

TYPE O AND ON CARRIER TELEPHONE SYSTEMS – TERMINALS AND JUNCTIONS
SUMMARY CHARTS – LINE-UP AND MAINTENANCE
ON1 JUNCTION – GROUPS CONNECTED TO OA, OB, OC, AND OD CARRIER

This section is revised to include changes made in the referenced sections.

This section consists of an overall diagram of the junction unit and a chart giving the tests required for line-up and maintenance of the ON1 junction. Since this reissue covers a general revision, arrows ordinarily used to indicate changes have been omitted.

An ON1 junction is used to convert five groups of O carrier open-wire to an ON cable system. The tests outlined in this section will cover the equipment necessary on the open-wire side of the junction and the equipment on the cable side of the junction.

It will be necessary to refer to associated sections in this subdivision of practices for the detailed procedures and for steps to be taken where requirements are not met. Familiarity with the sections covering the testing methods in detail is essential before this section is used.

The tests should be completed in numerical sequence with testing equipment that has been accurately calibrated.

APPARATUS:

- 1 — Hewlett-Packard 400-type Vacuum Tube Voltmeter (VTVM)
- 1 — Frequency Counter HP5232A, HP5532A, or equivalent
- 1 — O and ON Unit Extender (J98705AY)
- 1 — W2DW Cord
- 4 — P1M Cords (needed at terminal points)
- 1 — KS-14510 Volt-Ohm-Milliammeter (VOM), groups connected to OA HGT only.

**CHART I
LINE-UP AND MAINTENANCE TESTS FOR ON1 JUNCTION**

TEST	PURPOSE OF TEST	TEST STAND OR EXTENDER	MEAS EQUIP. REQUIRED		MEASURE TEST POINT TO GRD OR BETWEEN TEST POINTS	GROUPS EQUIPPED	REQUIRED VALUE		ADJUST	TEST CONDITIONS AND REMARKS		SECTION REFERENCE
			TESTING END	DISTANT END			TEST	READJUST				
1	Group osc output level (CA gr osc)	—	VTVM	—	OUT jack	—	—10.0 to 0.0 db	—	—	—		362-130-501
2	Group osc output level (OW carr H osc)	—	VTVM	—	CARR H jack	—	—5.0 to +5.0 db	—	—	—		
3	Group osc output level (OW carr L osc)	—	VTVM	—	CARR L jack	—	—5.0 to +5.0 db	—	—	—		
4	Group osc output freq	Ext for adj	Counter	—	CARR H, CARR L, or OUT jack	—	±10 cycles of specified frequency	—	—	For adjustment, refer to 362-130-501.		362-130-501
5	76-kc level control osc output	—	VTVM	—	LEV CONT jack	1 1, 2 1, 2, 3 1, 2, 3, 5	+3.8 to +4.7 db +1.8 to +2.7 db +0.3 to +1.2 db —2.8 to —1.9 db	+4.2 db +2.2 db +0.8 db —2.4 db	LEV CONT potentiometer	—		362-130-503
6	Gr rec unit output (OW)	—	VOM	OW term. 4 P1M cords	REG jack & +130V jack	—	—	1.0v dc	REG potentiometer	Connected to OA-HGT. Wait 3 min. after adjustment, then proceed with test.	Ground all T jacks at OW terminal.	362-140-501
			VTVM		OUT jack	—	+1.8 to +5.5 db	+3.5 db	OUT potentiometer	Groups connected to OA-LGT. Turn REG pot. maximum counterclockwise.		
7	Gr rec unit output (CA)	—	VTVM	CA term. 4 P1M cords	OUT jack	—	—4.5 to —0.5 db	—2.5 db	OUT potentiometer	Ground all T jacks at CA terminal.		
8*	Gr trmtg unit output (CA)	Ext for adj	VTVM	OW term. 4 P1M cords	OUT jack	—	+3.0 to +4.5 db +1.5 to +2.5 db	+4.0 db +2.0 db	OUT potentiometer	2 twin channel units 1 twin channel unit	Ground all T jacks at OW terminal.	
9*	Gr trmtg unit output (OW)	Ext for adj	VTVM	CA term. 4 P1M cords	EQ BRDG jack	—	To OB, OC, OD systems: 2 twin ch units +3.5 to +4.5 db	+4.0 db	OUT potentiometer	Terminate EQ jack in 135 ohms.	Ground all T jacks at CA terminal.	362-140-501
							1 twin ch unit —2 to +2.0 db	0.0 db				
					To OA system: 2 twin ch units +6.0 to +10.0 db		+8.0 db	Terminate EQ jack in 600 ohms.				
					1 twin ch unit +4.0 to +8.0 db		+6.0 db					
OUT jack	—	To OB, OC, OD systems: +4.5 to +9.0 db To OA system: +8.5 to +13.0 db	—	—	Record value for future maintenance. Test limits may be exceeded slightly because of line impedance variations.							

*Use both X and Y wiring on all group transmitting units.
When it is necessary to have additional range to drop levels for coordination reasons, remove the X wiring.

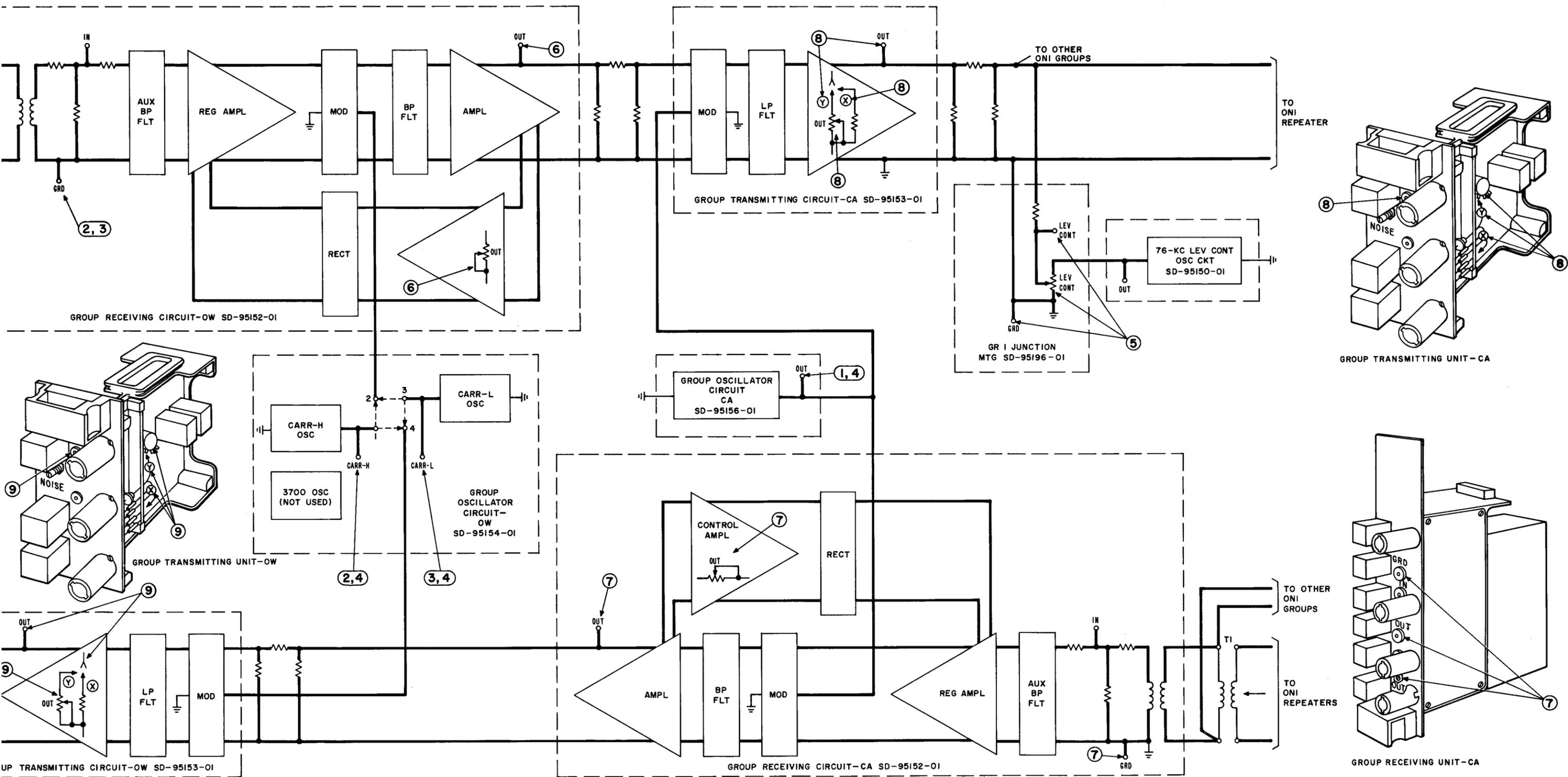
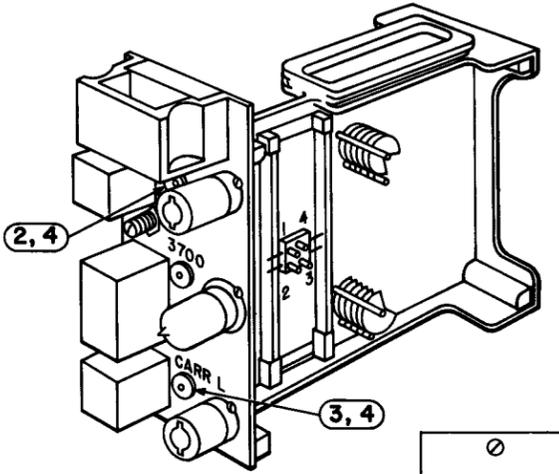
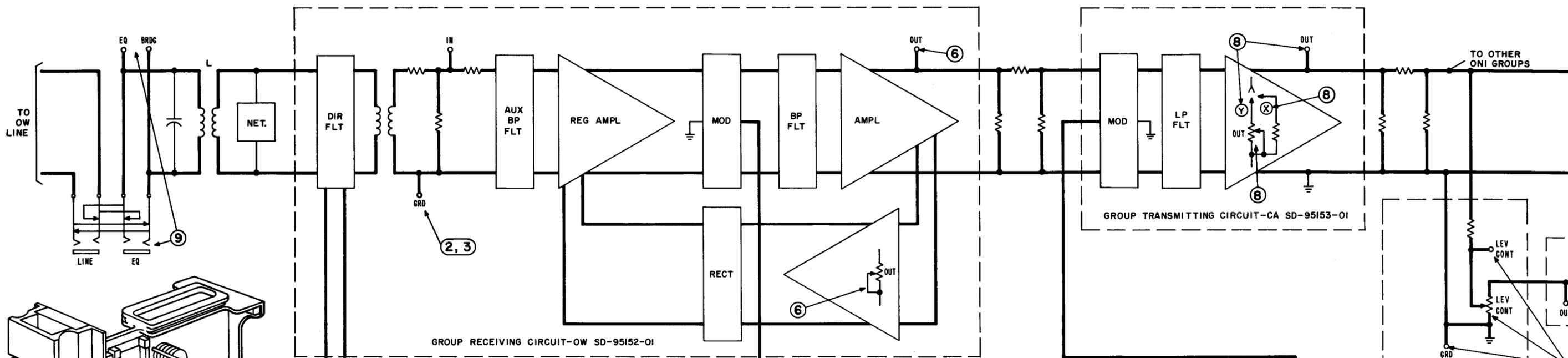
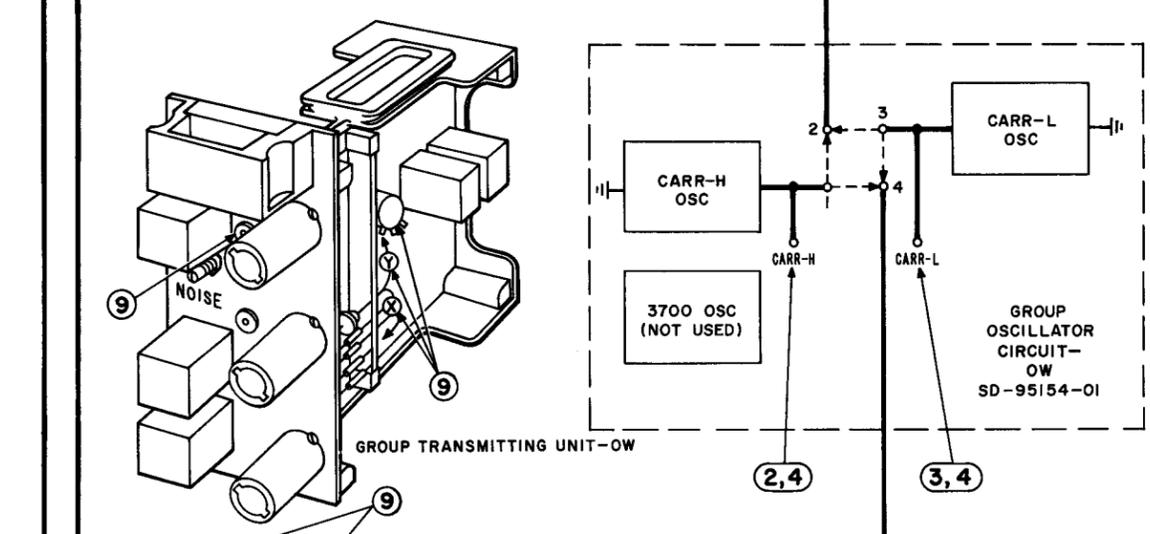


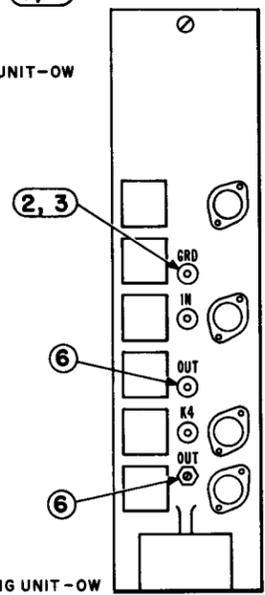
Fig. 1 — ON1 Junction Line-Up for Groups Connected to OB, OC, and OD Carrier



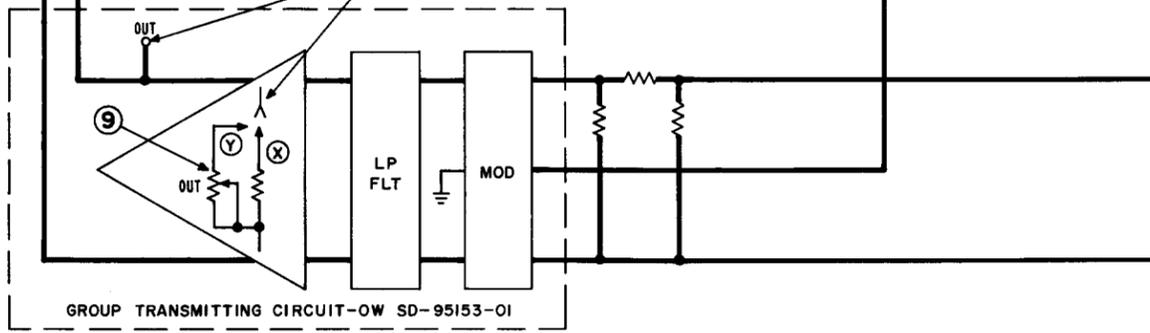
GROUP OSCILLATOR UNIT-OW



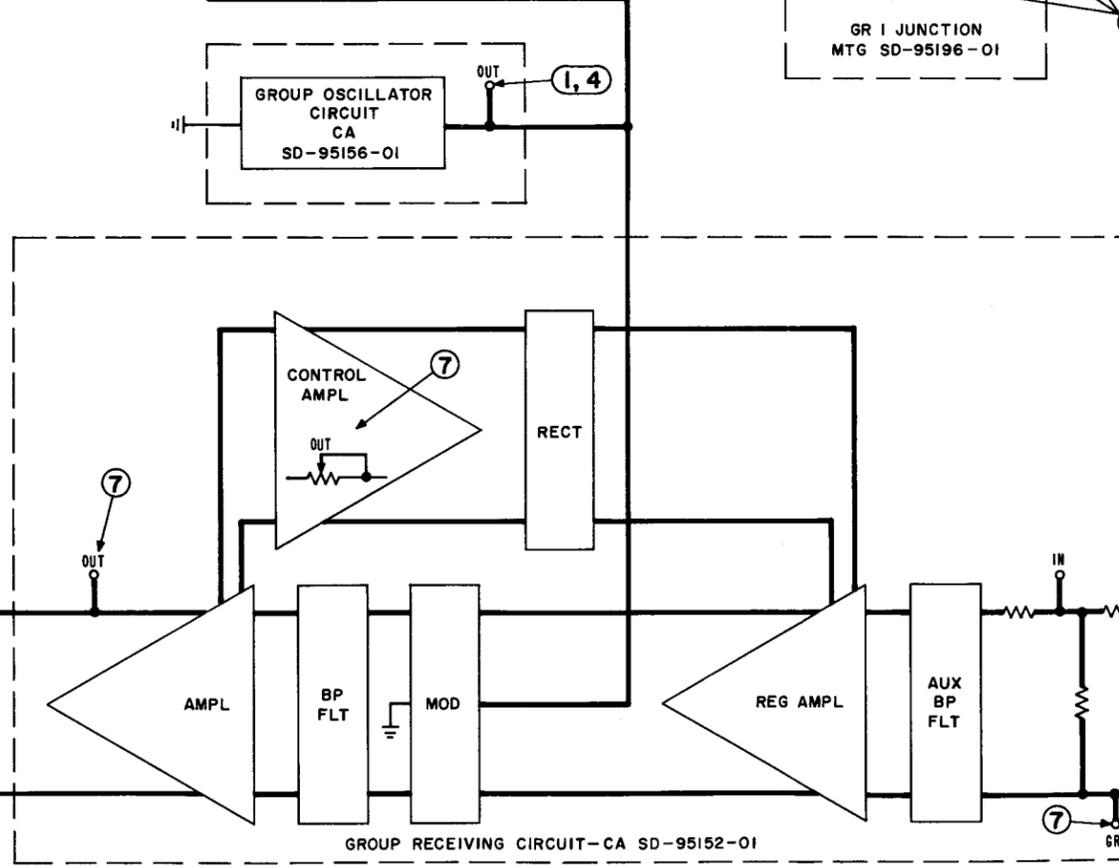
GROUP TRANSMITTING UNIT-OW



GROUP RECEIVING UNIT-OW



GROUP TRANSMITTING CIRCUIT-OW SD-95153-01



GROUP RECEIVING CIRCUIT-CA SD-95152-01

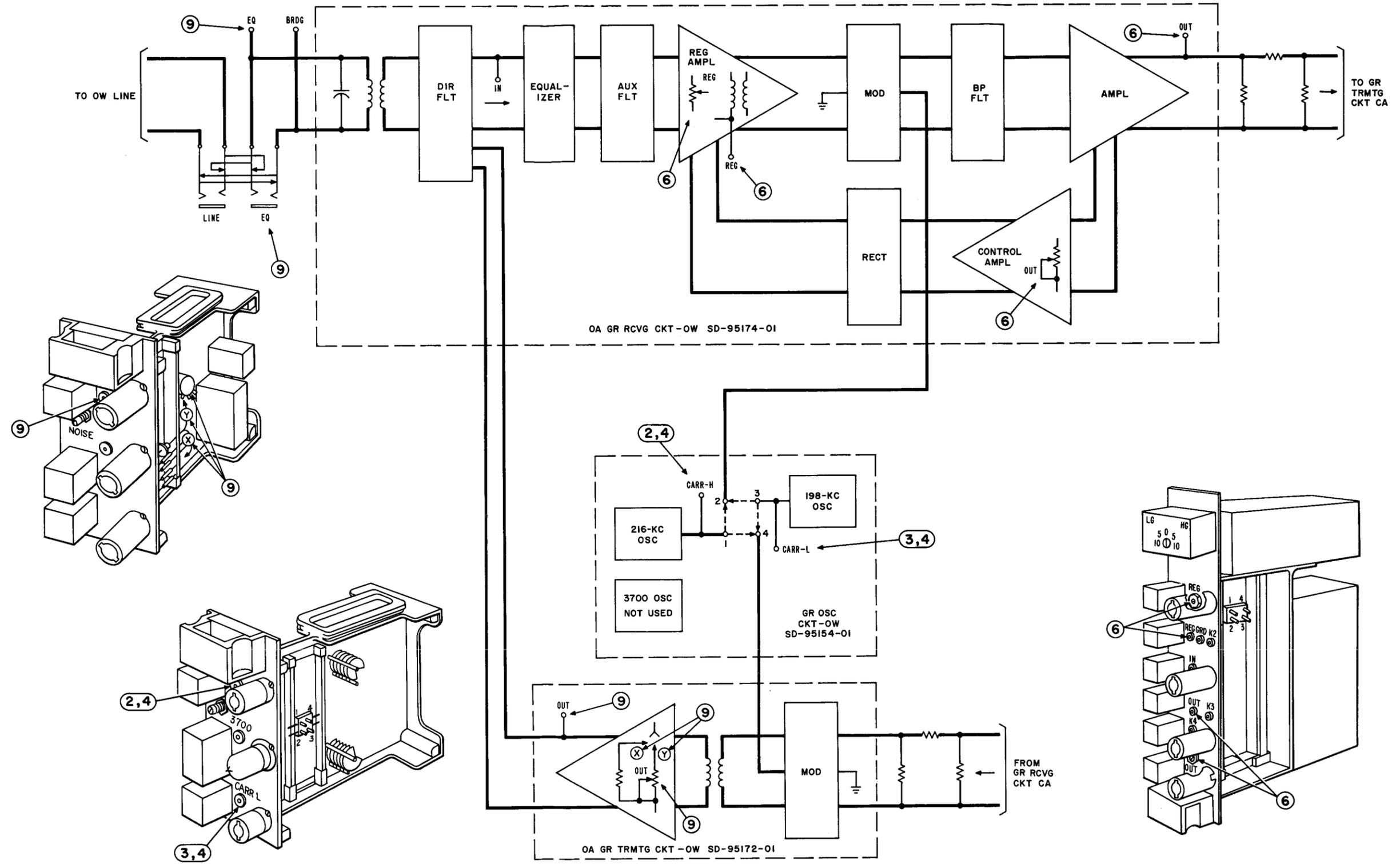


Fig. 2 — ON1 Junction Line-Up for Groups Connected to OA Carrier