

TYPE ON/K CARRIER — REPEATERED HIGH-FREQUENCY LINE
CARRIER LINE-UP
TERMINALS — REPEATERS — JUNCTIONS

Channel unit, twin channel units and group units are tested under separate sections in this series. This section will cover from the ON/K transmitting amplifier at the transmitting terminal to the ON/K receiving amplifier at the receiving terminal. ON repeaters, ON1 junctions, and O carrier extensions are lined up in accordance with other sections in this division of the Plant Series. Chart 1 of this section covers the terminal and repeater line-up. Chart 2 covers junction line-up for connection to ON cable. Chart 3 covers junction line-up for connection to O open wire. This section is reissued to change requirements for the terminal group power input.

APPARATUS:

- 1 — 31B TMS with 3W7A Cord
- 1 — ED-92717-30 G8 Adapter
- 2 — 1W13A Cords
- 1 — 400C or D VTVM
- 1 — W2DW Cord
- 1 — KS-15538 Carrier Frequency Voltmeter

CHART 1
ON/K Carrier Telephone System
Terminal and Repeater Line-Up

TEST LOCATION	TEST NO.	PURPOSE OF TEST	EQUIPMENT REQUIRED	MEASURE TEST POINT TO GRD, BETWEEN TEST POINTS, OR AT J8	31B TMS**		IF NECESSARY ADJUST	TEST LIMITS			TEST CONDITIONS AND REMARKS	
					INPUT SWITCH POSITION	CONNECT 3W7A CORD TO G8 (ED-92717-30) ADAPTER POSITION*		MIN.	FOR LINE-UP & WHEN OUT OF LIMITS ADJUST TO	MAX.		
TRSG Terminal	1	Terminal Channel, Twin Channel and Group Line-Up									See other sections in this division of the Plant Series	
Terminal TRSG Amp.	2	Input Level to Transmitting Amplifier	31B TMS ED-92717-30 G8 Adapter	J8	SEL	IN		-24 Db		-21 Db	Record level for each frequency of Table 1 or 2	
	3	Input Slope to Transmitting Amplifier						-0.8 Db		+0.2 Db	Determine slope from tests and Section 362-600-501	
	4	Transmitted Power	31B TMS ED-92717-30 G8 Adapter	J8	DET	OUT		+19.7 Db		+21.7 Db	With signaling tones off	
	5	Output Level of Transmitting Amplifier	"	J8	SEL	OUT		+17.8 Db		+19.8 Db	At 132 kc for ON1 and 128 kc for ON2 levels at other frequencies shall be within limits shown in Table 1 or 2	
	6	Input Power to Transmitting Amplifier	"	J8	SEL	IN		-24.0 Db		-21.0 Db	Record level for each frequency listed in Table 1 or 2	
Repeater	7	Input Slope to Transmitting Amplifier	"	J8	SEL	IN	Slope Switch of Rec. Amp.	-2.0 Db	0	+2.0 Db	Determine slope from readings in Test 6 and Section 362-600-501	
	8	Output Power	"	J8	DET	OUT		+19.7 Db		+21.7 Db	With signaling tones off	
	9	Transmitting Amplifier Gain	"	J8	SEL	OUT		ON2 104 Kc G — 9.1 Db 72 Kc G — 23.0 Db ON1 104 Kc G — 10.1 Db 84 Kc G — 20.5 Db		ON2 G — 7.1 Db G — 21.0 Db ON1 G — 8.1 Db G — 18.5 Db	ON1 Gain at 132 Kc = G At 104 Kc At 84 Kc	ON2 Gain at 128 Kc = G At 104 Kc At 72 Kc
	10	Terminal Group Power Input	400C or D VTVM	Grp. Rec. Unit 1, 2, 3 or 4 IN				-30 Db		-15 Db		
Rec. Terminal	11	Terminal Group Slope Input	31B TMS or KS-15538 CFVM	"	SEL		Slope Switch of Rec. Amp.	-2.0 Db	0	+2.0 Db	Measure each carrier and determine slope from Section 362-600-501	
	12	Terminal Group Line-Up									Line up terminal receiver circuits in accordance with other sections in this division of the Plant Series.	

TABLE 1 ON1

CARR.	FREQ.	LEVEL
1	132 Kc	M
2	124	M- 2.3 ± 1.0 Db
3	112	M- 6.3 ± 1.0
4	104	M- 9.1 ± 1.0
5	92	M-14.3 ± 1.0
6	84	M-19.3 ± 1.0

TABLE 2 ON2

CARR.	FREQ.	LEVEL
1	128 Kc	M
2	120	M- 4.0 ± 1.0 Db
3	112	M- 7.5 ± 1.0
4	104	M-10.5 ± 1.0
5	96	M-14.0 ± 1.0
6	88	M-17.3 ± 1.0
7	80	M-20.5 ± 1.0
8	72	M-23.0 ± 1.0

Notes

* The particular IN or OUT pins connected to the 3W7A Cord depend on which jack the amplifier being tested is plugged into. The adapter is marked to show which pins are associated with a particular jack.

** 31B Set shall be warmed up and calibrated in accordance with Section E40.228.

CHART 2

Junction Line-Up For Connection To ON Cable

DIRECTION OF TRANSMISSION	TEST LOCATION	TEST NO.	PURPOSE OF TEST	EQUIPMENT REQUIRED	MEASURE TEST POINT TO GRD, BETWEEN TEST POINTS, OR AT J8	31B TMS*		IF NECESSARY ADJUST	TEST LIMITS			TEST CONDITIONS AND REMARKS
						INPUT SWITCH POSITION	CONNECT 3W7A CORD TO G8 (ED-92717-30) ADAPTER POSITION**		MIN.	ADJUST	MAX.	
ON Cable to K Cable	ON/K Junction	1	Input Power to Transmitting Amplifier	31B TMS ED-92717-30 G8 Adapter	J8	SEL	IN		-24.0 Db		-21.0 Db	Record level of each carrier listed in Table 1 or Table 2
		2	Input Slope to Transmitting Amplifier	"	J8	SEL	IN	Slope Switch of ON Rept.	-2.0 Db	0	+2.0 Db	Determine slope from Section 362-600-501 with readings in Test 1
		3	Power Output of Transmitting Amplifier	"	J8	DET	OUT		+19.7 Db		+21.7 Db	With signal tones off
		4	Gain of Transmitting Amplifier	"	J8	SEL	OUT		ON2 104 Kc G — 9.1 Db 72 Kc G — 23.0 Db ON1 104 Kc G — 10.1 Db 84 Kc G — 20.5 Db		ON2 G — 7.1 Db G — 21.0 Db ON1 G — 8.1 Db G — 18.5 Db	ON1 Gain at 132 Kc = G At 104 Kc At 84 Kc
K Cable to ON Cable	ON/K-ON Conn. Ckt.	5	Input Level	31B TMS or KS-15538 CFVM	IN	SEL			-27.0 Db		-23.0 Db	Record level for each frequency of Table 1 or 2
		6	Input Slope					Slope Switch of ON/K Receiving Amplifier	-2.0 Db	0	+2.0 Db	Determine slope from data of Test 5 and Section 362-600-501
		7	Adjust Level Control Oscillator — ON1 Only	400C or D VTVM	LEV CONT			LEV CONT	+0.5 Db	+1.0	+1.5 Db	
	ON Rept.	8	ON1 Repeater Line-Up									Line up ON repeater in accordance with other sections in this division of the Plant Series

TABLE 1 ON1

CARRIER	FREQ.
1	132 Kc
2	124
3	112
4	104
5	92
6	84

TABLE 2 ON2

CARRIER	FREQ.
1	128 Kc
2	120
3	112
4	104
5	96
6	88
7	80
8	72

Notes

* 31B TMS shall be warmed up and calibrated in accordance with Section E40.228.

** ED-92717-30 G8 Adapter is marked to show which IN and OUT pins are associated with a particular amplifier position.

CHART 3
Junction Line-Up For Connection to "O" Open Wire

DIRECTION OF TRANSMISSION	TEST LOCATION	TEST NO.	PURPOSE OF TEST	EQUIPMENT REQUIRED	MEASURE TEST POINT TO GRD, BETWEEN TEST POINTS	31B TMS*		IF NECESSARY ADJUST	TEST LIMITS			TEST CONDITIONS AND REMARKS
						INPUT SWITCH POSITION	CONNECT 3W7A CORD TO G8 (ED-92717-30) ADAPTER POSITION**		MIN.	ADJUST	MAX.	
O Carrier to ON/K	ON1 Junction	1	ON1 Junction Line-Up	—								Perform tests in accordance with the sections in this division of the Plant Series
	ON/K Junction	2	Input Power to Transmitting Amplifier	31B TMS ED-92717-30 G8 Adapter	J8	SEL	IN		-24.0 Db		-21.0 Db	Record level of each carrier listed in Table 1 or 2
		3	Input Slope to Transmitting Amplifier	"	J8	SEL	IN		-2.0 Db		+2.0 Db	Determine slope from Section 362-600-501 and readings in Test 2
		4	Output Power of Transmitting Amplifier	"	J8	DET	OUT		+19.7 Db		+21.7 Db	With signal tones off
		5	Gain of Transmitting Amplifier	"	J8	SEL	OUT		ON1 104 Kc G — 10.1 Db 84 Kc G — 20.5 Db ON2 104 Kc G — 9.1 Db 72 Kc G — 23.0 Db		ON1 G — 8.1 Db G — 18.5 Db ON2 G — 7.1 Db G — 21.0 Db	ON1 Gain at 132 Kc = G At 104 Kc At 84 Kc
ON/K Carrier to "O"	ON1 Junction	6	Received Power at Grp. Rec. (IN Jacks)	400C or D VTVM	IN Jack Grp. Rec. Unit 1, 2, 3 or 4				-30 Db		-15 Db	
		7	Received Slope at Grp. Rec. (IN Jacks)	31B TMS or KS-15538 CFVM	"	SEL		Slope Switch of Rec. Amp.	-2.0 Db	0	+2.0 Db	Measure each carrier and determine slope from Section 362-600-501
		8	ON1 Junction Line-Up									Perform tests in accordance with other sections in this division of the Plant Series

TABLE 1 ON1

CARRIER	FREQ.
1	132 Kc
2	124
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5	92
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Notes

- * 31B TMS shall be warmed up and calibrated in accordance with Section E40.228.
- ** ED-92717-30 G8 Adapter is marked to show which IN and OUT pins are associated with a particular amplifier position.