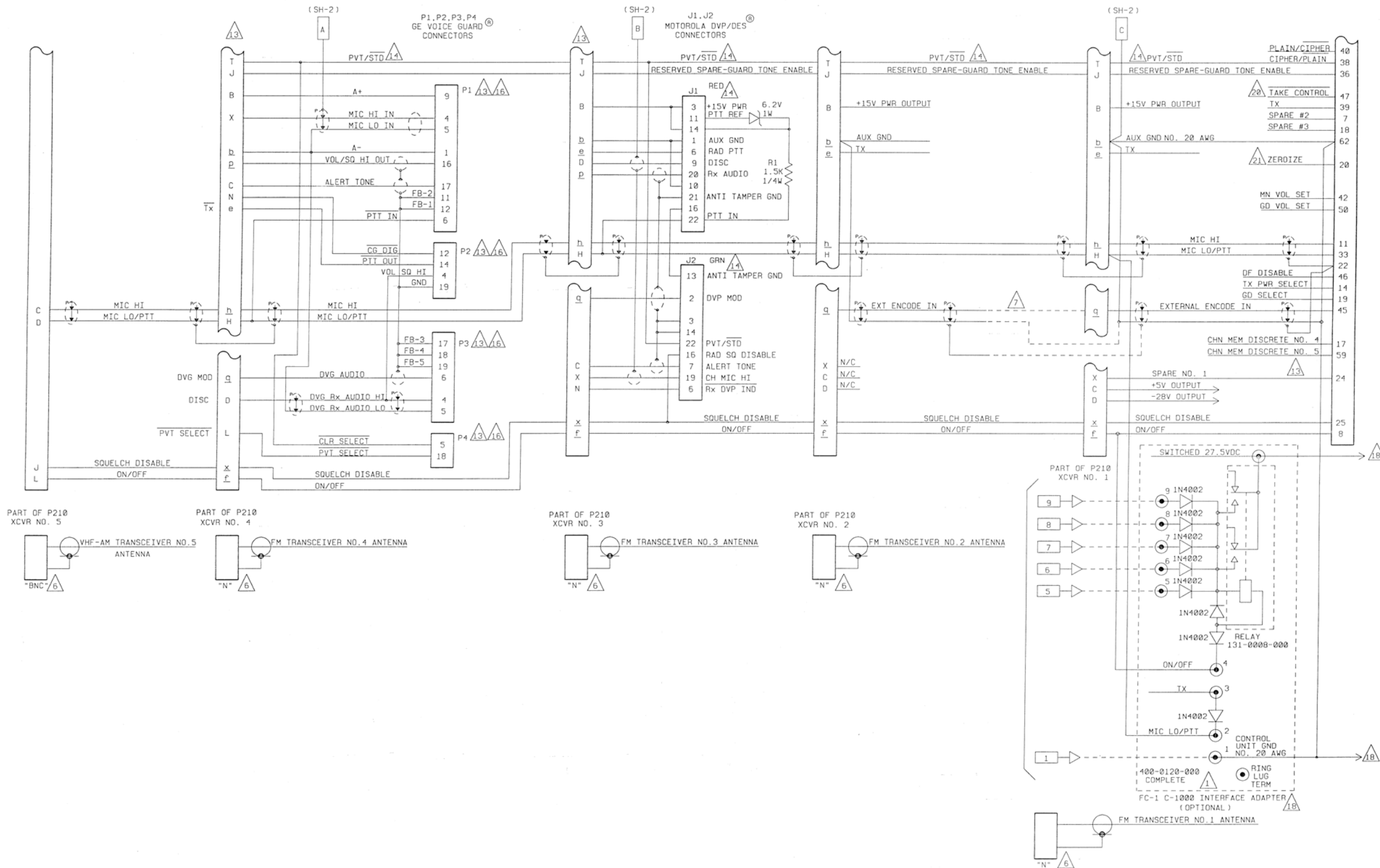
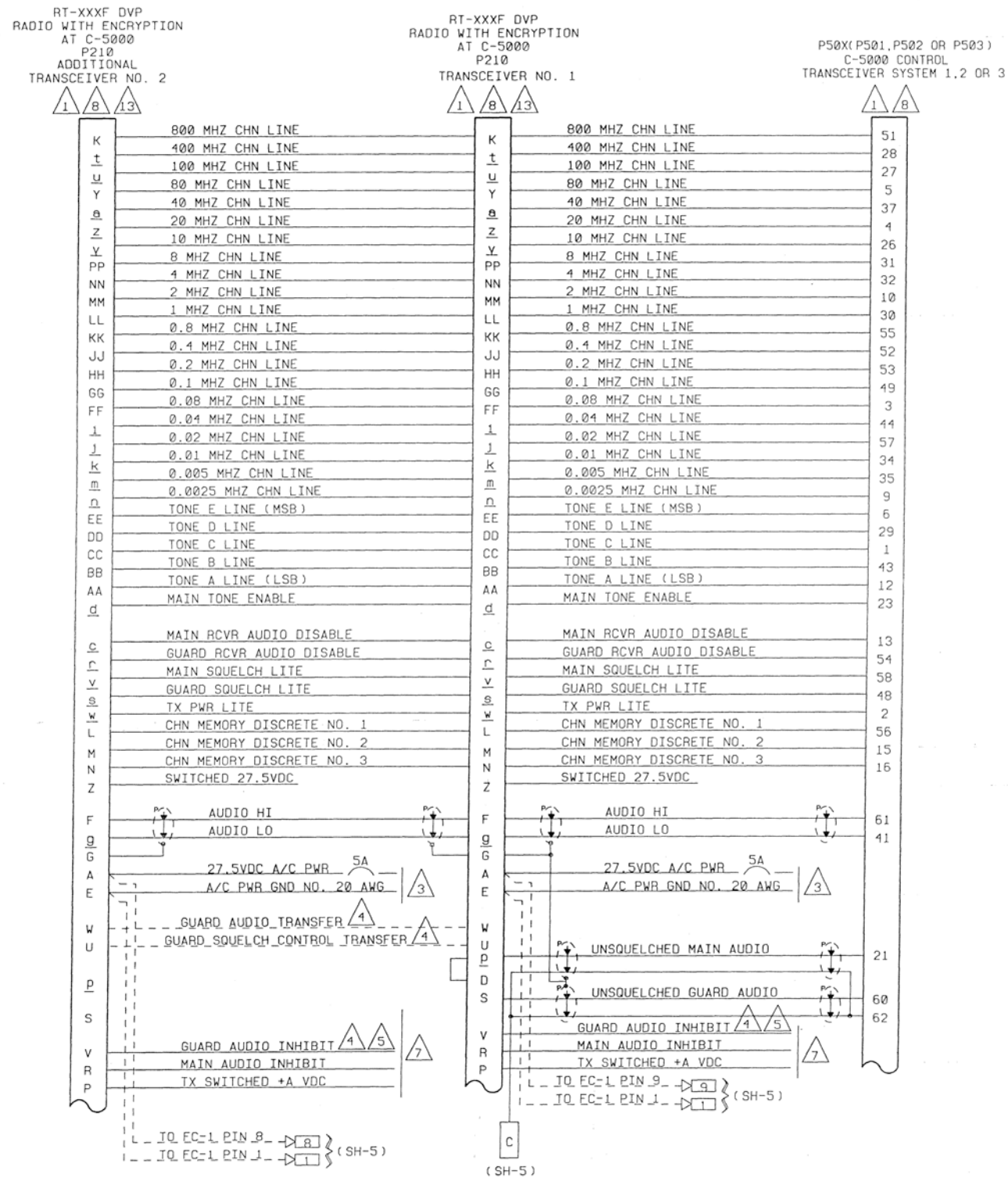


**C-5000 COMMUNICATION MANAGEMENT CONTROLLER  
 INSTALLATION MANUAL**



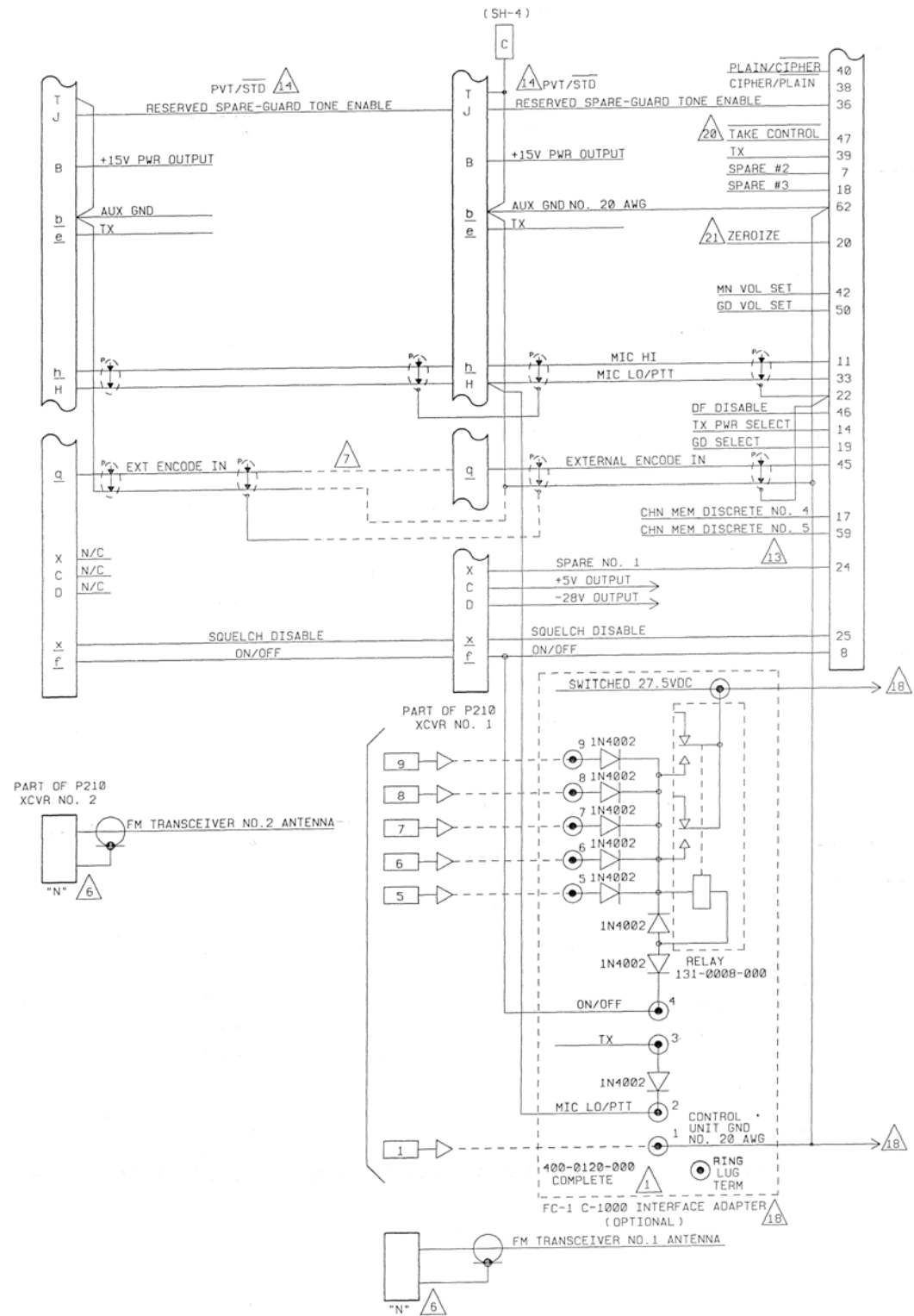
**Figure 4-13c. FLEXCOMM I Transceivers Installation Wiring Diagram (Sheet 3 of 5)**  
**RT-30, RT-118, RT-138, RT-138F, RT-450 and RT-406F**  
**(Dwg No 147-014991, Rev B)**

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**INSTALLATION MANUAL**



**Figure 4-13d. FLEXCOMM I Transceivers Installation Wiring Diagram (Sheet 4 of 5)**  
**RT-30, RT-118, RT-138, RT-138F, RT-450 and RT-406F**  
**(Dwg No 147-014991, Rev B)**

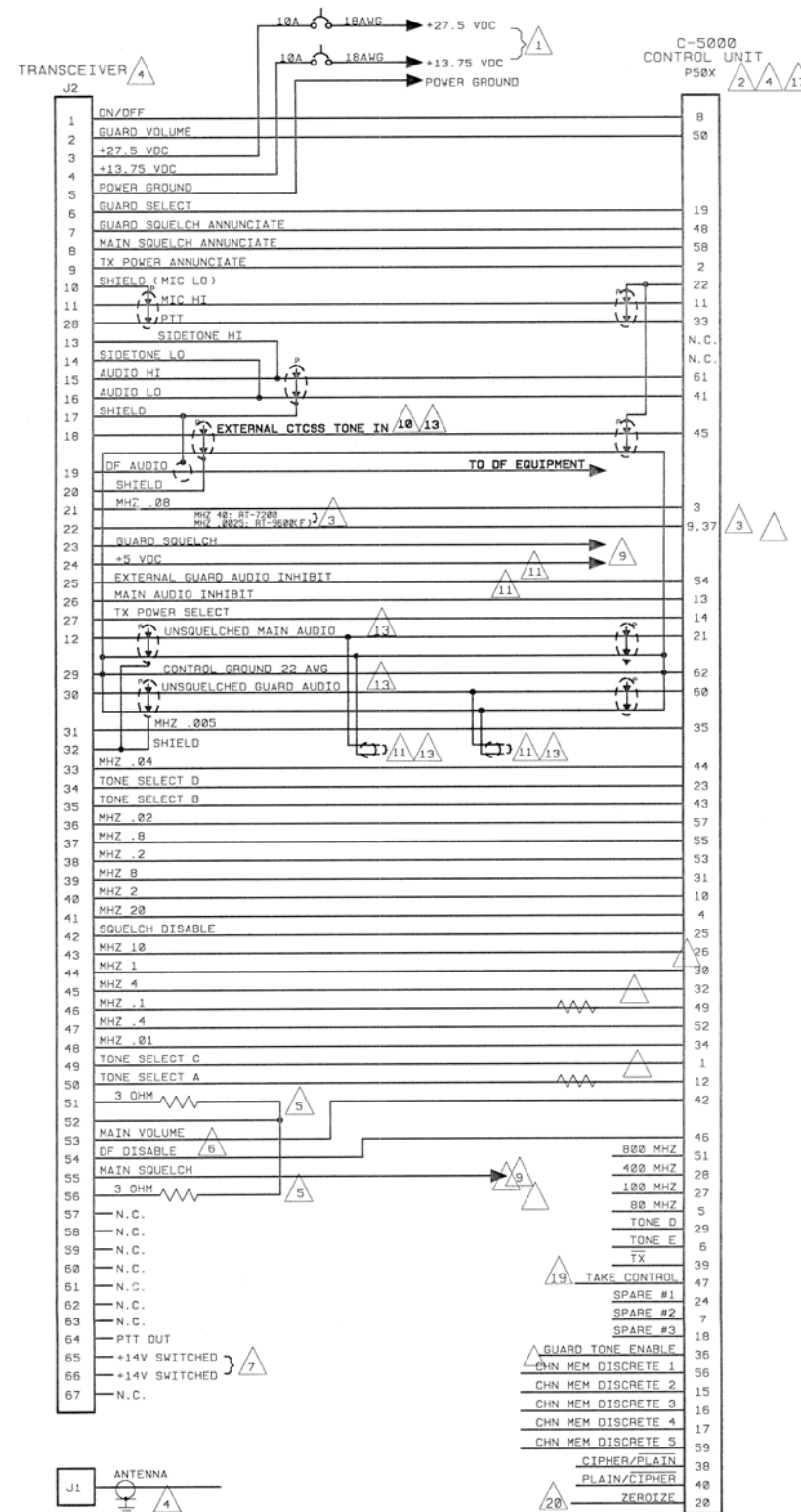
**C-5000 COMMUNICATION MANAGEMENT CONTROLLER  
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**Figure 4-13e. FLEXCOMM I Transceivers Installation Wiring Diagram (Sheet 5 of 5)**  
**RT-30, RT-118, RT-138, RT-138F, RT-450 and RT-406F**  
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- NOTES:
1. USE +13.75 VDC OR +27.5 VDC AT INSTALLERS OPTION. DO NOT CONNECT BOTH.
  2. SEE "INSTALLATION WIRING CONSIDERATIONS" SECTION OF INSTALLATION MANUAL FOR PERTINENT ADDITIONAL INFORMATION TO THIS DIAGRAM.
  3. CONNECT RT-9600(F) PIN 22 TO C-5000 PIN 9. CONNECT RT-7200 PIN 22 TO C-5000 PIN 37.
  4. CABLE CONNECTORS  
 TRANSCIEVER - DPXB-67-33S-0001 (GLOBAL-WULFSBERG IN-97A-2) (PROTRUDING XCVRs)  
 DPXB-67-34S-0001 (GLOBAL-WULFSBERG IN-96A-2) (RECESSED XCVRs)  
 CONTROL UNIT - (GLOBAL-WULFSBERG P/N 129-215344-02) (POSITRONICS P/N 00062F00Y60C-914.2)  
 THIS CONNECTOR HAS A MALE JACK SCREW NEAR PIN 1 AND THE OTHER JACK SCREW IS FEMALE.  
 P50X REPRESENTS ONE OF THREE INTERCONNECT PLUGS TO ONE OF THREE INDEPENDENT R/T INTERFACE MODULES CONTAINED IN THE C-5000 ANTENNA - UG-08 E/U (GLOBAL-WULFSBERG P-96)
  5. THE 3 OHM POWER RESISTORS ARE A PART OF THE MOUNTING RACK ASSEMBLY.
  6. GROUND WHEN DF FEATURE IS NOT USED AND LEAVE P50X PIN 46 NOT CONNECTED.
  7. THESE PINS ARE CONNECTED TO THE INTERNAL RADIO BUSS VOLTAGE. LOADING SHOULD NOT EXCEED 500mA OF COMBINED CURRENT.
  8. THIS CONFIGURATION PROVIDES MOTOROLA DVP/DES<sup>®</sup> DEDICATED TO THE RT-9600F. IT PRECLUDES THE C-5000 DISTRIBUTED MOTOROLA DVP/DES<sup>®</sup> FEATURE AS WELL AS CTCSS. DIGITAL CODED SQUELCH FUNCTIONS EITHER EXTERNAL TO OR PART OF THE C-5000.
  9. CONNECT GUARD SQUELCH RT CONNECTOR PIN 23 AND MAIN SQUELCH PIN 55 TO GROUND AT THE RT CONNECTOR PIN 29 OR THE C-5000 CONNECTOR P50X PIN 62.
  10. "EXTERNAL CTCSS TONE IN" (PIN 18) PROVIDES A FLAT MODULATION SIGNAL PATH FROM THE CONTROL UNIT FOR CTCSS AND/OR DIGITAL CODED SQUELCH ENCODE SIGNALS AS WELL AS VOICE ENCRYPTION MODULATION INPUT TO THE R/T UNIT IF THESE FEATURES OF THE CONTROL UNIT ARE NOT USED. THIS INPUT MAY BE CONNECTED TO THE OTHER EXTERNAL EQUIPMENT REQUIRING A FLAT MODULATION INPUT TO THE R/T UNIT.
  11. UNSQUELCHED MAIN AND GUARD AUDIO OUTPUTS MAY BE PARALLEL CONNECTED TO OTHER EXTERNAL EQUIPMENT. WHEN USED WITH THE MAIN AND GUARD AUDIO INHIBIT INPUTS, EXTERNAL SQUELCH CONTROL SYSTEMS CAN BE PROVIDED.
  12. SEE INTERCONNECT DIAGRAM 147-014995 FOR COMPLETE C-5000 INTERCONNECT INFORMATION. THIS DRAWING ONLY INDICATES SPECIFIC CONNECTIONS TO THE RT-9600(F)/7200 R/T UNITS. THESE LINES MAY BE SINGLE CONDUCTOR SHIELDED IN ORIGINAL INSTALLATIONS. UPDATE TO TWISTED SHIELDED PAIRS IS NOT REQUIRED.
  13. DVP/DES<sup>®</sup> MODULE CONNECTORS, 1.5K OHM RESISTOR AND 6.2V ZENER DIODE ARE CUSTOMER SUPPLIED.
  14. FOR PROPER RT-9600F DVP/DES<sup>®</sup> SYSTEM OPERATION OBSERVE THE FOLLOWING CONDITIONS:  
 A) THE MOTOROLA DVP/DES<sup>®</sup> BOARD MUST HAVE R44 REMOVED.  
 B) DO NOT ATTEMPT TO INTERFACE AN EXTERNAL DECODER TO THE RT-9600 MAIN RECEIVER OR GUARD RECEIVER.  
 C) IT IS RECOMMENDED, BUT NOT NECESSARY, TO CHANGE C20 ON THE MOTOROLA DVP/DES<sup>®</sup> BOARD FROM A 1uF TO A 15uF 10V DIPPED TANTALUM FOR IMPROVED TRANSMIT SIGNAL TO NOISE RATIO IN THE PVT MODE.
  15. MOTOROLA AND DVP/DES ARE REGISTERED TRADEMARKS OF MOTOROLA, INC.
  16. SPECIAL MARKING OF THE CABLE PLUS P50X FOR ROUTING TO RT INTERFACE SYSTEM 1 (P501), SYSTEM 2 (P502) AND SYSTEM 3 (P503) OF THE C-5000 IS RECOMMENDED TO ASSURE PROPER MATING OF THE SYSTEM 1, 2 OR 3 CONNECTIONS.
  17. FOR INSTALLATIONS WITH THE MOTOROLA DVP/DES<sup>®</sup> MODULE CONNECTED DIRECTLY TO THE TRANSCIEVER AS SHOWN, RT-9600F TRANSCIEVERS WITH P/N'S ENDING IN -X5X, X6X, X7X MUST BE USED. SEE 147-014995 SYSTEM INTERFACE DIAGRAM FOR INTERFACE WITH MOTOROLA DVP/DES<sup>®</sup> AT THE C-5000 WHICH ALLOWS SELECTIVE ENCRYPTION WITH ONE OF 3 RADIO SYSTEMS.
  18. THE "TAKE CONTROL" PIN IS NORMALLY OPEN CIRCUITED. IN A DUAL C-5000 SYSTEM, WIRE THE TRANSCIEVER INTERFACE IN PARALLEL TO BOTH C-5000 UNITS. CONNECT THE "TAKE CONTROL" PIN FROM EACH C-5000 TO A SWITCH SUCH THAT ONE OR THE OTHER C-5000 IS ALWAYS SUPPLIED WITH A GROUND WHICH TAKES CONTROL AWAY FROM THE UNIT WITH THE GROUNDED PIN. WITH 3 TRANSCIEVER INTERFACES IN DUAL C-5000 SYSTEMS, 3 SEPARATE TAKE CONTROL SWITCHES ARE REQUIRED (ONE FOR EACH PAIR OF TRANSCIEVER INTERFACES).

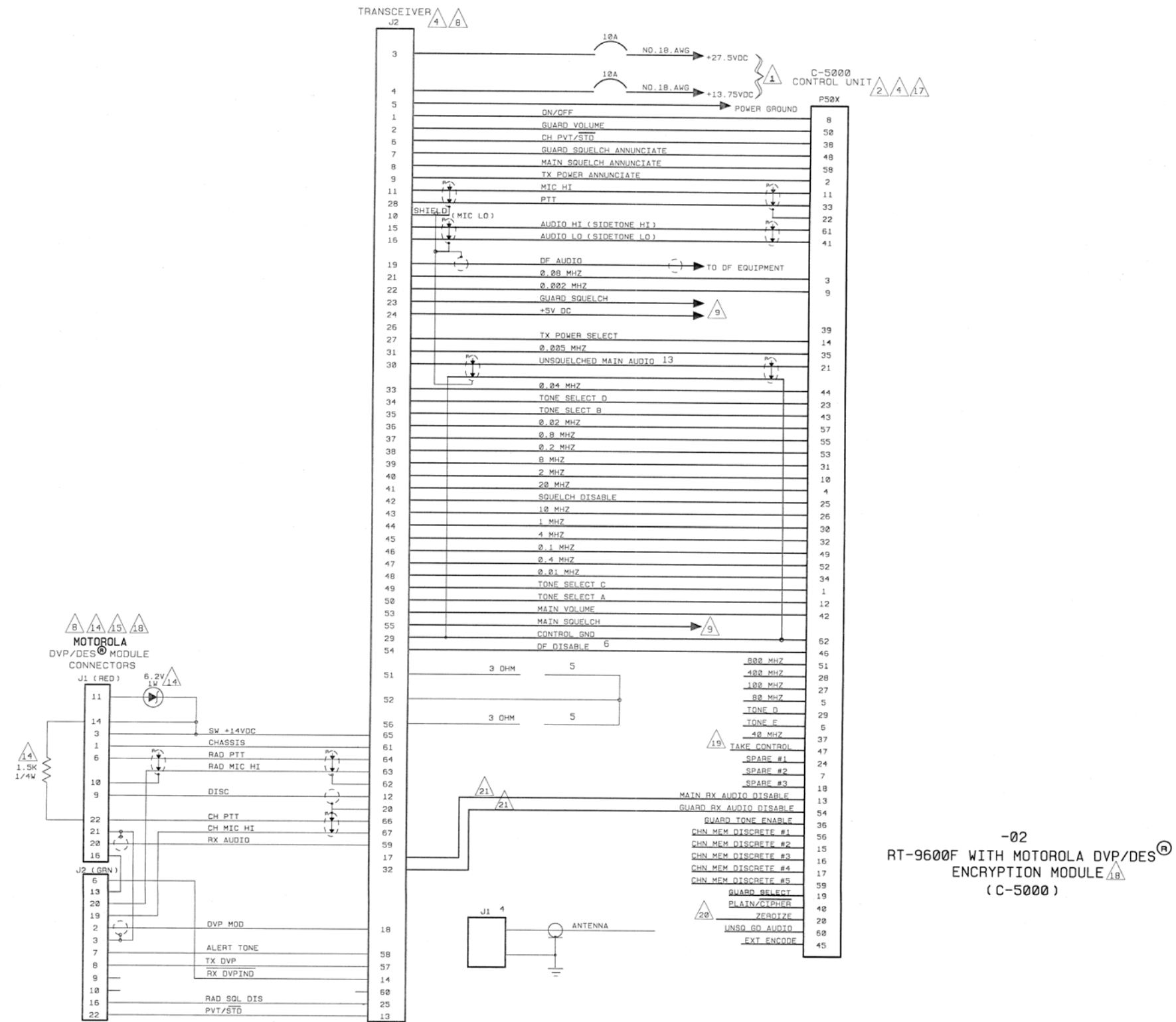


20. THE ZEROIZE FUNCTION PROVIDES AN OUTPUT FROM THE C-5000 TO ENCRYPTION EQUIPMENT TO ERASE KEY VARIABLES. THE OUTPUT CAN BE CONFIGURED ONE OF TWO WAYS: NORMALLY OPEN CIRCUIT WITH ACTIVE GROUND TO ZEROIZE OR NORMALLY OPEN WITH ACTIVE 27.5VDC TO ZEROIZE. STANDARD CONFIGURATION IS ACTIVE GROUND TO ZEROIZE. JUMPER AKJ1 ON THE RT INTERFACE CAN BE MOVED FROM '1 TO 2' TO '2 TO 3' TO YIELD ACTIVE 27.5VDC FOR ZEROIZE.
21. PIN 17,32 ARE REASSIGNED FOR USE WITH C-5000 IN THIS CONFIGURATION. CONTACT GWS CUSTOMER SERVICE FOR SERVICE BULLETIN AND MODIFICATIONS INSTRUCTIONS FOR THE RT-9600F.

-01  
 STANDARD INSTALLATION

**Figure 4-15a. Installation Wiring Diagram (Sheet 1 of 3)  
 RT-9600 / RT-9600F / RT-7200  
 (Dwg No 147-014992, Rev 4)**

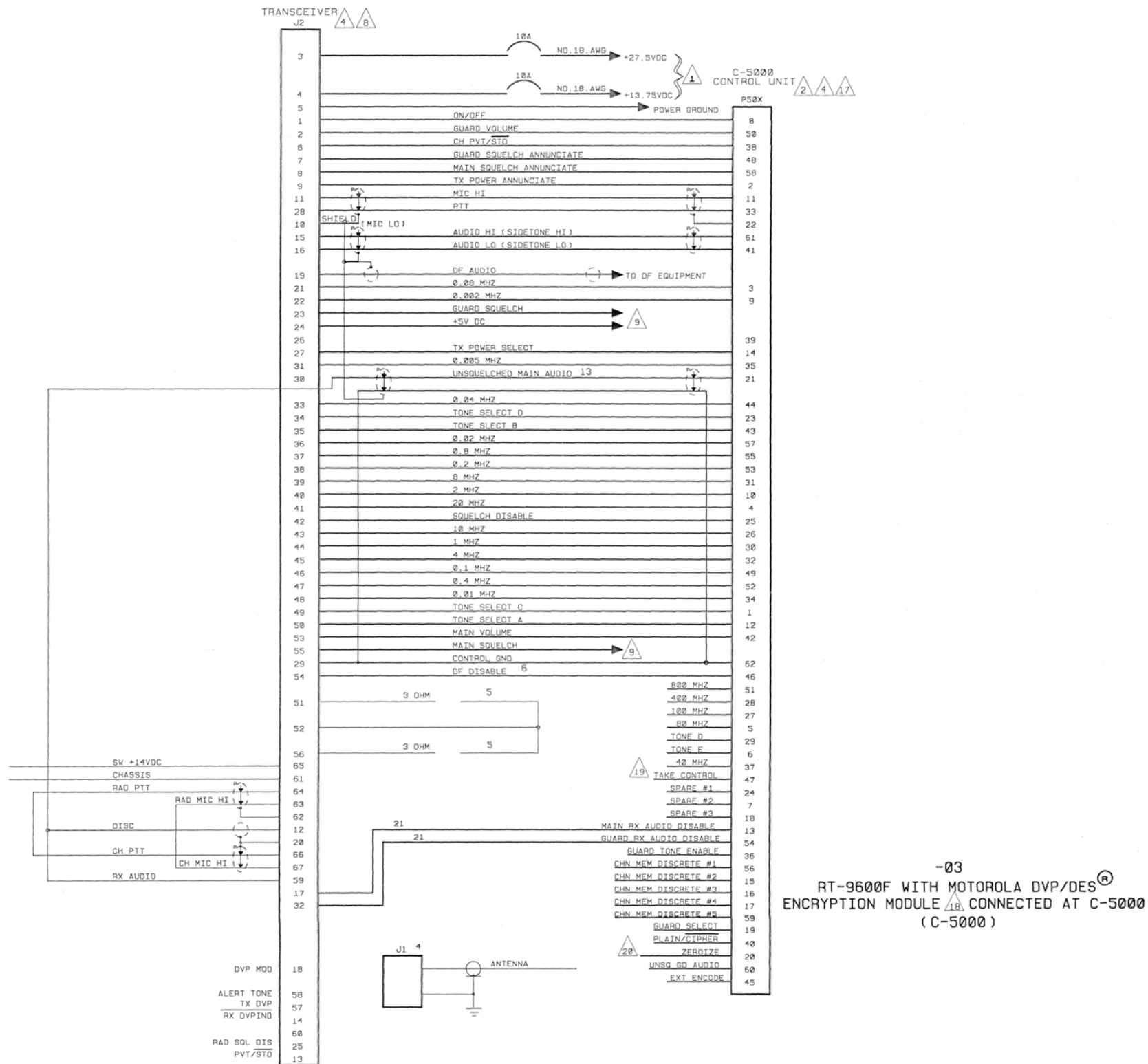
**C-5000 COMMUNICATION MANAGEMENT CONTROLLER  
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**Figure 4-15b. Installation Wiring Diagram (Sheet 2 of 3)**  
**RT-9600 / RT-9600F / RT-7200**  
**(Dwg No 147-014992, Rev 4)**

-02  
 RT-9600F WITH MOTOROLA DVP/DES<sup>®</sup>  
 ENCRYPTION MODULE (C-5000)

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-03  
 RT-9600F WITH MOTOROLA DVP/DES<sup>®</sup>  
 ENCRYPTION MODULE (18) CONNECTED AT C-5000  
 (C-5000)

**Figure 4-15c. Installation Wiring Diagram (Sheet 3 of 3)**  
**RT-9600 / RT-9600F / RT-7200**  
 (Dwg No 147-014992, Rev 4)

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NOTES:

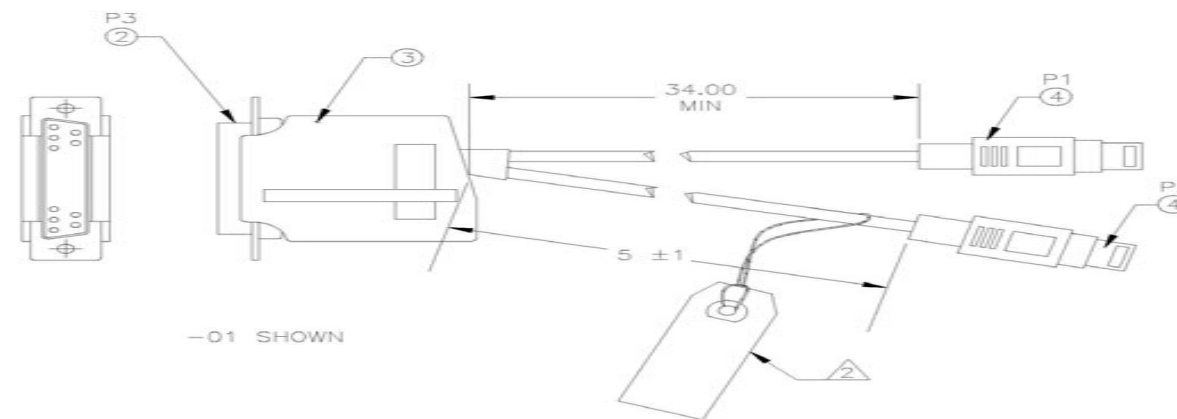
1. WIRE PER WIRING LIST, P1, P2, AND P3 AS SHOWN.

 PIECE MARK PART NUMBER, DASH NUMBER, AND CURRENT REV. LETTER ON TAG (ITEM 6) AND ATTACH TO CABLE P2.

WIRING LIST (P1)		
FROM	TO	NOTES
P1-3	P3-7	ORANGE WIRE
P1-1	P3-3	BROWN WIRE
P1-2	P3-2	RED WIRE
SHIELD	P3-1	SHIELD

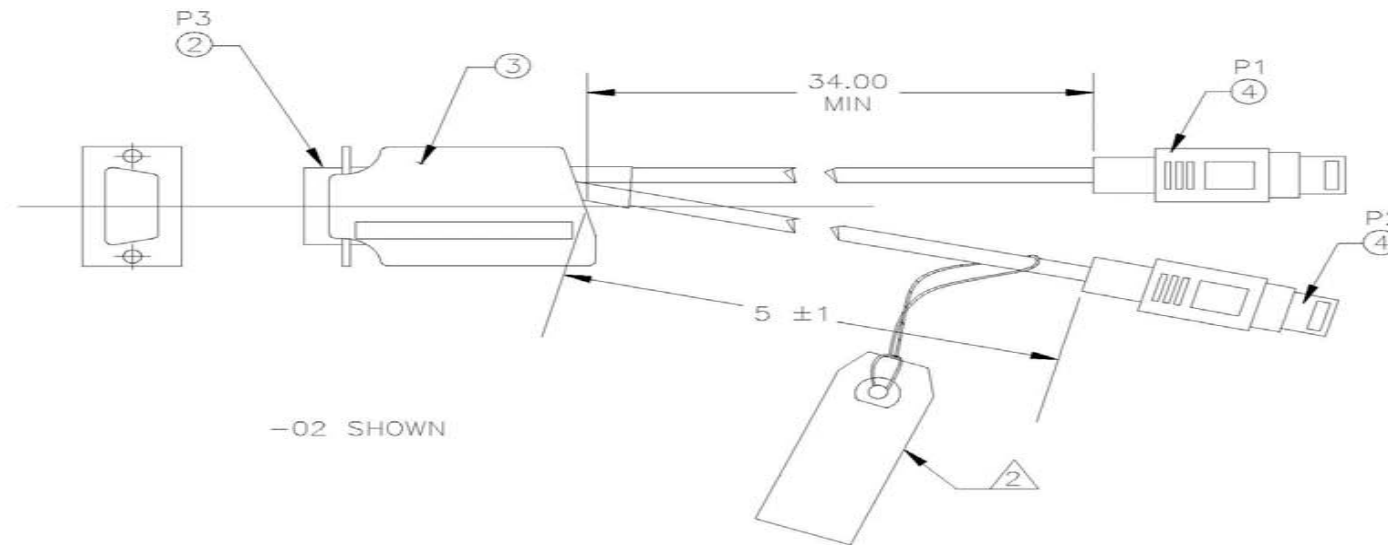
WIRING LIST (P2)		
FROM	TO	NOTES
P2-3	P3-7	ORANGE WIRE
P2-1	P3-2	BROWN WIRE
P2-2	P3-3	RED WIRE
SHIELD	P3-1	SHIELD

WIRING LIST (P3)		
FROM	TO	NOTES
P3-4	P3-5	JUMPER USING ITEM 5
	P3-8	
P3-6	P3-20	JUMPER USING ITEM 5



**Figure 4-17a. Cable Assembly, C-5000 Digital Interface (Sheet 1 of 2)**  
**(Dwg No 124-015911, Rev E)**

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WIRING LIST (P1)		
FROM	TO	NOTES
P1-3	P3-5	ORANGE WIRE
P1-1	P3-2	BROWN WIRE
P1-2	P3-3	RED WIRE
SHIELD	P3-5	SHIELD

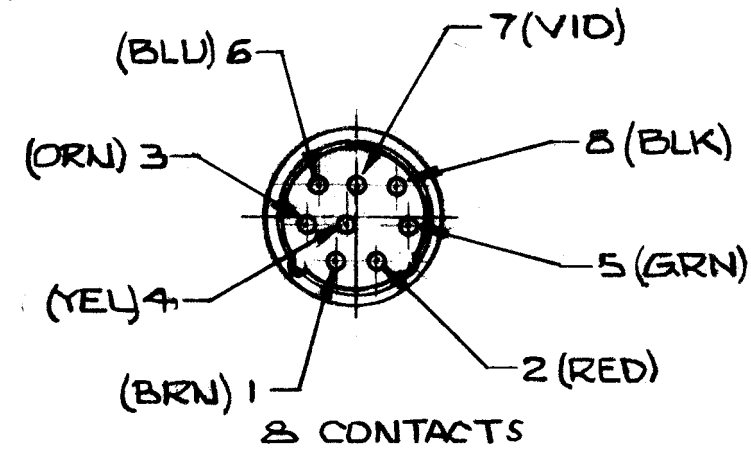
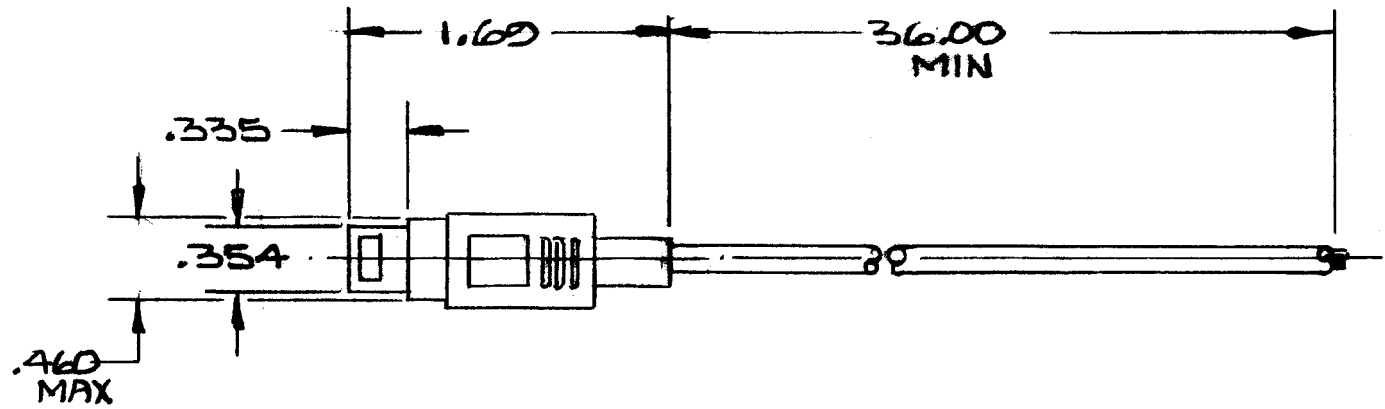
WIRING LIST (P2)		
FROM	TO	NOTES
P2-3	P3-5	ORANGE WIRE
P2-1	P3-3	BROWN WIRE
P2-2	P3-2	RED WIRE
SHIELD	P3-5	SHIELD

WIRING LIST (P3)		
FROM	TO	NOTES
P3-7	P3-1	JUMPER USING ITEM 5
P3-6	P3-4	JUMPER USING ITEM 5

**Figure 4-17b. Cable Assembly, C-5000 Digital Interface (Sheet 2 of 2)**  
 (Dwg No 124-015911, Rev E)



**C-5000 COMMUNICATION MANAGEMENT CONTROLLER  
 INSTALLATION MANUAL**

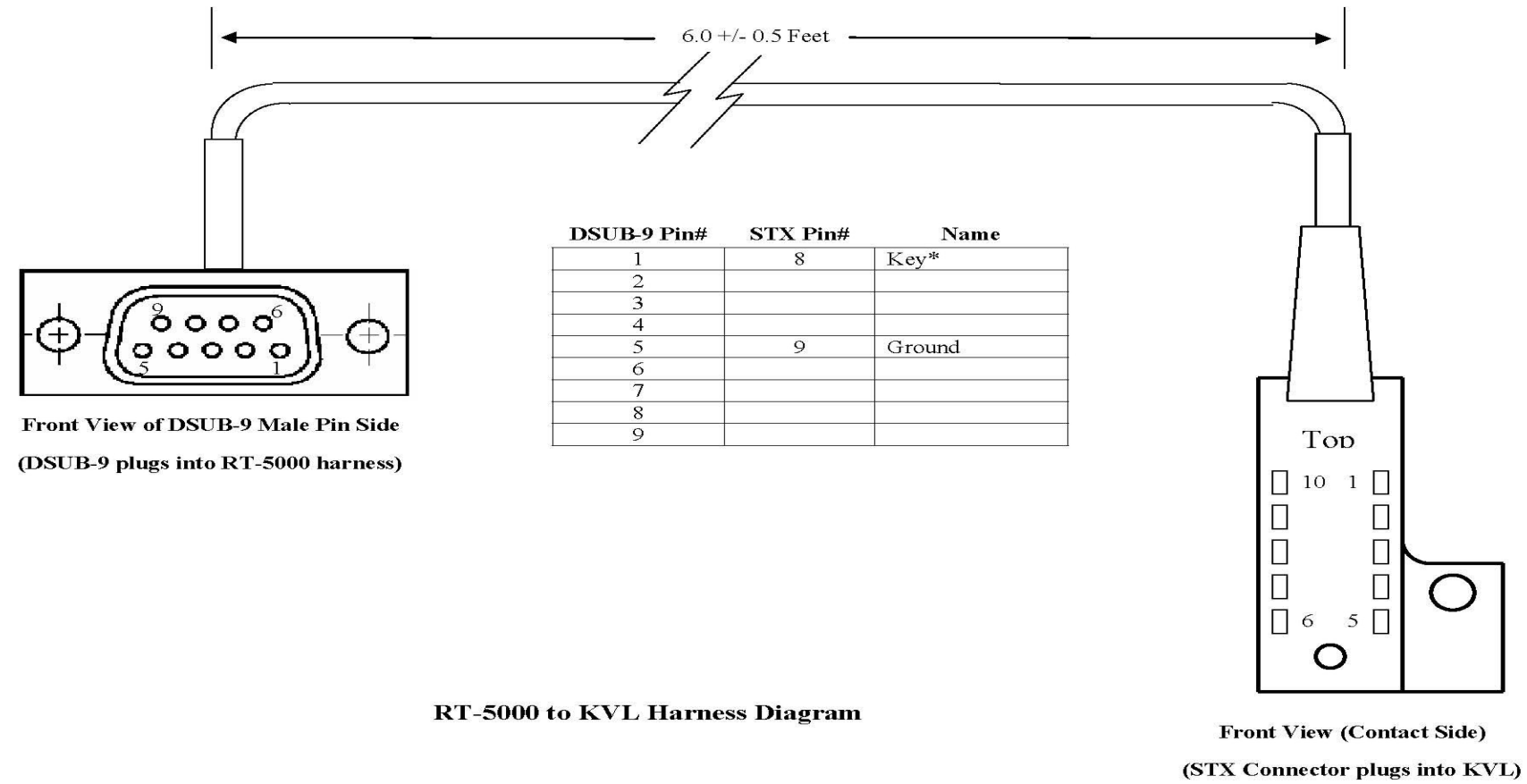


**NOTES:**

1. CONTACT MATERIAL:  
PLUG: PHOSPHOR BRONZE.
2. CONTACT PLATING:  
GOLD FLASH OVER NICKEL UNDERPLATE OVERALL.
3. WIRE SIZE: 28 AWG.
4. DURABILITY: WITHSTANDS 500 MATING / UNMATING CYCLES.
5. MATING FORCE: 10 LB MAX.
6. UNMATING FORCE: 1 LB.
7. VOLTAGE RATING: 500 VAC rms.
8. CURRENT RATING: 1 AMP @ 100 VAC,  
2 AMP @ 12 VDC.
9. OPERATING TEMPERATURE: -40°C TO +70°C.
10. DIMENSIONS SHOWN FOR REFERENCE ONLY.
11. BRAIDED SHIELD.

Figure 4-18. Cable Assembly, 8-Pin Mini Din with Cable (Sheet 1 of 1)  
 (Dwg No 124-015910, Rev B)

**C-5000 COMMUNICATION MANAGEMENT CONTROLLER  
INSTALLATION MANUAL**



**Figure 4-19. Wiring Harness Diagram KVL TO RT-5000 (Sheet 1 of 1)  
(Dwg No 152-241520, Rev C)**