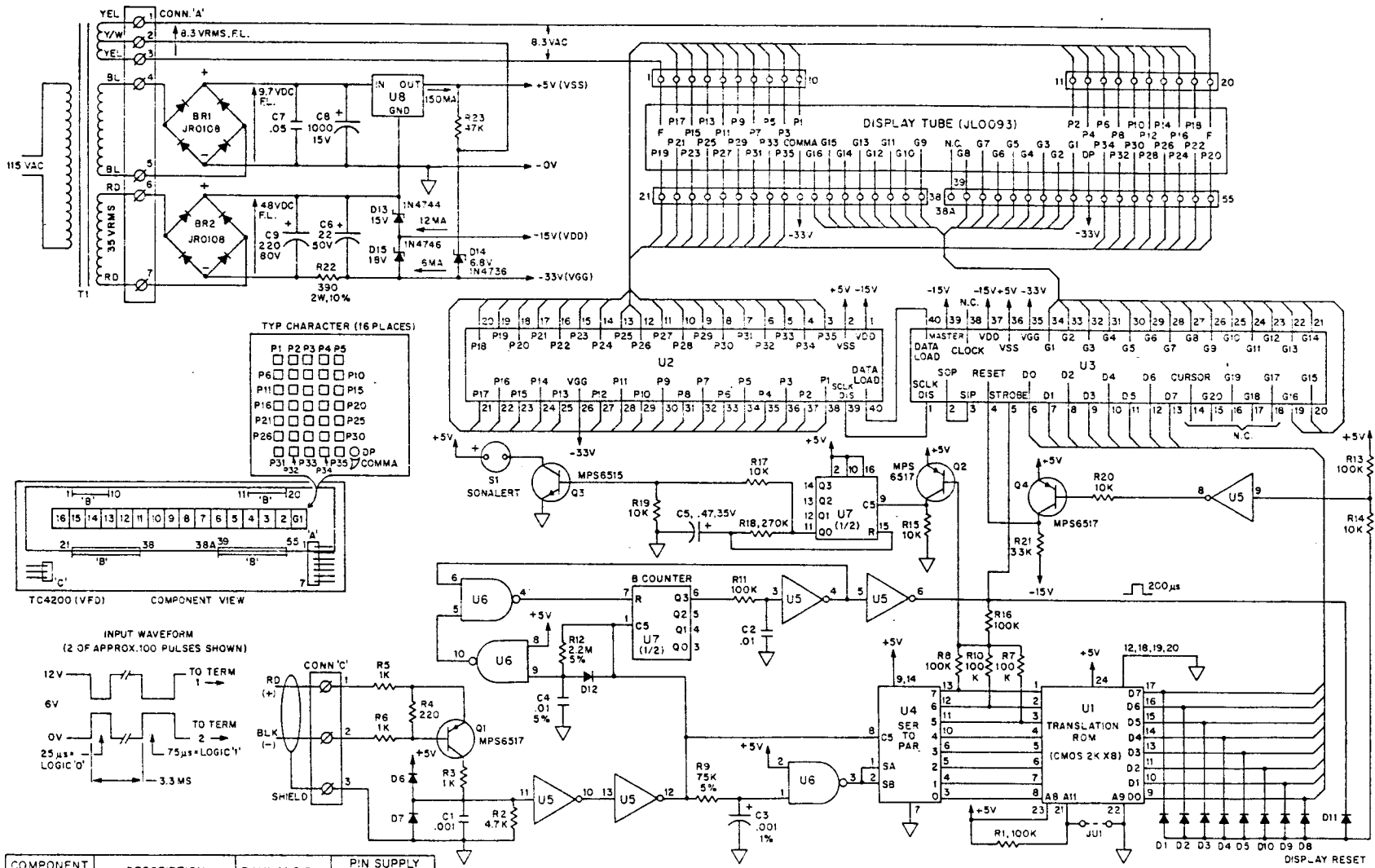


DWG. NO.	KC1476	A
DATE	5-29-85	
ISS.	CHANGE	
A	U8 WAS ECO012. DIODES WERE IN4002. DISPLAY TUBE DESIGNATED P21 AS P2 11-18-85	



COMPONENT DESIGNATION	DESCRIPTION	RAULAND P/N	PIN SUPPLY	
			-0V	+5V
U1	EPROM 27C16	ECO011	12,18,19, 20,22	23,24
U2	ROCKWELL 10938	ECO214		2
U3	ROCKWELL 10939	ECO215		36
U4	74HC164	ECO202	7	9,14
U5	RCA CD40106	ECO209	7	14
U6	RCA CD4093	ECO064	7	14
U7	RCA CD4520	ECO204	8	2,10,16
U8	5V REG MC7805CT	ECO112		GND OUT
S1	STAR MICRONICS HMB-06	USC211		+
T1	POWER TRANSFORMER	LPO442		

NOTES: 1. UNLESS OTHERWISE INDICATED, ALL RESISTORS ARE RATED IN OHMS, 1/4 WATT ±10%. CAPACITORS ARE RATED IN MICROFARADS. DIODES ARE IN9148.

2. JUI15 NOT USED WITH JL0093.

3. RECOMMENDED FLUSH MOUNTING, 5 GANG BACK BOXES (MIN. DEPTH=2 1/2"): — MASONRY — — 2 1/2" DEEP GANG BOX, COVER — RAO: 694 RAO: 954, 824 STEEL CITY: GW525C STEEL CITY: H58D, 56C

TC4200
VACUUM FLUORESCENT
DISPLAY
RAULAND-BORG CORP.
MADE IN U.S.A.
KC1476 A



TC4200 VACUUM FLUORESCENT DISPLAY
INSTALLATION

RAULAND-BORG CORPORATION • 3450 West Oakton Street, Skokie, Illinois 60076-2951 • (708) 679-0900

DESCRIPTION

The TC4200 Vacuum Fluorescent Display ("VFD") will show the same calling and programming information as the LCD module of an administrative display phone. However, being larger and brighter than an LCD module, and being designed for wall-mounting, the TC4200 can serve as the display for several nearby administrative phones.

The display should be mounted in a back box that has a five-gang opening and a depth of at least 2-1/2 inches. It should be powered by a local 110-120-volt, 60-Hz power source, and be connected to one of the two LCD drivers on the Main Input/Output (MI/O) module of the Telecenter IV. Each LCD driver can accommodate up to three displays (LCD or VFD, in any combination) and a total cable length of 1,000 feet. Refer to the main Telecenter IV manual, KI-1435, especially the System Wiring Diagram (KM0674), as well as to the attached drawings.

The operating instructions for the TC4200 are the same as those for the LCD display. Refer to the main Telecenter IV manual, especially the chapters on operating instructions, programming, and interconnect.

ATTACHMENTS:

- IL0211 (Installation Diagram).
- KC1476 (Schematic).

PARTS LIST

<u>Qty.</u>	<u>Description</u>	<u>Rauland Part No.</u>
1	VFD printed-circuit-board assembly.	VC7190
1	Chassis (without transformer and ground wire).	A3614
1	Power transformer (mounted on chassis).	LP0442
1	Ground wire assembly (mounted on chassis).	VW2118
1	Panel front.	QP0941
3	Wire nuts.	QP0488
1	Three-pin connector.	SF0475-3
2	Screw (6-32 x 1/4 panhead machine) for attaching the chassis to the back box.	WA57
4	Screw (6-32 x 1 black flathead Phillips) for attaching the panel front.	WA114

INSTALLATION

Step 1. Install an electrical box (a five-gang masonry box or an electrical box that can accommodate a five-gang plaster ring; the depth should be at least 2-1/2 inches--see the attached schematic for typical model numbers).

Step 2. Pull through the three-conductor AC power lines and the 22-gage shielded pair from an LCD driver on the Main Input/Output module of the Telecenter IV.

Note: Do not apply power to the AC lines until this installation has been completed.

Step 3. Carefully remove the seven-pin connector from the circuit-board assembly and place the assembly in a safe place.

Step 4. Orient the chassis assembly horizontally, with the transformer to the right. Insert it into the electrical box, making sure that no wires are pinched. Secure the chassis to the box by inserting the two 6-32 x 1/4 screws (supplied) into its top and bottom center holes.

Step 5. Using the three supplied wire nuts, attach the two black transformer wires to the two main power lines (typically black and white) in either order. Then attach the green grounding wire to the third, safety ground, wire of the power line (typically green, also). Press these wires inside the chassis so there will be ample room to insert the VFD assembly.

Step 6. Orient the three-pin connector so that the larger ends of the holes (containing the insulation-piercing sockets) are to the left and their exposed side is facing upward.

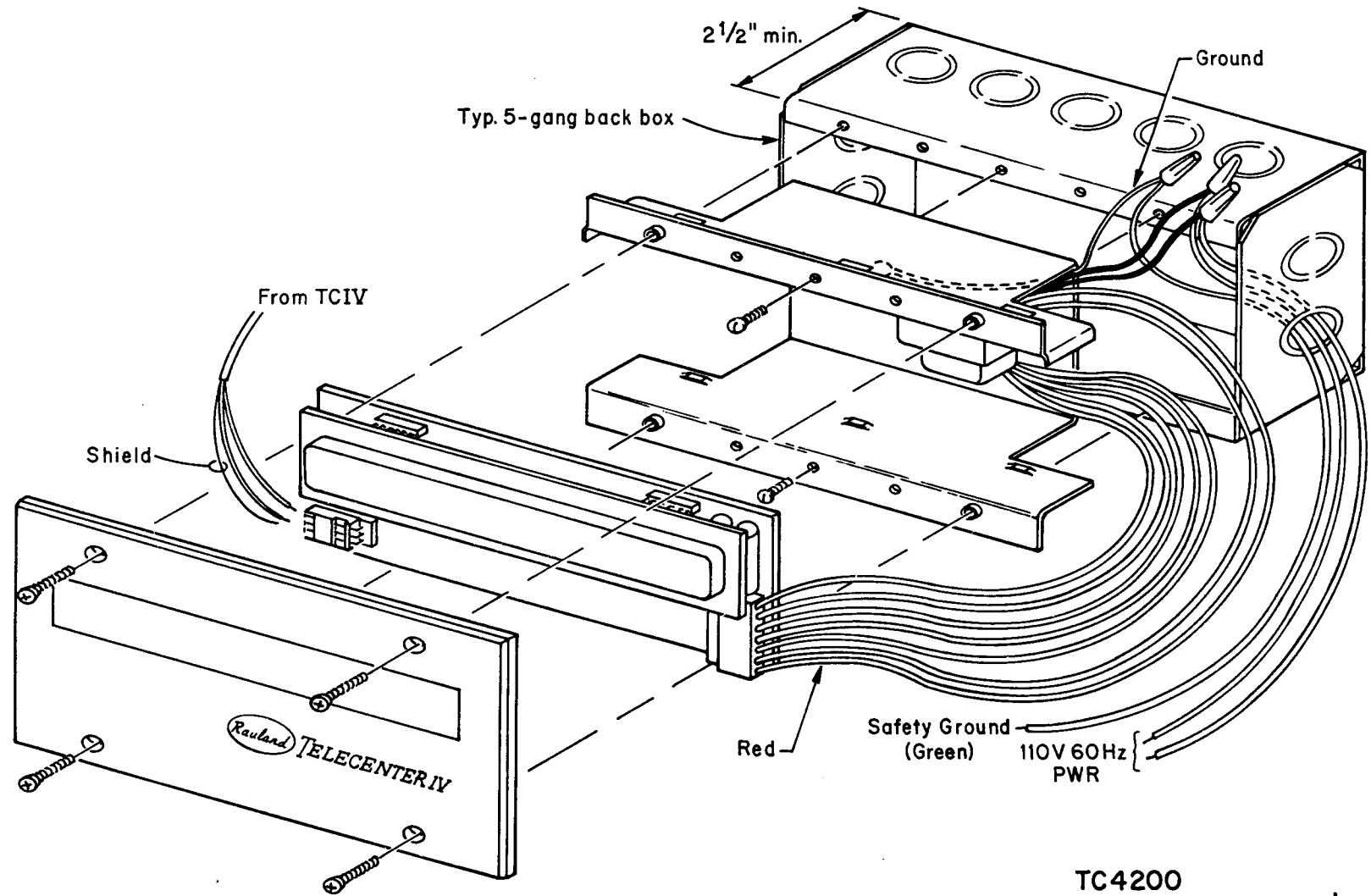
Step 7. Insert the wires from the LCD driver into the insulation-piercing terminals of the connector. Route the wires into the connector at a right angle from the top; it is not necessary to strip insulation from the ends of the wires. An insertion tool like Rauland's G2522 will prove helpful.

The wire from a "+" terminal of the LCD driver should be connected to the top section ("1") of the connector; the wire from a "-" terminal of the LCD driver should be connected to the middle section ("2") of the connector; and the shield should be connected to the bottom ("3") section of the connector. Refer to the System Wiring Diagram (KM0674) in KI-1435.

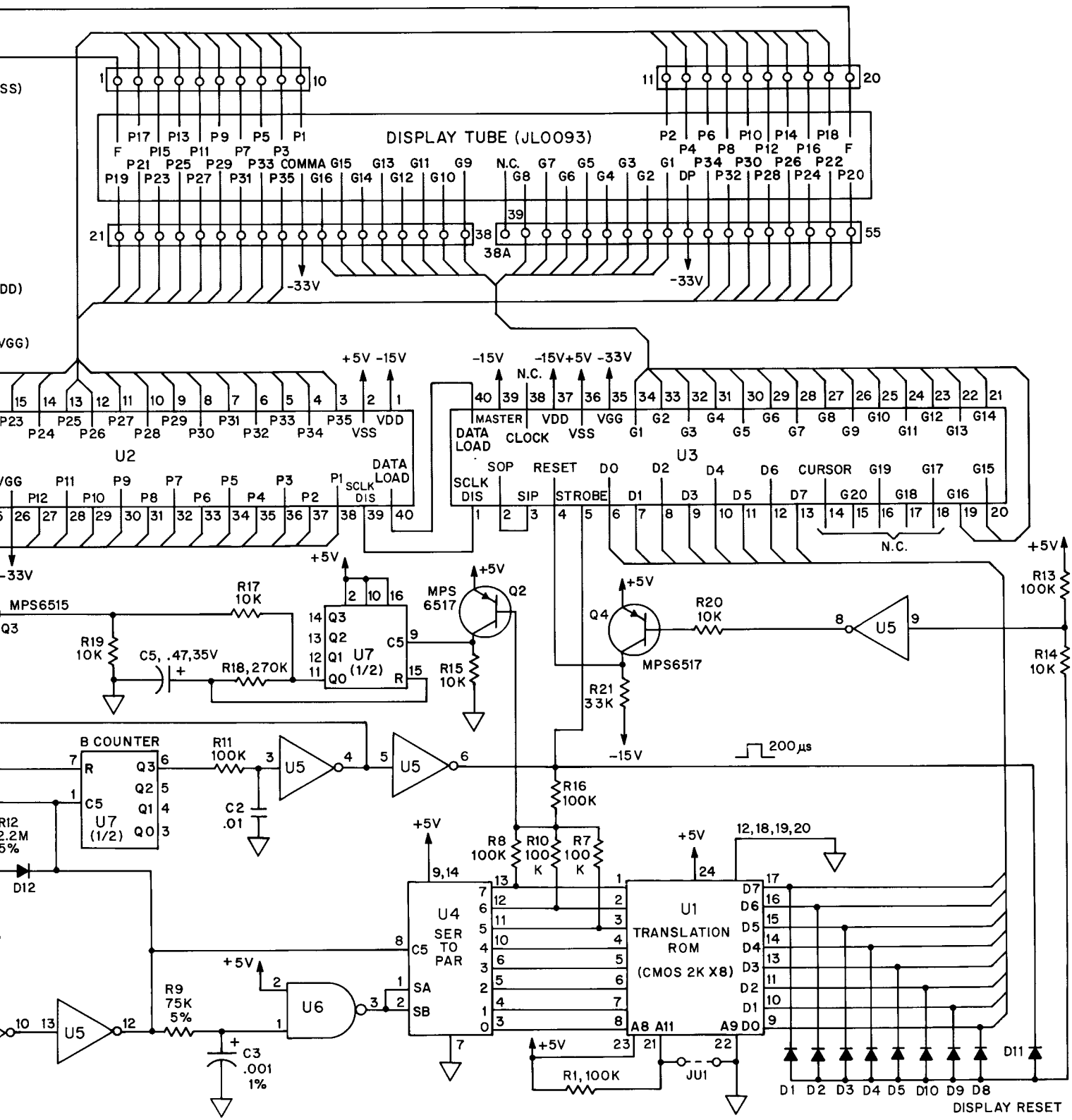
Step 8. Orient the VFD assembly horizontally, with the seven-pin terminal ("T1") to the right. Push the seven-wire connector onto this terminal; a red wire should be at the bottom. Similarly, push the three-wire connector onto the three-pin terminal ("T2") on the left side of the board; the shield should be at the bottom. The pin designations are marked on the printed circuit board and are also referred to on the attached IL0211.

Step 9. Carefully insert the VFD assembly into the chassis. Make sure that all the wires are routed inside the electrical box.

Step 10. Install the dress panel, using the 6-32 x 1 black flathead Phillips screws; be careful not to mar the panel.



TC4200
VACUUM FLUORESCENT DISPLAY ASS'Y.
IL0211



- NOTES:
- UNLESS OTHERWISE INDICATED, ALL RESISTORS ARE RATED IN OHMS, 1/4 WATT $\pm 10\%$. CAPACITORS ARE RATED IN MICROFARADS. DIODES ARE 1N914B.
 - JU1 IS NOT USED WITH JL0093.
 - RECOMMENDED FLUSH MOUNTING, 5 GANG BACK BOXES (MIN. DEPTH = 2 1/2"):
 - MASONRY —
 - 2 1/2" DEEP GANG BOX, COVER —
- RACO: 694 RACO: 954, 824
 STEEL CITY: GW525C STEEL CITY: H5BD, 56C

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