

CROSSTELL DATA BRIDGE AND CONTROL

CIRCUIT SD-1G250-01

OPERATION AND MAINTENANCE

1. GENERAL

1.01 This section contains the testing procedures required for operation and maintenance of the crosstell data bridge and control circuit. Initial line-up and periodic maintenance is the responsibility of the 19A or 21A testboard attendant. The testing and patching jack panel (SD-1C232-01) is physically located adjacent to the testboards. This panel contains the jacks to test the bridge. See Section 666-201-503 for testing the bridge from the 19A testboard and 666-400-503 for testing from the 21A testboard.

1.02 Maintenance of the bridge will require coordination with the testboard attendant due to the location of the bridge and the testing and patching jack panel. See Section 314-550-102 for a general description of the crosstell data bridge and control circuit.

1.03 Local instructions must be followed with reference to notifying the customer before performing tests. Testing the crosstell data bridge will be performed on an out-of-service basis to avoid denying or adversely affecting service.

2. APPARATUS

2.01 One KS-14510, L5 VOM or equivalent.

2.02 Two KS-16887, L1 wedges.

2.03 One KS-6854 screwdriver.

3. MAINTENANCE

3.01 Before performing any tests, verify that -16 to -20 volts direct current is present at the

junction of resistor R-13, diode CR3, and ground. This measurement can be made on the upper right rear of the crosstell data bridge.

3.02 Table A contains a list of the more common troubles, the probable cause, and corrective action. The column titled, "Request Retest and Observe," contains the relays that will operate when the 19A or 21A attendant performs the test that revealed the trouble indicated in Table A.

3.03 Variable designations, shown as "HI()," etc, correspond to the designations of the port being tested, eg, port A would be indicated by HIA, etc.

3.04 Adjustment of transmission levels will be required during initial line-up as well as periodic routine testing or maintenance. The frequency shift oscillator output is adjusted by variable resistor R-20. Transmit and receive levels are adjusted via the 227C or 227D amplifiers AR1 through AR5. The testboard attendant will request that these adjustments be made while observing the test equipment associated with the testboard.

3.05 All testing on the crosstell data bridge will be on an out-of-service basis. Specific relays will have to be wedged operated, as directed by the testboard attendant, in order for him to perform the various tests on the crosstell data bridge. When the required tests are completed, remove all wedges, replace all relay covers, and inform the testboard attendant that the bridge is ready to be returned to service.

TABLE A

REPORTED TROUBLE	PROBABLE CAUSE	CORRECTIVE ACTION	REQUEST RETEST AND OBSERVE
Inadequate or no input to output transmission	Defective AR2-AR5 amplifier	Adjust or replace defective amplifier	K() relay operated KL() relay operated
Inadequate or no output to input transmission	Defective AR1 amplifier	Adjust or replace AR1 amplifier	Adequate transmission level observed at test board
Output port ()* cannot take control of output to input path	Double wink detector defective or limiter defective	Replace DWD on output port (), circuit pack B-22 or circuit pack B-2D defective limiter	HI() relay operates twice K() relay operates and locks KL() relay operates and locks
Output port () takes control but control center does not receive visual signal	Frequency shift OSC not generating 460 Hz control tone	Replace FSO(), circuit pack B-21	HI() relay operates twice K() relay operates and locks KL() relay operates and locks
Bridge does not time out	Defective D3 timer	Replace D3 timer	LO() relay releases HI() relay releases TO relay operates
Bridge times out but control tone is audible on line	Defective detector circuit pack	Replace circuit pack B-25	TO relay released LO() relay operated when 390 Hz on line HI() relay operated when 460 Hz on line
Master bridge (option Z) cannot make connection to slave bridge	KS() relay not operated	Check K() and KL() relays and/or KS() relay operate path	K() and KL() relays operate KS() relay operates IME relay operates IMED relay operates
Master bridge (option Z) does not second double wink to release connection to the slave bridge	RL relay not operating	Check RL relay operate path	RL relay operates IME relay releases RL relay releases IMED relay releases slowly IMES relay releases slowly
Slave bridge (option Y) cannot answer a call from the master bridge	RL relay contact 1 or IME contact 8 not made and/or internal wiring not returning a ground	Adjust or replace RL or IME relay — check for grd on the E12 lead	RL relay released IME relay operates
Slave bridge (option Y) second double wink does not release connection to master bridge	RL relay operate path	Adjust or replace RL relay	RL relay operates IME relay releases RL relay releases

* () Designates port A, B, C or D; eg, testing port A would be HI(A), etc.