

SYSTEM CENTURY®
DIGITAL CENTRAL OFFICE

**REMOTE LINE SWITCH
INSTALLATION INSTRUCTIONS**

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NOTE. Office drawing numbers will vary with each installation. All XXXXX numbers for any one installation will be the same.

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1.	INTRODUCTION		RLS-XXXXX-CR	Cable Rack
1.01	This section gives general procedures for handling and installing Remote Line Switch (RLS) units of a SYSTEM CENTURY remote digital subsystem.		RLS-XXXXX-SG	System Grounding

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<u>DRAWING NO.</u>	<u>TITLE</u>
RLS-XXXXX-SYS	System Association
RLS-XXXXX-LNA	Line Number Assignment
E-49978-100	SYSTEM CENTURY DCO Overhead Cable Runway Installation

3. TOOLS AND TEST EQUIPMENT

3.01 The normal telephone system installers tools are sufficient for installation of RLS units. A 6-foot (2-meter) step ladder should be available when installing cable racks and facades.

4. SPECIAL PRECAUTIONS

4.01 Procedures for using tools and test equipment differ greatly between digital, electronic, and relay-type installations. Solid-state devices are more reliable than relays under normal operating conditions, but are easily damaged by static electricity or foreign voltages. Certain tools and test equipment, commonly used in relay offices, must never be used on a solid-state system. These include: ordinary battery buzzers, ac wire-wrap guns, electric soldering irons and guns, test picks, and test lamps. The following precautions *must* be observed:

- a. The RLS uses printed wiring board assemblies (PWBAs) that may contain various metal oxide semiconductor (MOS) devices. These PWBAs and devices require special handling. All personnel, tools, test equipment, and metal objects that come in contact with MOS devices must be electrically grounded. Any static or foreign voltage applied to these devices can cause permanent damage. For further details, refer to the section titled *Handling of Electrostatically Sensitive Components* referenced in paragraph 2.02.
- b. Do not use tools or test equipment that draw appreciable amounts of current when attached to the system, such as test lamps and picks.
- c. Do not use tools or test equipment that could introduce a foreign voltage into the system. For instance, a battery-powered buzzer operates on only 6 or 9 volts, but the voltage induced across the buzzer coil when the magnetic field collapses can reach a momentary peak in excess of 100 volts.

5. FRAME INSTALLATION

5.01 Using a local map, verify the locations of remote buildings or huts and determine the best method of accessing each of the locations and the central office. Ensure that communication facilities are available between each remote location and the central office.

5.02 Verify that ac power is available in each remote location and that any required heaters and fans are operational. Obtain keys for all remote buildings.

5.03 Coordinate equipment delivery with the operating company so sufficient personnel will be available to locate and secure frames and batteries in the remote buildings.

5.04 Locate the frames according to the floor plan (RLS-XXXXX-F) and secure according to E-49978-100.

NOTE. The floor plan does not indicate exact equipment location because miscellaneous telephone company equipment may be installed in each remote building and may vary in size. The installer should place the equipment approximately as shown on the floor plan.

5.05 Erect the cable rack according to the RLS-XXXXX-CR drawing using appropriate methods described in the E-49978-100 series drawings.

NOTE. Local job conditions may permit assembly of the cable rack before installation of the frames.

6. POWER EQUIPMENT

6.01 Power equipment for each RLS location consists of a 24-cell, -48-volt main battery source. Standard full-float type battery chargers are dedicated to these batteries. These chargers operate on commercial, 110-volt, single-phase or 220-volt, 3-phase, ac power, depending upon RLS size and customer requirements.

6.02 The customer must supply sufficient ac power at each remote location.

CAUTION. The batteries are shipped charged and wet. Handle these batteries carefully.

6.03 Assemble the battery rack and install the batteries in accordance with the manufacturer's manuals. Do not make connections to the batteries at this time.

7. CABLING

7.01 Run switchboard and power cables according to the floor plan, grounding drawing (RLS-XXXXX-SG), and appropriate cable running list.

7.02 Secure and segregate cables according to methods shown on E-49978-100.

7.03 Use a voltmeter or high impedance buzzer to verify that each cable is correctly identified and located.

8. EQUIPMENT CONFIGURATION AND STRAPPING

8.01 General.

The RLS is a digital subsystem serving subscriber lines from a switch frame located remotely from the common control and trunking portions of the switching system. Architecture of the RLS frame and expansion frame (if needed) depend on customer requirements and will come so equipped. Figures 1 and 2 illustrate both RLS and expansion frames, with line groups 0 to 11 installed.

8.02 Remote Port Group Highway (PGH) to T1 Span Interface (DS-1) Cell (817565-018).

The DS-1 cell (fig. 3) contains four Remote Message Assemblers (MAR), which include redundant cells, that will require strapping.

8.03 MAR Strapping (817563-526).

Strapping is necessary to provide the status input and should be done prior to delivery. Strapping will appear on the backplane of the MAR 2. Strap SA 0-7 to SG so that the unstrapped leads are the binary "1's" of the master sync data link control (SDLC) status bits (fig. 4).

9. SYSTEM POWER APPLICATION

9.01 Before applying power to the system, refer to the battery and charger instruction manuals to verify proper operation.

10. ACCEPTANCE TESTS

10.01 If the customer elects to do an acceptance test on the system prior to cutover, the installation personnel will assist the customer in clearing any troubles on newly installed equipment.

11. PHASEOUT

11.01 After the installation and test phases are complete, clean up the areas. Carefully inspect the customer's buildings and facilities to make sure they have not been damaged. Ensure that all frame doors (if provided) are in place and closed, and that all blower assemblies are equipped with proper filters.

11.02 Give the customer all vendor-supplied literature, battery records, SCPs, job drawings, etc.

11.03 Mark two sets of "as installed" job drawings, showing all deviations from "as engineered" drawings or specifications. Give one set to the customer and return one set for engineering review and site configuration record update. All marked drawings should be the latest issue. Additions should be indicated in red and deletions in green.

11.04 Stromberg-Carlson installers should process job papers in accordance with IDI 203.

12. MATERIAL RETURN PROCEDURES

12.01- Procedures for returning material for repair or replacement are given in the section titled *Product Support Procedures* referenced in paragraph 2.02.

12.02 Stromberg-Carlson installers should return material per instructions listed in IDI 202.

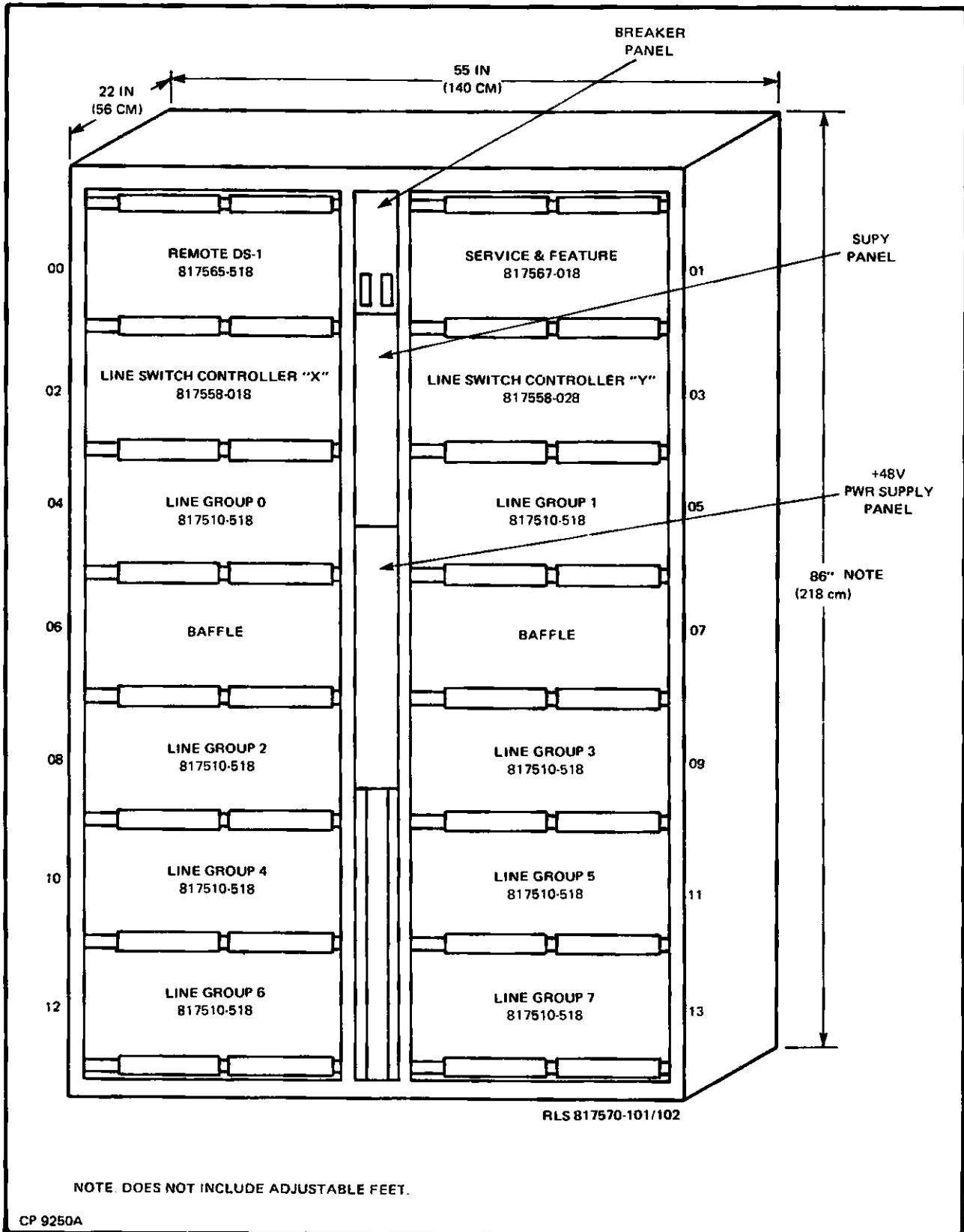
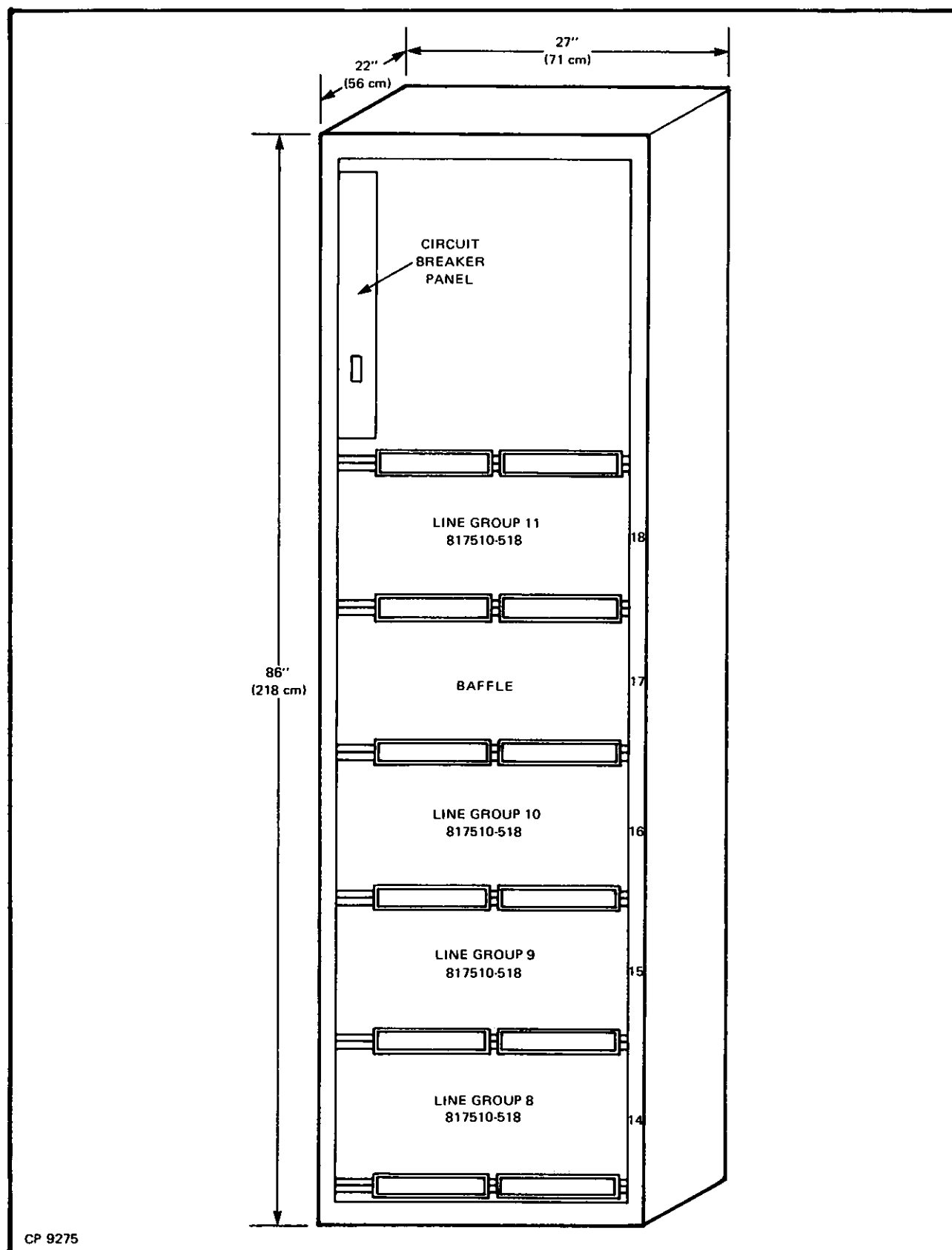


Figure 1. RLS Frame

*Figure 2. RLS Expansion Frame*

SECTION 24-025-20

PWBA NUMBER	CIRCUIT TITLE		
			1
			2
			3
817564-026	POWER SUPPLY	X	4
			5
			6
			7
817562-526	T-1 INTERFACE CONTROL X	2	8
			9
			10
			11
817561-526	T-1 INTERFACE CONTROL X	1	12
			13
			14
			15
817563-526	MESSAGE ASSEMBLER, II	X	16
			17
			18
			19
817552-526/586	MESSAGE ASSEMBLER, I	X	20
			21
			22
			23
817560-526	T-1 INTERFACE	0	24
			25
			26
			27
817560-526	T-1 INTERFACE	1	28
			29
			30
			31
817560-526	T-1 INTERFACE	2	32
			33
			34
			35
817560-526	T-1 INTERFACE	3	36
			37
			38
			39
817560-526	T-1 INTERFACE	4	40
			41
			42
			43
817560-526	T-1 INTERFACE	5	44
			45
			46
			47
817560-526	T-1 INTERFACE	6	48
			49
			50
			51
817560-526	T-1 INTERFACE	7	52
			53
			54
			55
817563-526	MESSAGE ASSEMBLER, II	Y	56
			57
			58
			59
817552-526/586	MESSAGE ASSEMBLER, I	Y	60
			61
			62
			63
817562-526	T-1 INTERFACE CONTROL	Y	64
			65
			66
			67
817561-526	T-1 INTERFACE CONTROL	1	68
			69
			70
			71
			72
			73
			74
			75
			76
			77
			78
			79
			80
			81
			82
			83
817564-026	POWER SUPPLY	Y	84
			85

CP 9254A

RDSI 817565-518

Figure 3. Remote DS-1 Cell

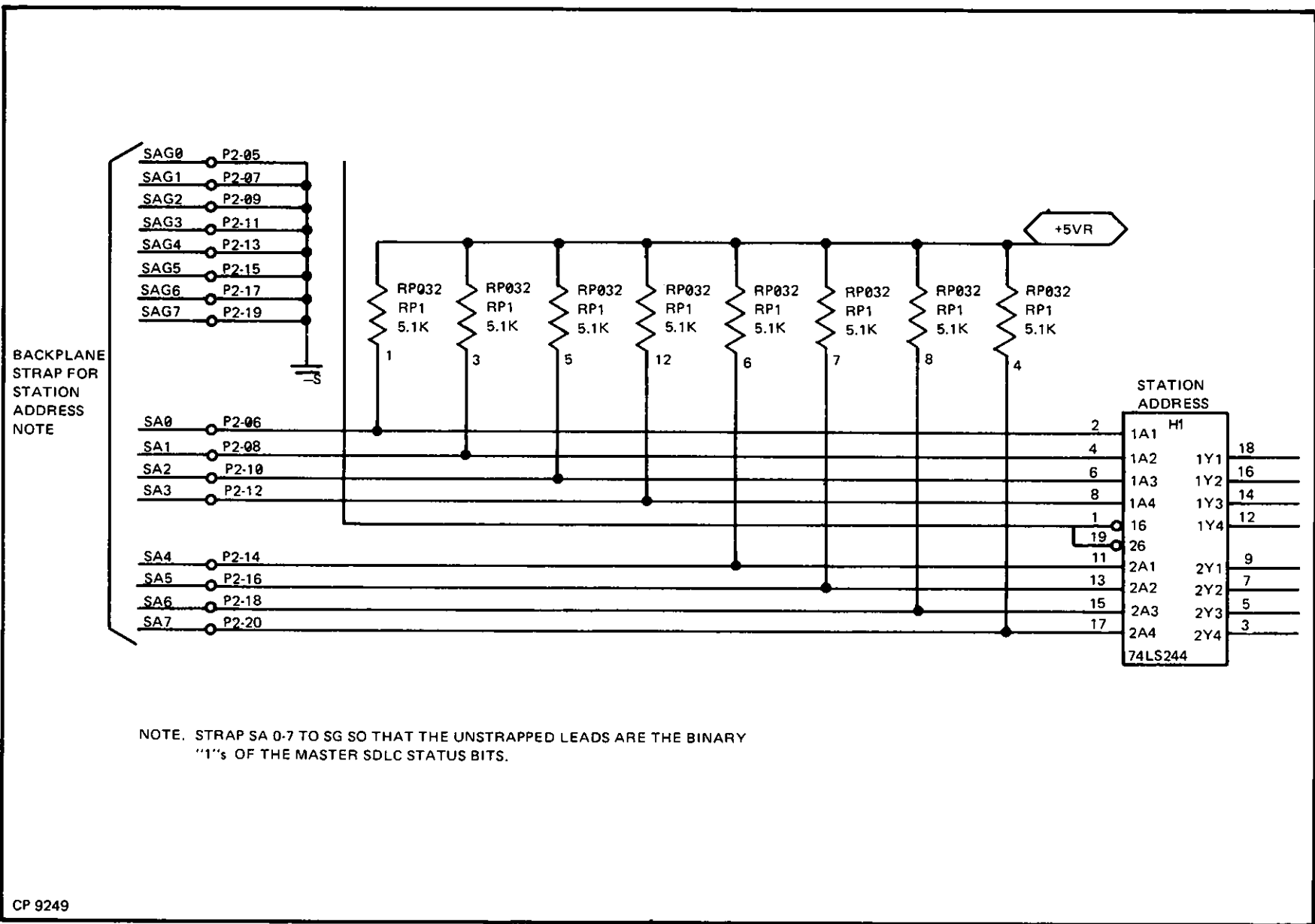


Figure 4. Station Address Strapping Schematic