

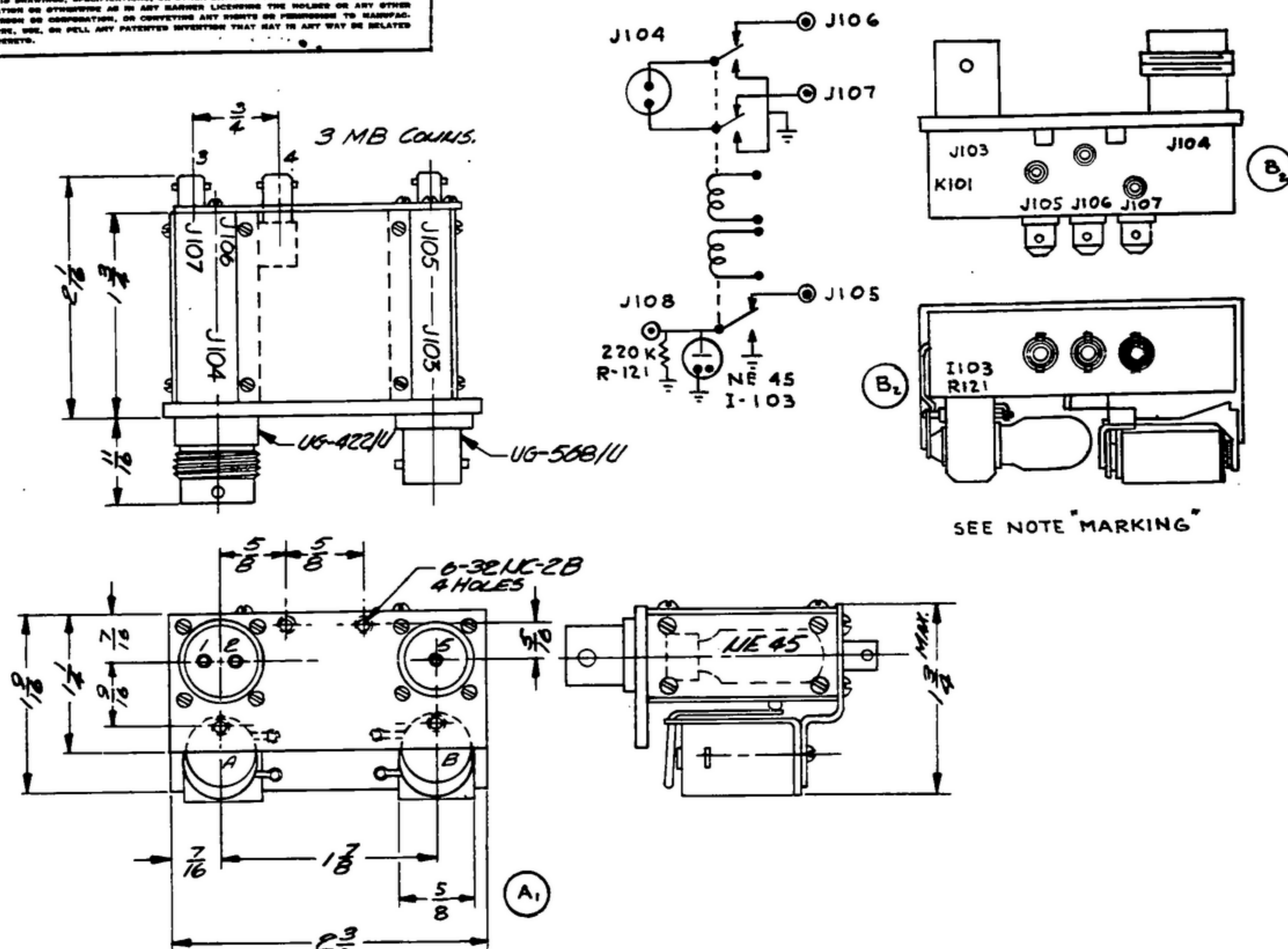
EQUIP. TYPE: *330A/URR* EXP. NO.

COL. 410-0125-00

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FOR INFORMATION ONLY. CONTRACTOR MAY AT HIS OPTION DEVIATE FROM THESE PROCESS DETAILS.



NOTES:
 1. PART MAY BE TYPE B-K-CR76, AS SUPPLIED BY DANBURY KNUDSEN, DANBURY, CONN., OR EQUAL, PROVIDING IT MEETS THE FOLLOWING REQUIREMENTS AND DIMENSIONS SHOWN.

DESCRIPTION: COAXIAL ARMATURE RELAY IN ACCORDANCE WITH MILITARY SPECIFICATION MIL-R-5757 EXCEPT AS NOTED.

CONTACT DATA:
 CONTACT ARRANGEMENT: 3C.
 CONTACT RATING: LOW LEVEL R.F.
 CONTACT SIZE AND MATERIAL: AS REQUIRED.

COIL DATA:
 NOMINAL COIL VOLTAGE: 20 VOLTS RECTIFIED AC (THE AVERAGE VALUE OF THE UNFILTERED OUTPUT OF A FULL WAVE RECTIFIER OPERATING FROM A 50 TO 60 CPS SOURCE OVER THE SPECIFIED AMBIENT OPERATING TEMPERATURE RANGE).
 PULL-IN VOLTAGE: 16 VOLTS, RECTIFIED AC.
 MAXIMUM OPERATING VOLTAGE: 28 VOLTS, RECTIFIED AC.
 COIL RESISTANCE: 200 OHMS ±10%.
 DUTY CYCLE: INTERMITTENT
 AMBIENT OPERATING TEMPERATURE: -55°C TO +85°C.
 TEMPERATURE RISE: THE RELAY SHALL BE SO CONSTRUCTED THAT IT CAN BE OPERATED AT THE SPECIFIED MAXIMUM COIL VOLTAGE, AT THE SPECIFIED MAXIMUM AMBIENT OPERATING TEMPERATURE, AND USING THE INDICATED DUTY CYCLE FOR A SUFFICIENT LENGTH OF TIME TO ENABLE THE RELAY COIL TO REACH ITS MAXIMUM OPERATING TEMPERATURE WITHOUT THE INSULATION BEING HARMED AND WITHOUT THE OPERATION BEING IMPAIRED.
 LIFE EXPECTANCY: 500,000 OPERATIONS, MIN. AT RATED LOAD, AT 1 SEC. ON, 1 SEC. OFF.

SWE APPROVAL		REVISIONS			
SYM	PR	SYM	DESCRIPTION	DATE	APPROVAL
	10042-7	A ₂	A ₁ WAS 1/16 A ₂ ADDED APPL SM-D-343619	19 OCT 59	42428-PC 59-A1-S1 REV'D PME
		B ₂	B ₁ ADDED "SYMBOL NOS TO BE 3/32 HIGH GOTHIC TYPE CENTRALLY LOCATED UNLESS OTHERWISE SHOWN" B ₂ ADDED VIEWS OF MARKINGS	17 AUG 60	42428-PC 59 REV'D PME

CROSSTALK: -400 B MINIMUM MEASURED WITH THE RELAY ENERGIZED AT 30 MC.

FINISH: METAL PARTS SHALL BE OF CORROSION-RESISTANT METAL, M 251 PER SPEC MIL-F-14072.

MARKINGS: MANUFACTURER'S SYMBOL OR NAME AND PART NUMBER AND NOMINAL COIL VOLTAGE SHALL BE STAMPED LEGIBLY ON RELAY. SYMBOL NUMBER TO BE 3/32 HIGH GOTHIC TYPE CENTRALLY LOCATED UNLESS OTHERWISE SHOWN. MARKINGS SHALL BE CAPABLE OF WITHSTANDING THE HUMIDITY TEST AND MEET THE REQUIREMENTS OF SPEC MIL-M-13231.

VOLTAGE BREAKDOWN: THE RELAY SHALL BE CAPABLE OF WITHSTANDING A TEST POTENTIAL OF 750 VOLTS RMS APPLIED FOR 30 SECONDS BETWEEN EACH COMBINATION OF TWO OPEN TERMINALS, BETWEEN EACH TERMINAL AND FRAME, AND BETWEEN COIL AND FRAME.

ALTITUDE: RELAY MUST OPERATE NORMALLY AND WITHOUT FLASHOVER AT ALTITUDES FROM 0 TO 50,000 FEET.

SHOCK: THE RELAY SHALL BE CAPABLE OF WITHSTANDING A 60 G SHOCK TEST IN A SHOCK TESTING MECHANISM CONFORMING TO MILITARY STANDARD MIL-STD-202, METHOD 202, EXCEPT THE FIXTURE SHALL BE MODIFIED TO HOLD THE RELAY. THE RELAY SHALL BE SUBJECTED TO A TOTAL OF 15 IMPACT SHOCK, 5 IN EACH PLANE. THE RELAY SHALL MEET ALL OTHER REQUIREMENTS OF THIS SPECIFICATION FOLLOWING THIS TEST.

VIBRATION: THE RELAY SHALL BE CAPABLE OF CONFORMING TO THE VIBRATION REQUIREMENTS OF SPEC MIL-R-5757. THERE SHALL BE NO EVIDENCE OF CONTACT CHATTER OR BOUNCE DURING THIS TEST.

TUMBLING: THE RELAY SHALL BE CAPABLE OF WITHSTANDING A 45 MINUTE TEST IN A TUMBLING MACHINE CONFORMING TO SIGNAL CORPS DRAWING SC-C-24298. THE FIXTURE FOR HOLDING THE RELAY SHALL CONFORM TO SIGNAL CORPS DRAWING SC-C-6587, EXCEPT THAT THE DESIGN SHALL BE MODIFIED AS NECESSARY TO ACCOMMODATE THE RELAY. THE SHELVES OF THE TUMBLING MACHINE SHALL BE ARRANGED SO THAT THE FIXTURE WILL FALL A DISTANCE OF 12 INCHES WHEN THE MACHINE IS ROTATED. THE MACHINE SHALL BE OPERATED AT 5 REVOLUTIONS PER MINUTE THROUGHOUT THIS TEST.

TEMPERATURE CYCLING: THE RELAY SHALL BE CONSTRUCTED TO OPERATE IN ACCORDANCE WITH THIS DRAWING AFTER 5 TEMPERATURE CYCLES CONDUCTED IN ACCORDANCE WITH MILITARY SPECIFICATION MIL-R-5757.

HUMIDITY: THE RELAY SHALL BE CAPABLE OF WITHSTANDING A 10 DAY HUMIDITY TEST CONDUCTED IN ACCORDANCE WITH MIL-STD-202, METHOD 106. DURING THIS TEST NO POLARIZING VOLTAGE SHALL BE APPLIED.

SALT SPRAY TEST: THE RELAY SHALL BE CONSTRUCTED SO THAT IT CAN BE SUBJECT TO A 50 HOUR SALT SPRAY TEST IN ACCORDANCE WITH MIL-STD-202, METHOD 101, WITHOUT EVIDENCE OF CORROSION OF THE BASE MATERIAL AND WITHOUT IMPAIRMENT OF THE RELAY'S PERFORMANCE.

***PRODUCTION TESTS:** EACH RELAY SHALL BE SUBJECT TO THE FOLLOWING TESTS:
 VISUAL EXAMINATION; PULL-IN VOLTAGE.

***SAMPLING TESTS:** SAMPLE QUANTITIES, AS REQUIRED FROM RELAY SUBMITTED ON PRODUCTION ORDERS MAY BE SUBJECT TO THE FOLLOWING TESTS:
 DROP-OUT VOLTAGE
 CONTACT RESISTANCE
 TEMPERATURE RISE
 TEMPERATURE CYCLING
 VIBRATION
 HUMIDITY
 VOLTAGE BREAKDOWN
 LIFE EXPECTANCY
 SHOCK
 TUMBLING
 SALT SPRAY

WHEN PART NO. APPEARS AS 559 0309 9-3, MILITARY SOURCE INSPECTION IS REQUIRED

COLLINS PART NO.	QTY	REQ	PART NO.	DESCRIPTION	DATE	DATE
LIST OF MATERIAL						
COLLINS PART NO. 559 0309 9-3						

DRAWN <i>LIPPSCH</i>				CHECKED <i>BS</i>		APPROVED		COLLINS-RADIO-CO. SIGNAL CORPS 14214-PH 5193		DEPARTMENT OF THE ARMY SIGNAL CORPS ENGINEERING LABORATORIES FORT MONMOUTH NEW JERSEY	
UNLESS OTHERWISE SPECIFIED: DECIMAL DIMENSIONS INCLUDING HOLE SIZES MAY VARY ±.005 FRACTIONAL DIMENSIONS INCLUDING HOLE SIZES MAY VARY ±1/64 MACHINED ANGLES MAY VARY ±.1° SHEARED ANGLES MAY VARY ±.25° BROKEN ANGLES MAY VARY ±.1° ECCENTRICITY BETWEEN ANY DIAMETERS ON THE SAME CENTERLINE SHALL NOT EXCEED .010 TOTAL INDICATOR READING. ALL DIMENSIONS ARE FINISH DIMENSIONS INCLUDING APPLIED FINISH AND ARE GIVEN IN INCHES.				REVIEWED <i>PME</i>		APPROVED <i>HLV</i> <i>PME</i>		DATE <i>28 FEB 59</i>			
APPLICATION				640-7945-005		SM-D-343619		SC-DC-28375		RELAY-COAXIAL	
COLLINS NO.				QTY		NEXT ASSY		USED ON		5M-C-283206	