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Instruction Book

FOR

Amenities Radio

Type 5V15

5 VALVE DUAL WAVE RECEIVER

6 VOLT D.C. SUPPLY

VIBRATOR POWERED

Manufactured by

STROMBERG-CARLSON-ASIA PTY. LTD.

SYDNEY.

P. 21855

Receiver Type 5V15

1. GENERAL:

The type 5V15 Amenities Radio is specially designed for reception of Amplitude Modulated Signals in tropical and sub-tropical areas.

2. FREQUENCY COVERAGE:

Broadcast band .. .. 1650 to 550 kilocycles
Short Wave band .. .. 18 to 6 megacycles

3. POWER SUPPLY:

The Receiver is designed to operate from a six (6) volt storage battery.

The battery clip on the RED wire must always be connected to the POSITIVE (+) terminal of the battery and the BLACK wire to the negative terminal. The Receiver will not operate if these connections are reversed.

To safeguard the apparatus, a protective fuse is incorporated. This, together with a spare fuse will be found under the chassis near the volume control. Always see that the fuse is firmly held in its clips, as looseness will cause noisy reception.

4. GENERAL DESCRIPTION:

The Receiver is housed in a metal cabinet which in turn is securely bolted into a heavy wooden box with hinged lid.

The Receiver should always be retained in its wooden box when installed, and should not be removed except for purposes of repair and maintenance.

The chassis, together with the front panel, is readily removable from the metal cabinet by unclipping the eight spring catches located on the four sides of the cabinet. The junction between the front panel and the cabinet, the speaker opening, all control knobs, and all terminals, have been made drip and splash proof.

2. Turn left hand knob marked **Off–On–Tone** to centre position.
3. Turn knob marked **Volume** fully clockwise.
4. Turn the **Wave Range** switch to desired band, namely: Broadcast or Short Wave.
5. Rotate the **Tuning** knob slowly, until the desired station is heard. It is very easy to pass right over a station on the short wave band unless the knob is rotated slowly. The frequency of the broadcast band is indicated on the cursor at the right hand side of the dial and short wave frequency on the left side.
6. Adjust the **Volume** control to give suitable volume of received signal.
7. Re-set **Tuning** knob to the centre of the received signal. Best quality of speech and greatest freedom from interference will be achieved by this setting.
8. **Off–On–Tone** switch may be turned to **On** or **Tone** position to suit individual taste. The latter position is usually better for very weak stations or when static is prevalent.

Always turn this switch to "OFF" position when set is not in use.

13. WORKSHOP MAINTENANCE.

The following information is intended for the guidance of wireless personnel engaged in the repair of radio equipment, and it is assumed that they possess the necessary testing equipment, such as Standard Signal Generator, Output Meter and Multi Range Voltmeter.

LOCATION OF ADJUSTING SCREWS:

Each I.F. Transformer has two adjusting screws, locked in place by hexagonal nuts. One is on top and the other on the bottom of each Transformer.

At the base of the Aerial, R.F., and Oscillator Coils, are two small variable air trimmers and an adjusting screw with locking nut. On top of each coil is a single adjusting screw with locking nut.

The screws on top of each coil shield vary the inductance of the broadcast coils and the screws beneath each coil vary the inductance of the short wave coils.

The air trimmer nearer the front of the chassis is in each case the Short Wave band trimmer, and the remaining trimmers are for adjusting the broadcast band coils.

METHOD OF ALIGNMENT—

I.F. Amplifier :

Turn wave change switch to Broadcast band, and volume control full on.

Feed a signal of 455 K.C. modulated 30% at 400 cycles into the control grid on top of the 6J8G mixer valve through a fixed condenser of approximately 0.5 mF.

Then adjust the four trimming screws on top and bottom of I.F. Transformers T1A and T2A for maximum output as indicated by the output meter. Adjust the input from the generator as alignment is carried out so as to maintain the output power at approximately 50 milliwatts. Then lock the trimming screws in place with the lock nuts and a spot of lacquer.

If an adjusting screw peaks in two distinct positions the correct one is the one in which the screw is protruding the most from the I.F. Transformer.

Broadcast Band :

Before commencing the R.F. alignment and calibration, the setting of the gang condenser and tuning dial should be checked to see that when the gang plates are fully in mesh the cursor lines at the sides of the dial coincide with the line drawn diametrically across the dial scale.

(a) Connect the Signal Generator to the Aerial Terminal of the Receiver through the dummy aerial. Set the wave change switch to the broadcast band 1650–550 K.C.

(b) Turn Receiver dial to 1500 K.C. and apply a signal of 1500 K.C. from the Generator. Roughly adjust the three trimmers C1A, C1C, and C1E for maximum output.

(c) Turn Receiver dial to 600 K.C. and apply a 600 K.C. Signal from the Generator. Adjust screw on top of Oscillator Coil Shield L3A until signal is received at maximum.

(d) Adjust screws on top of Aerial and R.F. Coil Shields (L1A and L2A) for maximum signal and lock in place.

(e) Turn Receiver dial and Generator back to 1500 K.C. and carefully adjust broadcast Oscillator Trimmer (C1A) for resonance.

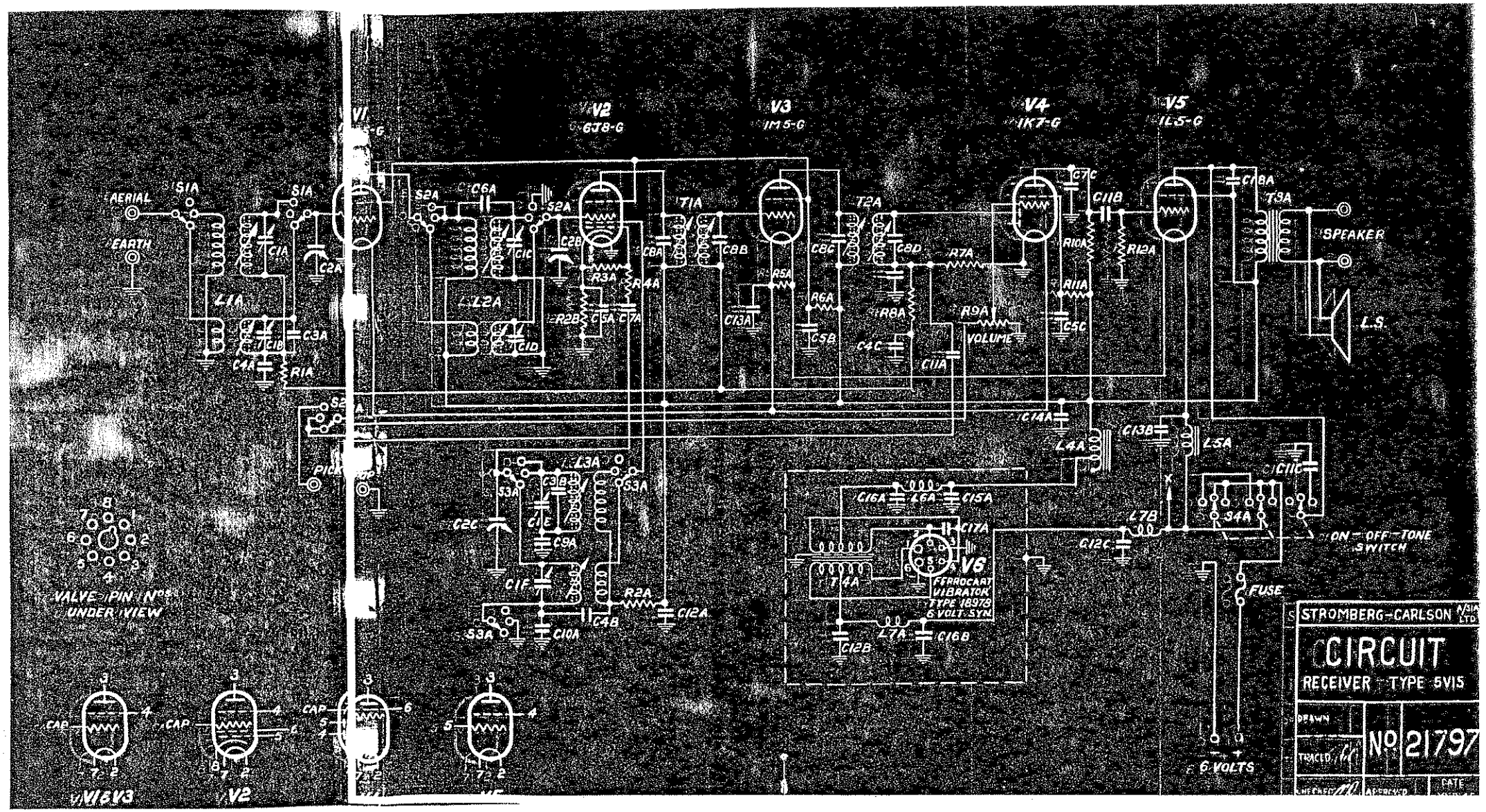
(f) Adjust trimmers C1C and C1E for maximum signal.

(g) Turn Signal Generator to 600 K.C., tune signal in on Receiver and turn the padder adjusting screw on top of Oscillator Coil L3A for maximum output, rocking Receiver dial slightly while so doing. Lock this screw in place.
Repeat the last three operations.

(h) Check dial calibrations at 1650, 1000 and 550 K.C. to see that Receiver covers the correct band.

LIST OF MAIN COMPONENTS.

Symbol.	DESCRIPTION.	Location.	Stromberg-Carlson Part No.
	Resistors :		
R1A	Fixed 0.25 Megohm ½ Watt Carbon ..	3J	13427
R2A	" 20,000 Ohms 1 Watt Carbon ..	4B	4482
R2B	" 400 Ohms ½ Watt Carbon..	6H	13419
R3A	" 50,000 Ohms ½ Watt Carbon	5I	2549
R4A	" 50 Ohms ½ Watt Carbon..	4G	2612
R5A	" 16.5 Ohms 3 Watt Wire Wound..	3J	21664
R6A	" 20,000 Ohms 1 Watt Carbon ..	4K	4482
R7A	" 0.5 Megohm ½ Watt Carbon	3L	21482
R8A	" 1 Megohm ½ Watt Carbon	3K	2571
R9A	Variable 1 Megohm Volume Control ..	9M	21699
R10A	Fixed 0.25 Megohm 1. Watt Carbon ..	2P	20750
R11A	" 1. Megohm 1 Watt Carbon	2O	21852
R12A	" 2.3 Megohm ½ Watt Carbon	2P	22230
	Coils :		
L1A	Aerial, Broadcast and Short Wave	8D	21657
L2A	R.F., Broadcast and Short Wave	6D	21769
L3A	Oscillator, Broadcast and Short Wave ..	3D	21762
L4A	Choke, H.T. Filter	5M	21697
L5A	Choke, L.T., L.F.	3R	22148
L6A	Choke, H.T., R.F.	7Q	22145
L7A	Choke, L.T., R.F.	7Q	22140
L7B	Choke, L.T., R.F.	6R	22140
	Transformers :		
T1A	1st I.F., 455 K.C.	3I	21790
T2A	2nd I.F., 455 K.C.	3L	21796
T3A	Speaker, 15000 Ohms	5J	21735
T4A	Vibrator	7Q	21869
	Switches :		
S1A	Wave Change ⎫	8E	
S2A	Wave Change ⎬ 3 Gang, 3 Pole,	6E	21630
S3A	Wave Change ⎭ 3 Position	3E	
S4A	On–Off–Tone, 3 Pole, 3 Position	9Q	21642
	Speaker :		
L.S.	6" Permag. Type 6–12	—	21620


V1
V2
6J8-G
V3
1M5-G
V4
1K7-G
V5
1L5-G
AERIAL
EARTH
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L1A
C1A
C2A
C3A
C4A
R1A
L2A
C1C
C1D
S2A
C6A
C2B
R2B
R3A
R4A
C5A
C7A
T1A
C8A
C8B
C13A
R5A
C8C
R6A
C5B
T2A
C8D
R8A
C4C
R7A
R9A
VOLUME
C11A
C7C
C11B
R10A
R11A
C5C
R12A
C8A
T3A
SPEAKER
L.S.
C14A
L4A
C13B
L5A
C1IC
S4A
ON — OFF — TONE SWITCH
L3A
S3A
C3B
C1E
C9A
C1F
C2C
R2A
C4B
C10A
C12A
C16A
L6A
C15A
C17A
V6
FERROCART VIBRATOR TYPE 1897B 6 VOLT SYN
T4A
L7A
C16B
C12B
L7B
C12C
FUSE
6 VOLTS
VALVE PIN No's UNDER VIEW
CAP
V3
V2
V1
STROMBERG-CARLSON N/SIA LTD
CIRCUIT
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TRACED
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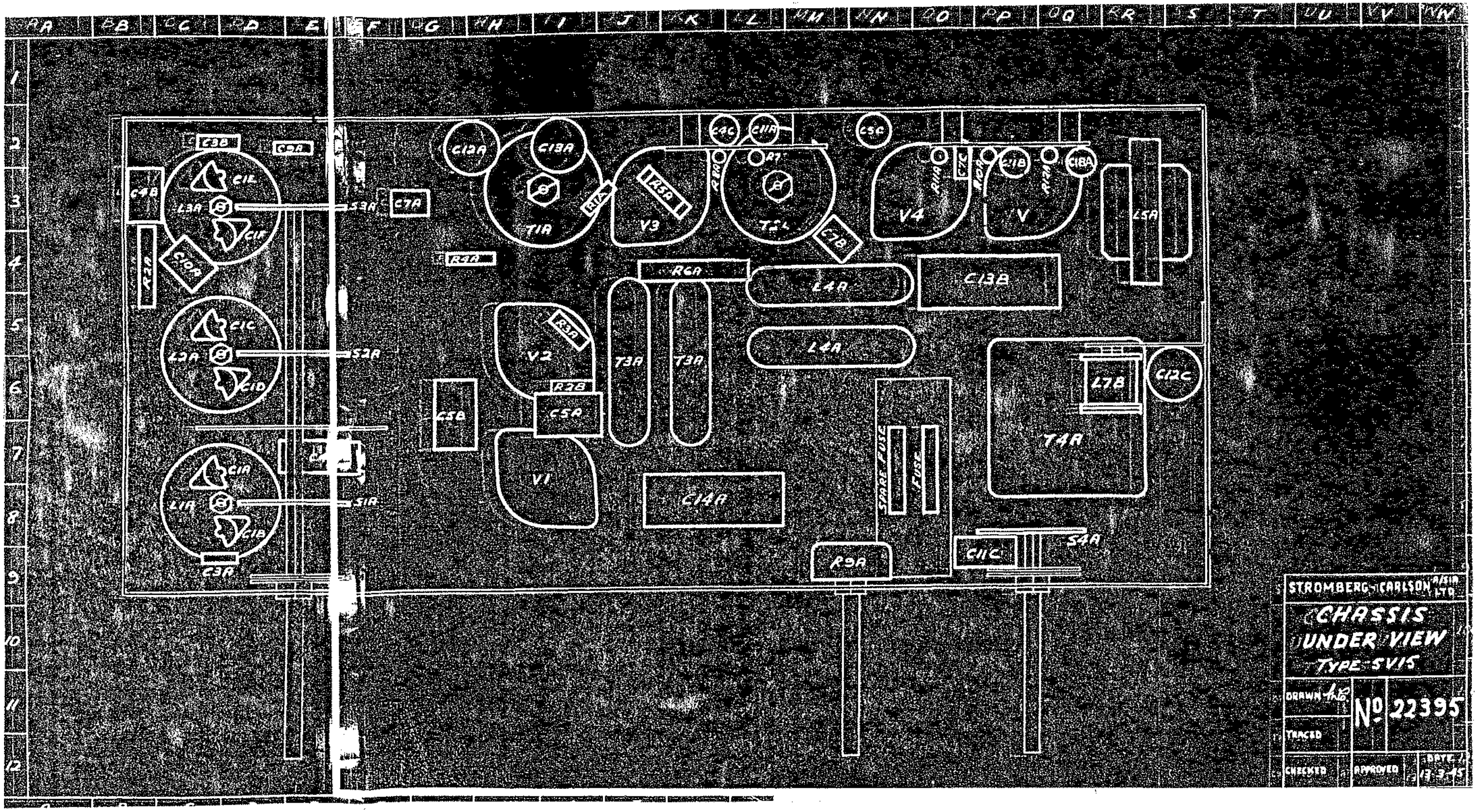
CHECKED
APPROVED
DATE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C12A
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V1
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L2A
S2A
C1C
C1D
L1A
S1A
C1A
C1B
C3A