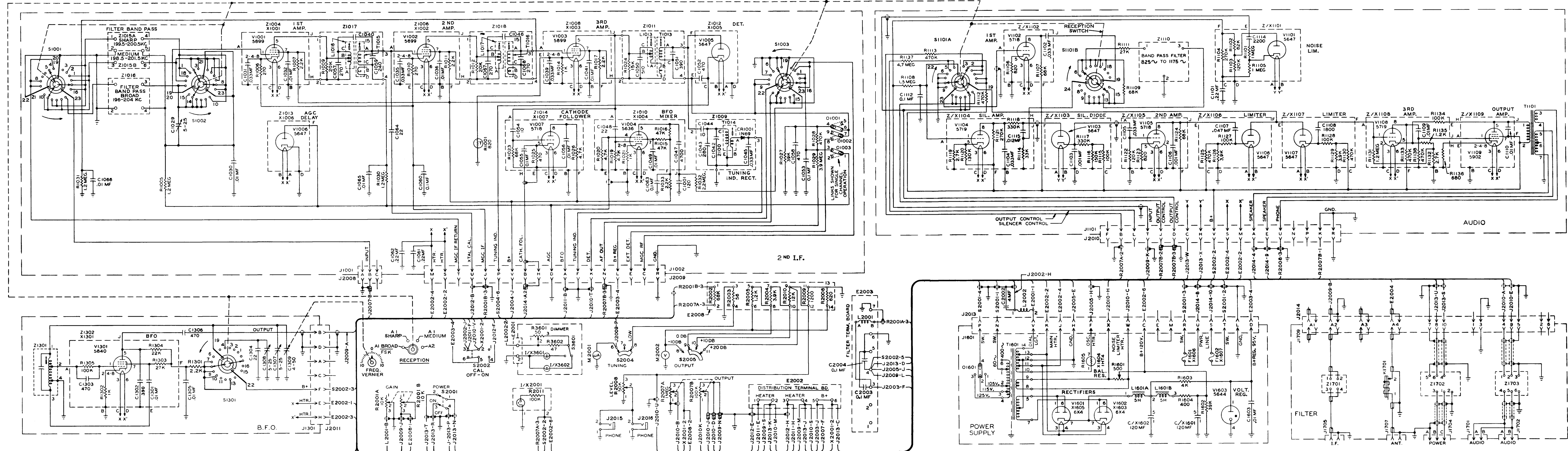
Delete SNSN-N17-S-70777-8626 and Key Symbol S-2003



- NOTES —
- SWITCHES SHOWN IN BAND 1.
 BAND 1 — 14 KC TO 30 KC
 BAND 2 — 30 KC TO 63 KC
 BAND 3 — 63 KC TO 133 KC
 BAND 4 — 133 KC TO 283 KC
 BAND 5 — 283 KC TO 600 KC
 RED DOT LOCATES TERMINAL 1. BLACK DOT LOCATES TERMINAL 9.
 - UNLESS OTHERWISE INDICATED, ALL RESISTANCE VALUES ARE GIVEN IN OHMS; ALL CAPACITANCE VALUES IN MMF.

SEE SHEET 2

Figure 1. Schematic Diagram AN/FRR-21 (Serial numbers 26 up) (Sheet 1)

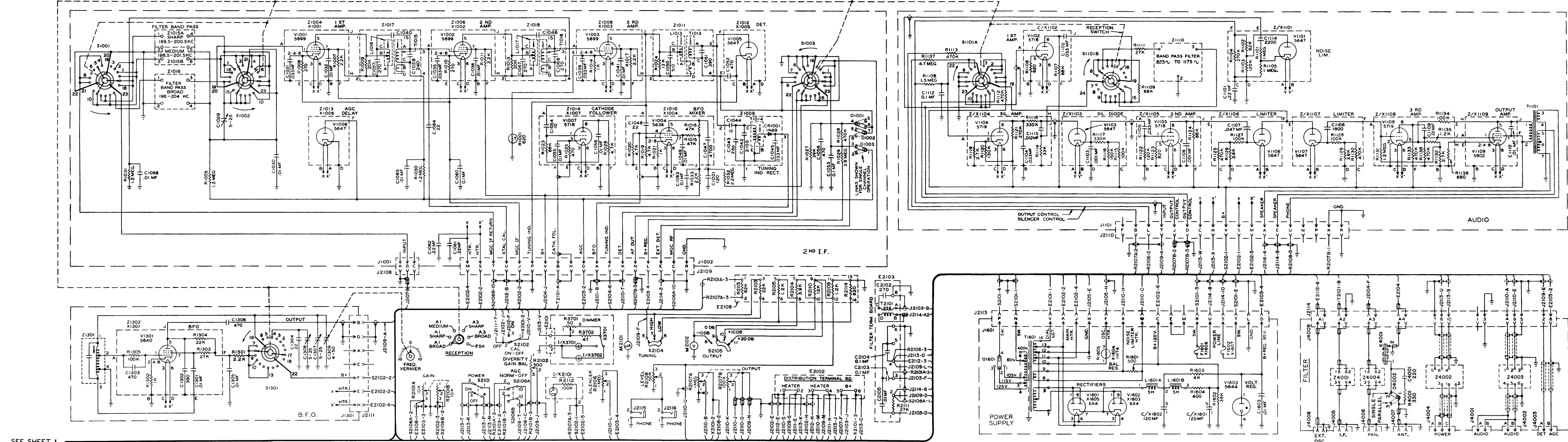


- NOTES —
- UNLESS OTHERWISE INDICATED ALL RESISTANCE VALUES ARE GIVEN IN OHMS, ALL CAPACITANCE VALUES IN MMF.
 - ARROWS AT SWITCHES INDICATE DIRECTION OF ROTATION WHEN VIEWED FROM CONTROL END OF PRIMARY SUB-ASSEMBLY WITH FRONT PANEL CONTROL ROTATING CLOCKWISE.
 - FOR SIMILARITY OF INDIVIDUAL UNITS SEE D-632465.
 - ON SWITCHES S1001, S1002, S1003, S1101 & S1301 RED DOT LOCATES TERMINAL 1. BLACK DOT LOCATES TERMINAL 9.

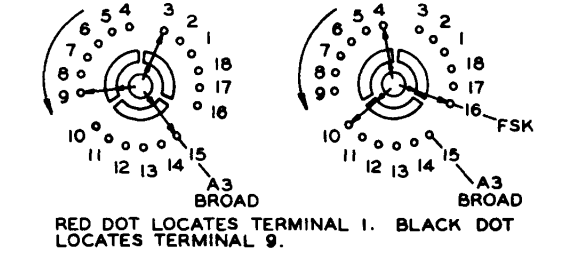
SEE SHEET 1

SHEET 2 FINAL

Figure 1. Schematic Diagram AN/FRR-21 (Serial numbers 26 up) (Sheet 2)



- NOTES
- UNLESS OTHERWISE INDICATED ALL RESISTANCE VALUES ARE GIVEN IN OHMS, ALL CAPACITANCE VALUES IN MMF.
 - ARROWS AT SWITCHES INDICATE DIRECTION OF ROTATION WHEN VIEWED FROM CONTROL END OF PRIMARY SUB-ASSEMBLIES WITH FRONT PANEL CONTROL ROTATING CLOCKWISE.
 - WHEN SWITCHING FROM A3 BROAD TO FSK ON THE 3 SEGMENT SWITCHES, THE SWITCH ARM WILL MOVE FROM ONE COMMON SWITCH SEGMENT TO THE FOLLOWING ONE AS SHOWN

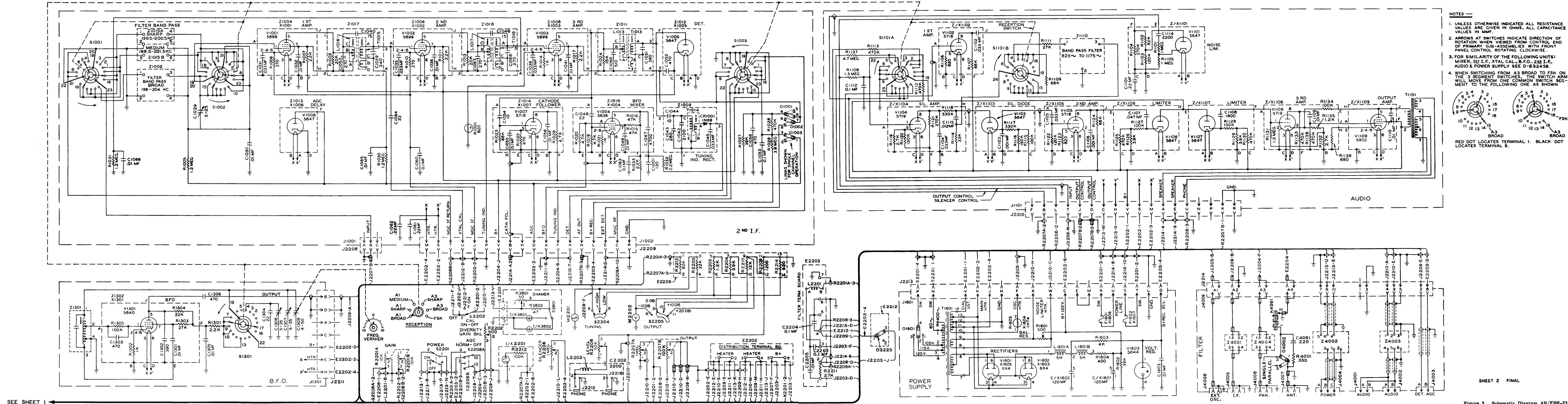


RED DOT LOCATES TERMINAL 1. BLACK DOT LOCATES TERMINAL 9.

SEE SHEET 1

SHEET 2 FINAL

Figure 2. Schematic Diagram AN/FRR-22 (Serial numbers 26 up) (Sheet 2)



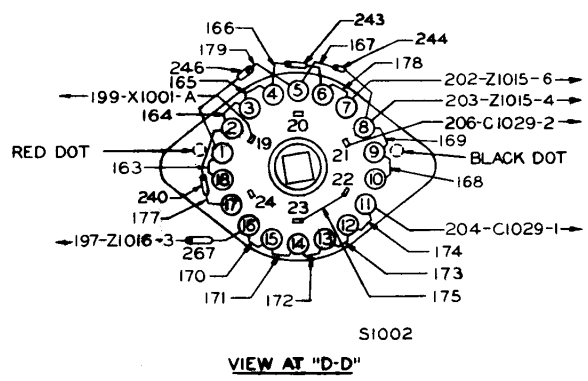
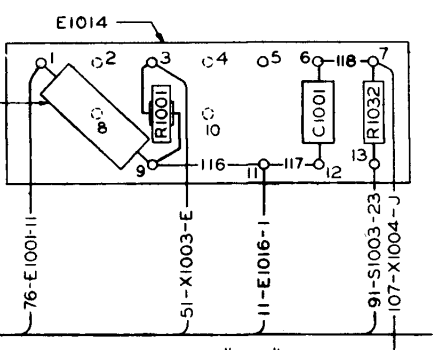
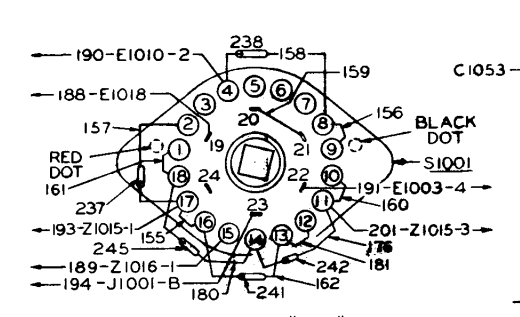
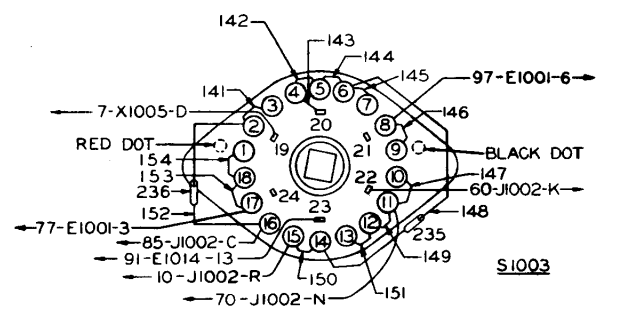
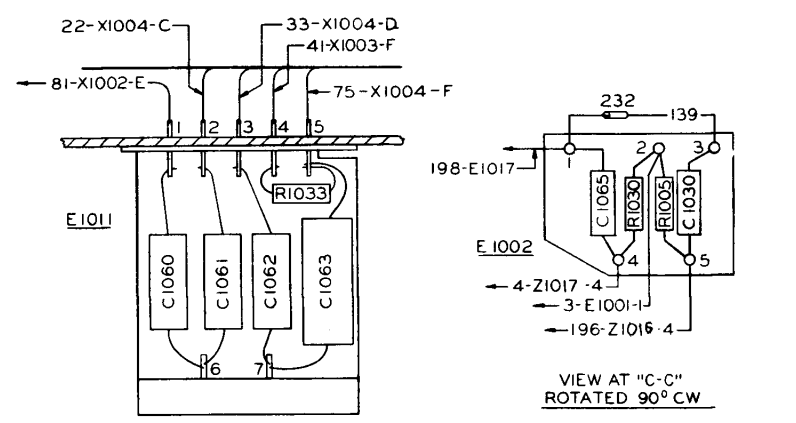
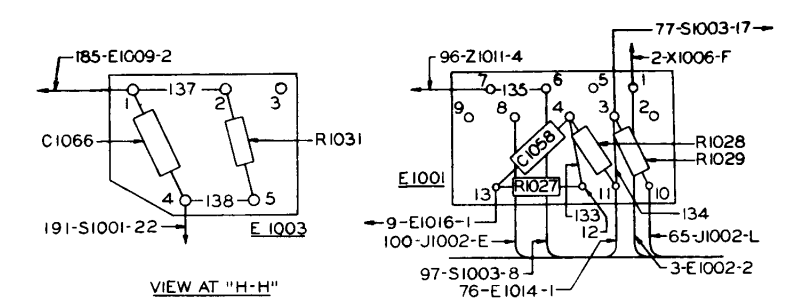
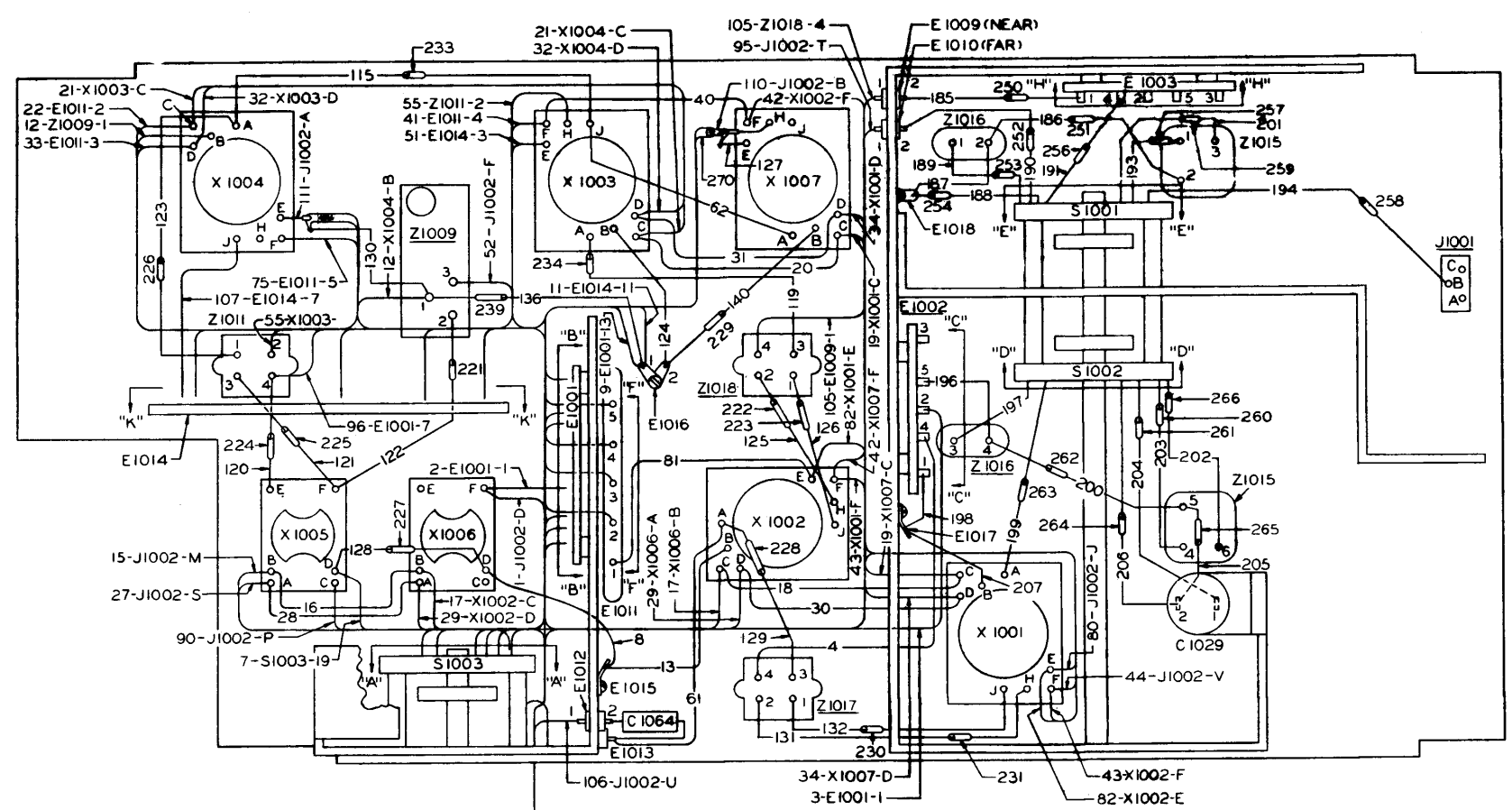
NOTES

- UNLESS OTHERWISE INDICATED ALL RESISTANCE VALUES ARE GIVEN IN OHMS, ALL CAPACITANCE VALUES IN MMF.
- ARROWS AT SWITCHES INDICATE DIRECTION OF ROTATION WHEN VIEWED FROM CONTROL END OF PRIMARY SUB-ASSEMBLIES WITH FRONT PANEL CONTROL ROTATING CLOCKWISE.
- FOR SIMILARITY OF THE FOLLOWING UNITS: MIXER, 1ST I.F., XTAL CAL., B.F.O., 2ND I.F., AUDIO & POWER SUPPLY SEE D-632459.
- WHEN SWITCHING FROM A3 BROAD TO FSK ON THE 3 SEGMENT SWITCHES THE SWITCH ARM WILL MOVE FROM ONE COMMON SWITCH SEGMENT TO THE FOLLOWING ONE AS SHOWN

RED DOT LOCATES TERMINAL 1. BLACK DOT LOCATES TERMINAL 9.

SHEET 2 FINAL

Figure 3. Schematic Diagram AN/FRR-23 (Serial numbers 26 up) (Sheet 2)

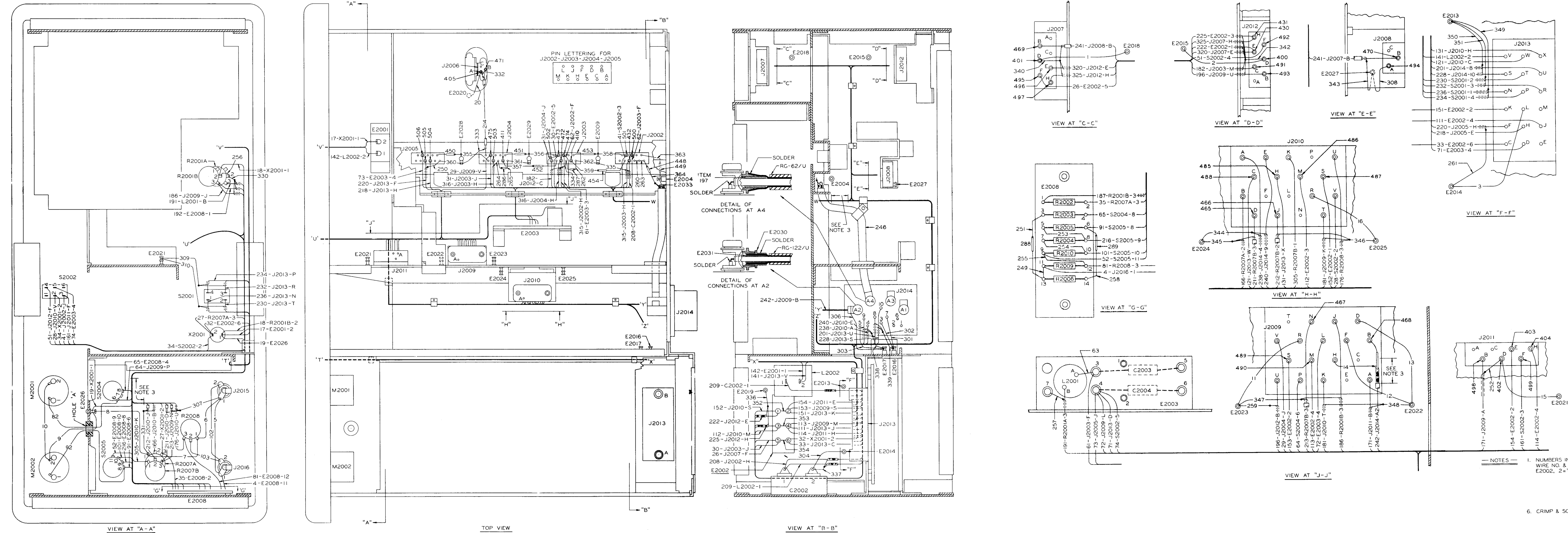


WIRE NO.	WIRE TABLE DESCRIPTION
1-4 INCL.	WIRE WHITE
7-14	BLK.
15-22	BRN.-GRN. TR.
27-34	BRN.-YEL. TR.
40-44 INCL.	RED
51-52	YEL.
55	ORN.
60-62 INCL.	GRN.
65	RED-ORN. TR.
70	WHT.-BRN. TR.
75-77 INCL.	RED-BLUE TR.
80-82 INCL.	YEL.-BLK. TR.
85	YEL.-BRN. TR.
90-91	YEL.-GRN. TR.
95-97 INCL.	YEL.-RED TR.
100	YEL.-ORN. TR.
105-107 INCL.	WIRE GRN.-BLK. TR.
110	WIRE SHIELDED (YELLOW)
111	WIRE SHIELDED (PURPLE)
115-181 INCL.	WIRE TINNED COPPER .020 DIA.
185-207 INCL.	WIRE TINNED COPPER .032 DIA.
221-246 INCL.	SLEEVING .022 I.D.
250-267 INCL.	SLEEVING .034 I.D.
270	SLEEVING .095 I.D.

2. CRIMP & SOLDER ALL ELECTRICAL CONNECTIONS

5. NUMBERS IN WIRES REFER TO WIRE TABLE. CODING AT ENDS OF WIRES INDICATE WIRE NUMBERS AND DESTINATION OF WIRES. THUS: 19-X1007-C, 19=WIRE NO., X1007 = SOCKET X1007, C=TERMINAL OF SOCKET X1007 AS INDICATED ON THIS DRAWING.

Figure 4. Second I-F Amplifier, Connection Diagram AN/FRR-21, 22 and 23 (Serial numbers 26 up)



WIRE TABLE	
WIRE NO.	DESCRIPTION
1 TO 20, 30 TO 310	WIRE BLACK
26 TO 35	RED
41	RED-BLK. TR.
51-52	RED-YEL. TR.
61 TO 65	YELLOW
71 TO 74	RED-ORN. TR.
81-82	YEL.-BLK. TR.
91-92	WHITE
101 TO 103	BLUE
111 TO 114	BRN.-GRN. TR.
121	BRN.-PUR. TR.
131	BRN.-BLUE TR.
141-142	BROWN
151 TO 154	BRN.-YEL. TR.
161	RED-BRN. TR.
166	SHIELDED, RED-BLK. TR.
171	PURPLE
176	WHT.-RED TR.
181-182	GREEN
186	YEL.-BRN. TR.
191-192	YELLOW
196	GRN.-BLK. TR.
201	GRAY
208-209	WIRE, SHIELDED, BROWN
211 TO 214	CABLE, COAXIAL
216	WIRE, WHT.-BLK. TR.
218	BRN.-RED TR.
220	SHIELDED, BRN.-ORN. TR.
222	BRN.-YEL. TR.
225	BRN.-GRN. TR.
228	GRAY-BLK. TR.
230	GRAY-BRN. TR.
232	GRAY-RED TR.
234	GRAY-ORN. TR.
236	GRAY-YEL. TR.
238	WHT.-BLK. TR.
240	WIRE, SHIELDED, WHT.-BRN. TR.
241-242	CABLE, COAXIAL
246	CABLE, COAXIAL
249 TO 265	WIRE, TINNED COPPER .020 DIA.
286 TO 289	SLEEVING .022 I.D.
315-316	WIRE, SHIELDED, BRN.
320	SHIELDED, BRN.-YEL. TR.
325	SHIELDED, BRN.-GRN. TR.
330 TO 364	WIRE, TINNED COPPER .032 DIA.
400 TO 405	TUBING, BLK. .085 I.D.
410-411	SLEEVING .095 I.D.
430 TO 432	TUBING, BLK. .106 I.D.
448 TO 454	SLEEVING .034 I.D.
465 TO 475	TUBING, BLK. .095 I.D.
485 TO 506	TUBING, BLK. .066 I.D.

NOTES
 1. NUMBERS IN WIRES REFER TO WIRE TABLE. CODING AT ENDS OF WIRES INDICATE WIRE NO. & DESTINATION OF WIRE THUS; 151-E2002-2, 151=WIRE NO., E2002=ITEM E2002, 2=TERMINAL 2 OF E2002 AS INDICATED ON THIS DRAWING.

6. CRIMP & SOLDER ALL ELECTRICAL CONNECTIONS

Figure 5. Main Frame, Connection Diagram AN/FRR-21 (Serial numbers 26 up)

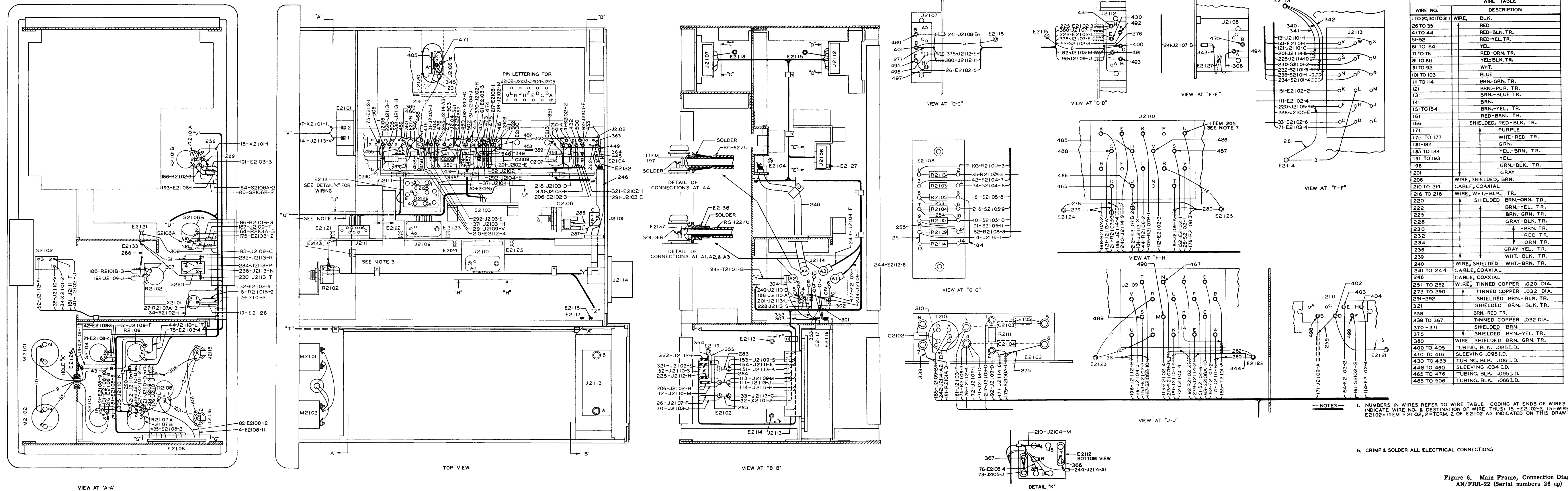
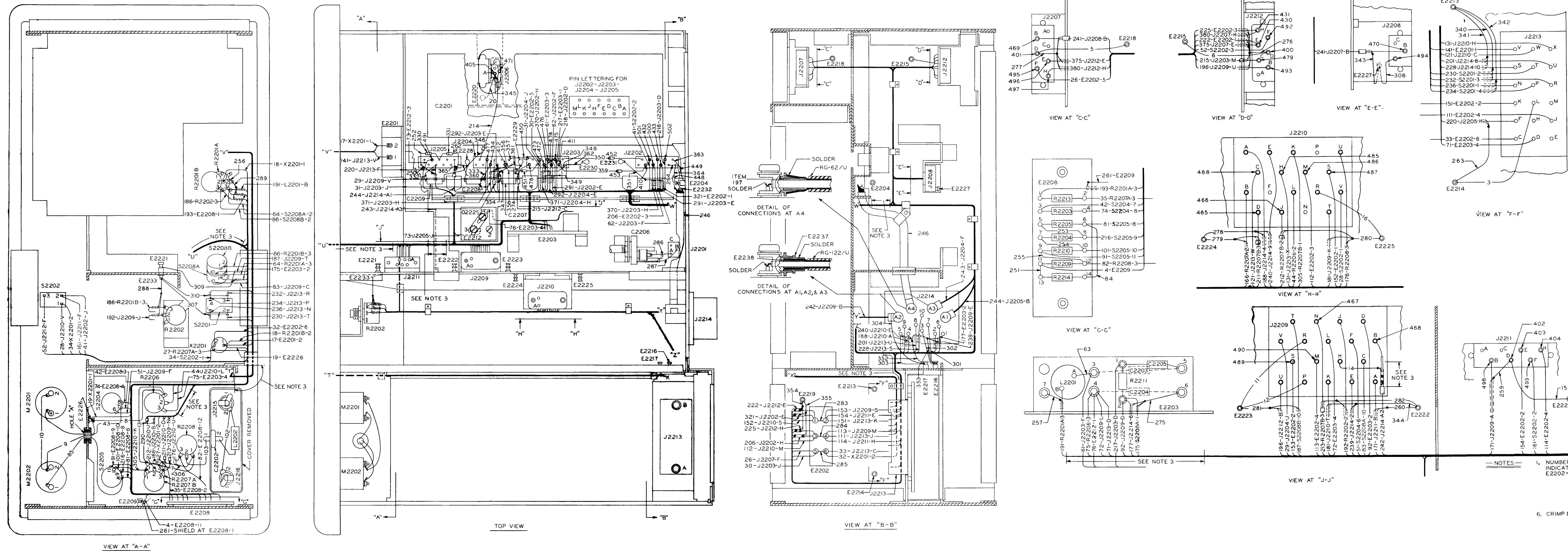


Figure 6. Main Frame, Connection Diagram
AN/FRR-22 (Serial numbers 26 up)



WIRE NO.	WIRE TABLE	DESCRIPTION
3 TO 20, 30 TO 310	WIRE,	BLK.
26 TO 35		RED
41 TO 44		RED-BLK. TR.
51-52		RED-YEL. TR.
61 TO 64		YEL.
71 TO 76		RED-ORN. TR.
81 TO 86		YEL-BLK. TR.
91 TO 92		WHT.
101 TO 103		BLUE
111 TO 114		BRN-GRN. TR.
121		BRN-PUR. TR.
131		BRN-BLUE TR.
141		BRN.
151 TO 154		BRN-YEL. TR.
161		RED-BRN. TR.
166		SHIELDED, RED-BLK. TR.
171		PURPLE
175 TO 177		WHT-RED TR.
181		GRN.
186 TO 188		YEL-BRN. TR.
191 TO 193		YEL.
196		GRN-BLK. TR.
201		GRAY
206		WIRE, SHIELDED, BRN.
211 TO 215		CABLE, COAXIAL
216 TO 218		WIRE, WHT-BLK. TR.
220		SHIELDED BRN-ORN. TR.
222		BRN-YEL. TR.
225		BRN-GRN. TR.
228		GRAY-BLK. TR.
230		-BRN. TR.
232		-RED TR.
234		-ORN. TR.
236		GRAY-YEL. TR.
239		WHT-BLK. TR.
240		WIRE, SHIELDED WHT-BRN. TR.
241 TO 244		CABLE, COAXIAL
246		CABLE, COAXIAL
250 TO 264		WIRE, TINNED COPPER .020 DIA.
274 TO 290		TINNED COPPER .032 DIA.
291-292		SHIELDED BRN-BLK. TR.
321		WIRE, SHIELDED BRN-BLK. TR.
330 TO 334		SLEEVING .022 I.D.
340 TO 365		WIRE, TINNED COPPER .032 DIA.
370-371		SHIELDED BRN.
375		SHIELDED BRN-YEL. TR.
380		WIRE, SHIELDED BRN-GRN. TR.
400 TO 405		TUBING, BLK. .085 I.D.
410 TO 412		SLEEVING, .095 I.D.
430 TO 434		TUBING, BLK. .106 I.D.
448 TO 453		SLEEVING, .034 I.D.
465 TO 479		TUBING, BLK. .095 I.D.
485 TO 502		TUBING, BLK. .066 I.D.

NOTES
 1. NUMBERS IN WIRES REFER TO WIRE TABLE CODING AT ENDS OF WIRES INDICATE WIRE NO. & DESTINATION OF WIRE. THUS: 151-E2202-2, 151=WIRE NO., E2202=ITEM E2202, 2=TERM. 2 OF E2202 AS INDICATED ON THIS DRAWING.

6. CRIMP & SOLDER ALL ELECTRICAL CONNECTIONS

Figure 7. Main Frame, Connection Diagram
 AN/FRR-23 (Serial numbers 26 up)
 T-1 page 47, 48
 of 48 pages