J68386G AND J68386H TRANSMITTER-RECEIVER BAYS

TESTS

IN-SERVICE CHECKS

TD-3 MICROWAVE RADIO

This section contains the procedures to be followed when making in-service checks on the J68386G and J68386H transmitter-receiver bays of the TD-3 Microwave Radio System. These checks should be performed at the intervals specified in the Equipment Test List (ETL), Section 411-001-011. The ETL may specify an interval for Chart 2 that differs from that of Chart 1. If the meter indication for any check in this section is out of limits, perform the applicable routine maintenance procedures. Refer to Section 411-502-500, Preliminary Checks; Section 411-504-501, Overall Receiver Checks; or Section 411-506-501, Overall Transmitter Checks.

This section is reissued to add a new note to Tables A and B. Revision arrows are used to emphasize the more significant changes.

This reissue does not affect the Equipment Test List.

CHART PAGE

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CHART 1

IN-SERVICE CHECKS

APPARATUS:

None required

STEP	PROCEDURE
1	Depress the pushbuttons on the meter panel, one at a time, in the sequence given in Tables A and B. Compare the meter indication with the requirement for each function given in Table A for the J68386G bay and in Table B for the J68386H bay. ***Note:*** New values are recorded in the space provided on the pushbuttons only when routine maintenance (out-of-service) tests are performed or when trouble conditions necessitate changing a unit which, in turn, affects previously recorded values. The values recorded on the pushbuttons should only be changed when out-of-service routines have been performed.

CHART 2

IN-SERVICE FREQUENCY CHECKS ON THE MICROWAVE GENERATOR AND 40-MHZ OSCILLATOR

APPARATUS:

1 —J68392A Transmitter-Receiver Test Set

STEP	PROCEDURE
	Microwave Generator
1	Check and, if necessary, adjust the frequency of the microwave generator by performing Chart 2 of Section 411-502-500, Common Equipment Tests—Preliminary Checks. The check and adjustment in that chart may be performed with the bay in service.
	40-MHz Oscillator
2	Energize the counter and set the CTR switch to the EXT position.
3	Connect the P-49Q680 cable (part of the test set) between the CTR jack on the test set and the OSC MON jack on the 40-MHz oscillator.
4	Observe the frequency indicated by the counter. ***Requirement:*** 40 MHz ±400 Hz (limits: 39,999,600 to 40,000,400 Hz).
5	If unable to meet the requirement, refer to Section 411-502-500, Common Equipment Tests—Preliminary Checks. ***Caution: Under no circumstances should the frequency of the 40-MHz oscillator be adjusted while the bay is in service. The 40-MHz oscillator may become disabled if the FREQ control is adjusted.***

TABLE A "G"

MAIN STATION BAY METER PANEL

PUSHBUTTON	A NOMINAL VALUE OF METER INDICATION	B PERMISSIBLE CHANGE FROM NOMINAL VALUE	C IF REQUIREMENT IS NOT MET, REFER TO SECTION
RECEIVER PUSHBUTTONS (RED)			
–19V	70	±2	411-502-500
SHIFT OSC	Recorded Value	*	
SHIFT MOD BIAS	Recorded Value	*	
SHIFT MOD OUT	70	±5	
RCVD CARR PWR	80	±4	†
RCVR MOD BIAS	Recorded Value	±2	411-504-501
TRANSMITTER PUSHBUTTONS (BLUE)			
MWV GEN 1	—	—	Used for alignment only
MWV GEN 2	—	—	
MWV GEN 3	—	—	
MWV CUR MON	—	—	
MWV GEN OUT	70	±5	411-502-500
LIM IN	Recorded Value	±30	411-506-501
CRS 70 MHZ	Recorded Value	±10 ‡	
CRS 9 MHZ	62	±10 ‡	
CRS SW V	60	±30 ‡	
DR AMPL OUT	Recorded Value	*	
TRMTR MOD BIAS	Recorded Value	*	
TWT IN	Recorded Value	*, §	
COLL CUR	70	±4 §	
TRMTR OUT	Recorded Value	±10	

* This indication may vary from that given in column A. If no alarms are generated in the bay, the changes may not require alignment or adjustment at this time. If alarms are generated or marginal operations suspected, corrective action may be taken in accordance with the section listed in column C.

† The RCVD CARR PWR will change during fading conditions. For each dB of input signal change, the meter indication will change approximately two units. Observe the meter indication to determine if a fading condition exists. The RCVD CARR PWR is also dependent upon the transmitted power of the previous transmitter. Section 411-504-501 outlines the transmission and level adjustment for the receiver. In bays equipped for Hot Standby/Space Diversity or Hot Standby only, the standby receiver nominal value may be less than 80 units by as much as 25 units.

‡ In bays equipped for Hot Standby/Space Diversity or Hot Standby only, disregard this indication since it is not used in HS/SD operation.

§ In bays equipped with the 660( ) IC, these positions are not used.

TABLE B

MAIN STATION BAY METER PANEL "H"

PUSHBUTTON	A NOMINAL VALUE OF METER INDICATION	B PERMISSIBLE CHANGE FROM NOMINAL VALUE	C IF REQUIREMENT IS NOT MET, REFER TO SECTION
RECEIVER PUSHBUTTONS (RED)			
–19V RCVR	70	±2	411-502-500
MWV GEN 1	—	—	Used for alignment only
MWV GEN 2	—	—	
MWV GEN 3	—	—	
MWV CUR MON	—	—	
MWV GEN OUT	70	±5	411-502-500
RCVD CARR PWR	80	±4	*
RCVR MOD BIAS	Recorded Value	±2	411-504-501
TRANSMITTER PUSHBUTTONS (BLUE)			
–19V TRMTR	70	±2	411-502-500
MWV GEN 1	—	—	Used for alignment only
MWV GEN 2	—	—	
MWV GEN 3	—	—	
MWV CUR MON	—	—	
MWV GEN OUT	70	±5	411-502-500
LIM IN	Recorded Value	±30	411-506-501
CRS 70 MHZ	Recorded Value	±10 †	
CRS 9 MHZ	62	±10 †	
CRS SW V	60	±30 †	
DR AMPL OUT	Recorded Value	‡	
TRMTR MOD BIAS	Recorded Value	‡	
TWT IN	Recorded Value	‡, §	
COLL CUR	70	±4 §	
TRMTR OUT	Recorded Value	±10	

* The RCVD CARR PWR will change during fading conditions. For each dB of input signal change, the meter indication will change approximately two units. Observe the meter indication to determine if a fading condition exists. The RCVD CARR PWR is also dependent upon the transmitted power of the previous transmitter. Section 411-504-501 outlines the transmission and level adjustment for the receiver. In bays equipped for Hot Standby/Space Diversity or Hot Standby only, the standby receiver nominal value may be less than 80 units by as much as 25 units.

† In bays equipped for Hot Standby/Space Diversity or Hot Standby only, disregard this indication since it is not used in HS/SD operation.

‡ This indication may vary from that given in column A. If no alarms are generated in the bay, the changes may not require alignment or adjustment at this time. If alarms are generated or marginal operations suspected, corrective action may be taken in accordance with the section listed in column C.

◗§ In bays equipped with the 660( ) IC, these positions are not used.◖