TYPE O CARRIER TELEPHONE SYSTEM — REPEATERS
CARRIER LINE-UP — OB, OC, OD REPEATERS

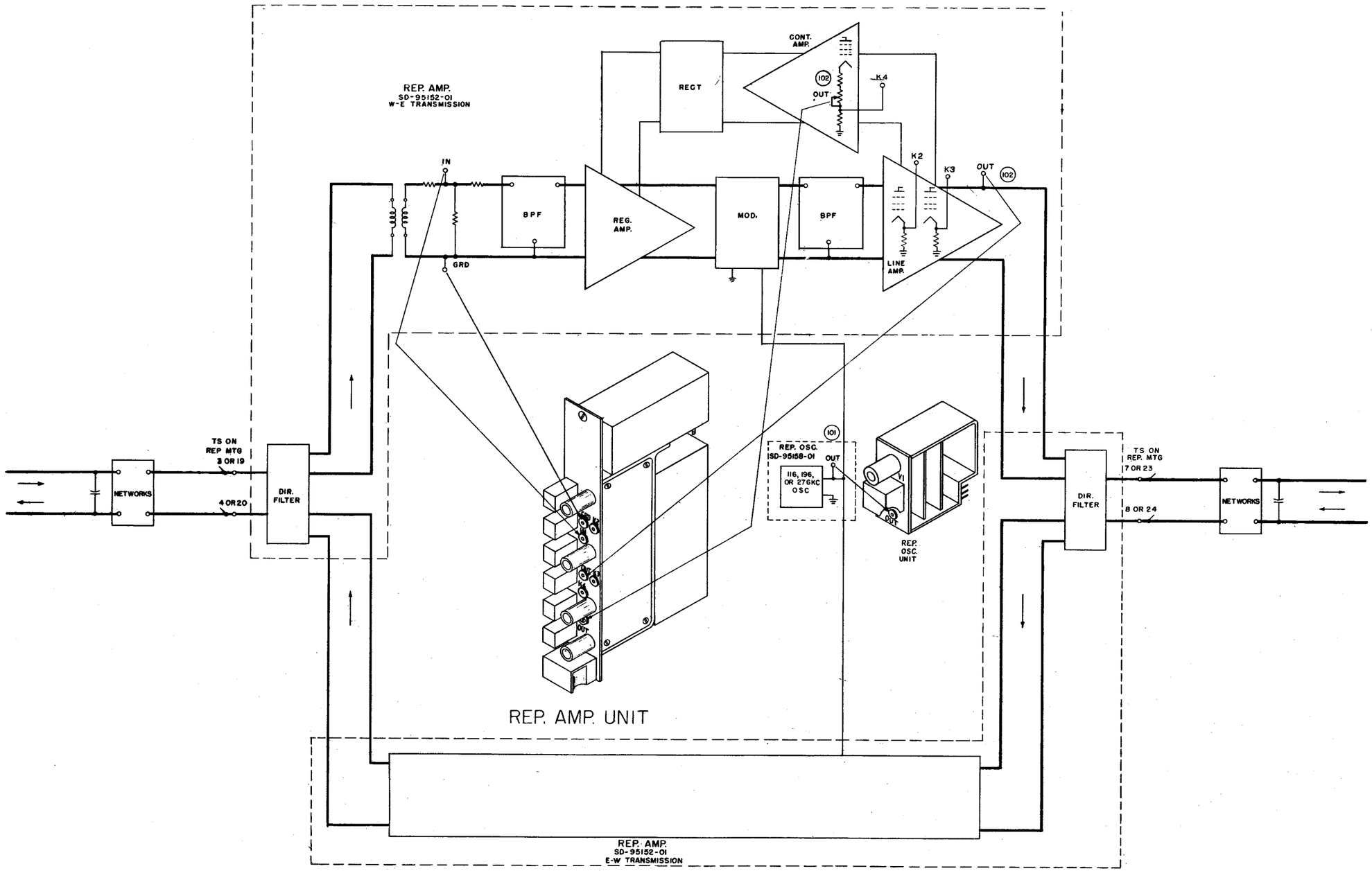
The OB, OC and OD repeaters separate the two groups of frequencies used for the two directions of transmission on the open-wire line, amplifies the signals and translates and inverts the incoming group by modulation to the opposite group. This is known as "frequency frogging." The two repeater amplifiers are identical and can be arranged for HL or LH operation. The carrier frequencies used at the repeater are 116 KC for OB repeaters, 196 KC for OC, and 276 KC for OD. The OUT control in the cathode circuit of the control amplifier provides an adjustment of repeater output by adjusting the operating point of the regulator.

The purpose of this test is to test and line-up the OB, OC, or OD repeater.

APPARATUS:

1 — 2J Repeater Test Set (J94002J)
2 — KS-9290 Test Leads
1 — KS-15538 Carrier Frequency Voltmeter (for trouble location)

STEP	PROCEDURE
1	Connect the 2J repeater test set to the OUT jack on the repeater oscillator unit and measure the oscillator output. ***Requirements:*** +0.5 to +7.5 db
2	Connect the 2J repeater test set to the OUT jack on the repeater amplifier unit under test. This is an in-service test. Ignore irregular needle deflections due to speech or changing conditions of signaling tones. ***Requirements:*** TWO CARRIERS — ONE CARRIER Test — +10 ± 1 dbm — +7 ± 1 dbm Initial and Readjust — +10 dbm — +7 dbm ***Note:*** If this requirement is not met, adjust the OUT potentiometer on the repeater unit to meet the requirement. If reduction of the repeater output is necessary for coordination reasons, adjust the output to the desired level.



OB, OC, OR OD REPEATER LINE-UP PROCEDURE

TROUBLE LOCATION TESTS

TEST	PURPOSE OF TEST	TEST POINTS	LIMITS	TEST EQUIP.	REMARKS
1	Rep. Input — Individual Carriers	EQ BRDG Jacks or E LINE or W LINE Term.	See remarks	Selective Detector	Readings consistent with known transmitted levels and line loss. Detector arranged for 135Ω bal. bridging.
2	Rep. Amp. Input — Individual Carriers	IN Jack	Readings obtained in Test 1 reduced by 3.3 ± 2 db.	Selective Detector	Detector arranged for 135Ω unbal. bridging.
3	Rep. Amp. Output — Individual Carriers	OUT Jack	+7 dbm ± 4 db	Selective Detector	Detector arranged for 135Ω unbal. bridging.
4	Carrier Leak — 116, 196 or 276 kc	OUT Jack	−15 dbm Max.	Selective Detector	Detector arranged for 135Ω unbal. bridging.
5	Rep. Output — Total Power	EQ BRDG Jacks or E LINE or W LINE Term.	+9.5 dbm ± 2 db	2J Rep. Test Set	This test requires disabling other OA, OB, OC and OD repeaters on the same pair by grounding their IN jacks in same direction of transmission.
6	Rep. Output — Individual Carriers	EQ BRDG Jacks or E LINE or W LINE Term.	+6.5 dbm ± 4 db	Selective Detector	Voltmeter arranged for 135Ω bal. bridging.
7	Plate & Heater Supplies	—	—	—	Refer to Section 362-210-501.
8	Tube Tests	—	—	—	Refer to Section 362-210-501.