

**EQUIPMENT TEST LIST**  
**LINK CONTROLLERS AND MARKERS**  
**NO. 4A AND 4M TOLL SWITCHING SYSTEMS**

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**1. GENERAL**

**1.01** This section provides an index and information access system to locate the standard tests applicable to equipment listed in the preceding table of contents. Test classification and frequency of periodic routine are also provided.

**1.02** This Equipment Test List (ETL) is reissued to incorporate changes which are indicated by an arrow to the left of each line which has been changed.

**1.03** Comments on this section should be made by following the instructions in Bell System Practices (BSP), Section 000-010-015.

**1.04** Routine test information is arranged in the following order from left to right: Section number, issue/addendum, test letter or paragraph number, test title, test class, frequency, and the last space is for a locally assigned job number.

**1.05** Section 010-300-011 provides Equipment Test List instructions.

**NOTICE**

Not for use or disclosure outside the  
Bell System except under written agreement

## 2.0 LINK CONTR &amp; MKR

## 2.1 LINK CONTR &amp; MKR; MARKER

SELECT ONLY ONE CATEGORY

## MARKER-VM-WITH INCREASED CAPACITY NON-CCIS

212-103-501 (9/0)	AN	FIF SUPPLY TRANSFER	MW 12M	-----
	AO	INC LINK FRAME SEL WITH REDUCED FILAMENT CURRENT IN FID	MW 12M	-----
	AQ	TM TIMER	MW 12M	-----
	AR	TM1 TIMER	MW 12M	-----
	AS	TM2 TIMER	MW 12M	-----
	AT	TM3 TIMER	MW 12M	-----
	AU	TRT TIMER	MW 12M	-----
	AV	OAT TIMER	MW 12M	-----
212-103-502 (12/0)	E	ALL MARKERS BUSY ALARM	MW 12M	-----
	G	TIMING-WITH INCR CAP. (VM OPTION)	MW 12M	-----
212-330-501 (10/0)	A	MARKER	MW 12M	-----

## MARKER-VM-WITH INCREASED CAPACITY WITH CCIS

212-103-503 (3/0)	P	DOUBLE CONNECTION TEST FEATURE	MW 6M	-----
	Q	CONTINUITY AND LINKAGE CROSS TEST FEATURES	MW 6M	-----
	R	TIMING TETS	MW 3M	-----
	S	FIF SUPPLY TRANSFER FEATURE	MW 12M	-----
	W	TRANSMISSION LEAD REVERSAL DETECTOR TEST	MW 6M	-----
	Y	FALSELY GROUNDED TRANSCEIVER TEST	MW 6M	-----
	Z	STUCK TCV OR SPCR DISTRIBUTE POINT TEST	MW 6M	-----
	AA	SPC MARKER ABANDONMENT TEST	MW 6M	-----
	AB	MARKER DISPOSITION REPORT	MW 6M	-----
212-330-501 (10/0)	A	MARKER	MW 12M	-----

## MARKER-VL-WITH INCREASED CAPACITY NON-CCIS

212-103-501 (9/0)	AN	FIF SUPPLY TRANSFER	MW 12M	-----
	AO	INC LINK FRAME SEL WITH REDUCED FILAMENT CURRENT IN FID	MW 12M	-----
	AQ	TM TIMER	MW 12M	-----
	AR	TM1 TIMER	MW 12M	-----
	AS	TM2 TIMER	MW 12M	-----
	AT	TM3 TIMER	MW 12M	-----
	AU	TRT TIMER	MW 12M	-----
	AV	OAT TIMER	MW 12M	-----
212-103-502 (12/0)	E	ALL MARKERS BUSY ALARM	MW 12M	-----
	F	TIMING-WITHOUT INCR CAP. (VL OPTION)	MW 12M	-----
212-330-501 (10/0)	A	MARKER	MW 12M	-----

## MARKER-VL WITH INCREASED CAPACITY WITH CIS

212-103-503 (3/0)	P	DOUBLE CONNECTION TEST FEATURE	MW 6M	-----
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212-108-501 (3/0)		PART 4--CHECK PLATE CURRENT	TT	-----
		PART 5--TROUBLE LOCATING	TT	-----
WITH CCIS				
212-103-503 (3/0)	A	MARKER REGISTRATION CHECK	TT	-----
	B	TRUNK BLOCK CONNECTOR SELECTION	TT	-----
	C	SELECTION AND BUSY TEST OF CONVENTIONAL EM TRUNKS	TT	-----
	D	OUTGOING LINK FRAME SELECTION AND LOCKOUT FEATURES	TT	-----
	E	INCOMING LINK FRAME SELECTIONS AND LOCKOUT FEATURES	TT	-----
	F	MARKER ROUTE SWITCHING FEATURES	TT	-----
	G	JUNCTOR WALKING CKT ARRANGEMENT 1	TT	-----
	H	JUNCTOR WALKING CKT ARRANGEMENT 2A	TT	-----
	I	JUNCTOR WALKING CKT ARRANGEMENT 2B	TT	-----
	J	JUNCTOR WALKING CKT ARRANGEMENT 3	TT	-----
	K	JUNCTOR WALKING CKT ARRANGEMENT 4	TT	-----
	L	JUNCTOR WALKING CKT ARRANGEMENT 5	TT	-----
	M	JUNCTOR PATTERN RELAY FEAT. FOR OFFICES WITH JUNCTOR WALKING CKT ARRANGEMENT 2A	TT	-----
	N	JUNCTOR PATTERN FEATURE FOR OFFICES WITH JUNCTOR WALKING CKT ARRANGEMENT 4	TT	-----
	O	SLEEVE CONTINUITY AND GUARD FEATURES	TT	-----
	T	CHANNEL TEST AND SELECTION	TT	-----
	U	STOP TM TIMER VIA OG LINK FRAME	TT	-----
	V	STOP TM TIMER VIA INC LINK FRAME	TT	-----
2.2 LINK CONTR & MKR; LINK CONTROLLER				
FOR ALL UNITS				
212-311-501 (9/0)	Q	RECYCLING GAS TUBE TIME-OUT	MW 18M	-----
	R	SHORT TIME-OUT (TR REL)	MW 18M	-----
	S	LONG TIME-OUT (FR REL)	MW 18M	-----
	T	AUXILIARY TIME-OUT	MW 18M	-----
212-330-501 (10/0)	E	LINK CONT CKT & CONT CONN	MW 18M	-----
TROUBLE TESTS				
212-311-501 (9/0)	A	TRUNK GROUP SELECTION	TT	-----
	B	TRUNK SELECTION	TT	-----
	C	SCAN. UP. & LOW. FAC WHEN T REL PREF CHAIN LOW. TO HIGHER NO. (V OPT)	TT	-----
	D	SCAN UP. & LOW. FAC WHEN T REL PREF CHAIN HIGHER TO LOW. NO. (W OPT)	TT	-----
	E	GROUP TRANSFER WHEN ALL LINKS BUSY	TT	-----
	F	GROUP TRANSFER--ALL SENDERS BUSY	TT	-----
	G	CONT RLS--ALL SENDERS BUSY SGB FEATURE	TT	-----
	H	"A" OR "B" LINKS MADE BUSY	TT	-----

SECTION 212-001-013

♦	212-311-501 (9/0)	I	PA0-9 OR PB0-9 LEADS CROSS DETECTION	TT	-----
♦		J	SA0-9 OR SB0-9 LEADS CROSS DETECTION	TT	-----
♦		K	G0-9 LEADS--DETECTION OF CROSSES	TT	-----
♦		L	RLS OF CALL ABANDONED BEFORE OPR OF CLO RELAY	TT	-----
♦		M	RLS OF CALL ABANDONED AFTER OPR OF CLO REL	TT	-----
♦		N	LOCK PATH FOR L0-9 RELAYS	TT	-----
♦		O	DBL TEST WHEN TWO CONT ATTEMPT SIMULTANEOUS CONN TO SAME SENDER	TT	-----
♦		P	CANC OF PREMATURE GRD TEST--LEADS T0-29	TT	-----
♦		U	FASELY GROUNDED HA0-1 OR HB0-1 LEADS	TT	-----
♦		V	BUSY TEST--CONTROLLER OFF NORMAL	TT	-----
♦		W	BUSY TEST ON OPERATION OF BATTERY FUSE	TT	-----
♦		X	PROTECTIVE GROUNDS	TT	-----
♦		Y	MARGINAL TEST OF ODX REL--OD (LEAD) CROSS	TT	-----
♦		Z	TRUNK CLASS IDENTIFICATION	TT	-----
♦		AA	VERIFICATION OF TROUBLE PUNCHES	TT	-----
♦		AB	FERROD SENSOR CKT VERIFICATION (ET OFF.)	TT	-----
♦		AC	SENDER LINK FRAME NO. TOO LARGE (ET OFF.)	TT	-----
♦		AD	FALSE DISTRIBUTION (ET OFF.)	TT	-----
♦		AE	SENDER TYPE RECOGNITION (ET OFF.)	TT	-----
♦		AF	FALSE START BID (ET OFF.)	TT	-----
♦		AG	DUAL VOLTAGE OPERATIONAL (SURGE) CKT	TT	-----
♦		AH	PROC TBL RLS (CCIS CONTR GRP ONLY)	TT	-----

2.3 LINK CONTR & MKR; OUTPUTSER LINK CONTROLLER

FOR ALL UNITS

212-330-501 (10/0) BU OUTPUTSER LINK CONTROLLER (SD-68701-01) MW 12M -----

TROUBLE TESTS

♦	212-311-502 (1/0)	A	A PARTICULAR TEST ON ONE OR ALL CONTROLLERS	TT	-----
♦		B	A PARTICULAR LOOPING TEST ON A PARTICULAR CONTROLLER	TT	-----
♦		C	A MANUALLY REPEATABLE TEST ON A PARTICULAR CONTROLLER, OR ON TWO PHYSICALLY ADJACENT CONTROLLERS	TT	-----
♦		D	A SERIES OF TESTS ON A PARTICULAR CONTROLLER	TT	-----
♦		E	SURGE OPERATION OF HOLD MAGNETS	TT	-----
♦		F	DIODE TESTS	TT	-----
♦		G	CROSS DETECTION FEATURES	TT	-----
♦		H	TROUBLE RECORDER BUSY TO OUTPUTSER LINK CONTROLLER	TT	-----
♦		I	ALARM AND LAMP VERIFICATION FOR OUTPUTSER OVERLOAD CONTROL	TT	-----

212-103-503 (3/0)	Q	CONTINUITY AND LINKAGE CROSS TEST FEATURES	MW 6M	-----
	R	TIMING TESTS	MW 3M	-----
	S	FIF SUPPLY TRANSFER FEATURE	MW 12M	-----
	W	TRANSMISSION LEAD REVERSAL DETECTOR TEST	MW 6M	-----
	Y	FALSLEY GROUNDED TRANSCEIVER TEST	MW 6M	-----
	Z	STUCK TCV OR SPCR DISTRIBUTE POINT TEST	MW 6M	-----
	AA	SPC MARKER ABANDONMENT TEST	MW 6M	-----
	AB	MARKER DISPOSITION REPORT	MW 6M	-----

OPTIONAL FEATURES

EXTENDED SECONDARIES ON INCOMING LINK FRAMES

212-103-501 (9/0)	AM	INC SEC SEL MAG LOCKOUT FEATURES	MW 12M	-----
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TROUBLE TESTS

NON-CCIS

212-103-501 (9/0)	A	CLASS-OF-SERVICE	TT	-----
	B	TRK BLK CONN SEL--EVEN & ODD PREF LO	TT	-----
	C	OUTGOING LINK FRAME SEL AND LOCKOUT	TT	-----
	D	INCOMING LINK FRAME SEL AND LOCKOUT	TT	-----
	E	SELECTION AND BUSY TEST OF TRUNKS	TT	-----
	F	FOLLOW WITH OVERFLOW	TT	-----
	G	FOLLOW WITH REORDER	TT	-----
	H	FOLLOW WITH MASTER BUSY	TT	-----
	I	FOLLOW WITH 2ND TRIAL	TT	-----
	J	HOLD ROUTING INSTRUCTION	TT	-----
	K	MASTER-BUSY SIG FROM DECODER	TT	-----
	L	REORDER SIG FROM DECODER	TT	-----
	M	REORDER SIG FROM DECODER	TT	-----
	N	REORDER SIG FROM DECODER	TT	-----
	O	PRONOUNCEMENT REORDER SIG FROM DECODER	TT	-----
	P	LOCAL CALL INTERCEPT SIG FROM DECODER	TT	-----
	Q	UNAUTHORIZED CAMA RTE SIG FROM DECODER	TT	-----
	R	BLANK CODE RTE SIG FROM DECODER	TT	-----
	S	SEIZE TROUBLE RECORDER SIG FROM DECODER	TT	-----
	T	VARIABLE SPILL CONTROL	TT	-----
	U	DIGIT CONTROL	TT	-----
	V	CODE CONVERSION	TT	-----
	W	JUNCTOR WALKING CIRCUIT ARG 1	TT	-----
	X	JUNCTOR WALKING CIRCUIT ARG 2A	TT	-----
	Y	JUNCTOR WALKING CIRCUIT ARG 2B	TT	-----
	Z	JUNCTOR WALKING CIRCUIT ARG 3	TT	-----
	AA	JUNCTOR WALKING CIRCUIT ARG 4	TT	-----
	AB	JUNCTOR WALKING CIRCUIT ARG 5	TT	-----

SECTION 212-001-013

212-103-501 (9/0)	AB	JCTR PATT REL FEAT. ARGT 1 PLAN LB OR LAB--NO INC GRP PROVIDED	TT	-----
	AD	JCTR PATT REL FEAT. ARGT 1 PLAN LB OR LAB--17, 18, 19, OR 20 INC GRPS PROVIDED	TT	-----
	AE	JCTR PATT REL FEAT. ARGT 2A--JCTR DIST PLAN TA, TB, TC, TAB, TBC OR TLB	TT	-----
	AF	JCTR PATT FEAT. ARGT 2A--JCTR DIST PLAN LA OR LAB--NO INC GRPS PROVIDED	TT	-----
	AG	JCTR PATT FEAT. ARGT 2A--JCTR DIST PLAN LB OR LAB--INC GRPS PROVIDED	TT	-----
	AH	JCTR PATT FEAT. ARGT 2B--JCTR DIST PLAN LA OR LAB--INC GRPS PROVIDED	TT	-----
	AI	JCTR PATT FEAT. ARGT 4--JCTR DIST PLAN TA, TB, TC, TAB, TBC, OR TLB, LA OR LAB	TT	-----
	AJ	SLEEVE CONTINUITY AND GUARD	TT	-----
	AK	DOUBLE CONNECTION TEST	TT	-----
	AL	CONT & LINKAGE CROSS	TT	-----
	AP	CHECK OF MARKER SLV LEADS	TT	-----
	AW	CHANNEL TEST & SELECTION	TT	-----
	AX	RECYCLE LINK TEST	TT	-----
	AY	CB & CPB OG LINK FR LEADS	TT	-----
	AZ	CB & CPB INC LINK FR LEADS	TT	-----
	BA	FBE & FBO INC LINK FR LEADS	TT	-----
	BB	FBE & FBO OG LINK FR LEADS	TT	-----
	BC	SLB INC LINK FR LEADS	TT	-----
	BD	FERROD SENSOR STATUS--TKS, ATB & TRL (ET OFFICE)	TT	-----
	BE	TKS, ATB, MTRL, & TKS-S FERROD SENSOR STATUS (ET-PBC OFFICE)	TT	-----
	BF	TRANSMISSION LEAD REVERSAL DETECTOR	TT	-----
212-103-502 (12/0)	A	CROSS & GROUND DETECTING	TT	-----
	B	PROTECTIVE GROUND CHECK	TT	-----
	C	CONT OF CODE CONV REL CONTACTS	TT	-----
	D	CONT OF SPT REL PATHS	TT	-----
	H	RL REL OPR PATHS--WITHOUT INCR CAP. (VL OPT)	TT	-----
	I	RL REL OPR PATHS--WITH INCR CAP. (VM OPT)	TT	-----
	J	LOCKING FEATURES OF OUTPUT CHANNEL REL	TT	-----
	K	INTEGRITY CHECK OF SG1 LEAD	TT	-----
	L	DUAL VOLTAGE OPERATIONAL (SURGE) CKT	TT	-----
	M	CHANNEL DIODES	TT	-----
	N	ISS, OSS DIODES & ASSOCIATED APPARATUS	TT	-----
	O	FRAME IDENTIFICATION DIODES	TT	-----
	P	IMPROVED CONTINUITY & LINKAGE CROSS	TT	-----
	Q	SWITCHING & VOLTAGE REGULATOR DIODES	TT	-----
	R	DETECTOR VOLTAGE TEST	TT	-----