

No. 5 Crossbar

Master Test Frame

NOV 20 1958

Copy sent to Bracken for Benton
" " " Greb " juniper
" " " Sollic " abendorn

W76

AUTOMATIC MONITOR, REGISTER AND SENDER TEST PANEL

KEY	CIRCUIT	FUNCTION
900	AM	900 OHMS CLOSES THE PULSING CIRCUIT TO THE SENDER WITH A MINIMUM OF 900 OHMS PLUS THE REGULAR TEST CIRCUIT TERMINATION RESISTANCE.
1600	AM	1600 OHMS CLOSES THE PULSING CIRCUIT TO THE SENDER WITH A MAXIMUM OF 1600 OHMS PLUS THE REGULAR TEST CIRCUIT TERMINATION RESISTANCE.
2P	AM	TWO-PARTY TESTS TWO-PARTY CLASSES OF SERVICE.
3FD	AM	THREE-FREQUENCY DIGIT SENDS A THIRD FREQUENCY IN ADDITION TO THE TWO REGULARLY SENT FOR A DIGIT.
3FKP	AM	THREE-FREQUENCY KEY PULSE SENDS A THIRD FREQUENCY IN ADDITION TO THE TWO REGULARLY SENT AS A KEY PULSING SIGNAL.
7 MIN	AM	7 PULSES PER SECOND-MINIMUM TESTS THE ABILITY OF THE REGISTER RA RELAY TO HOLD OVER THE PULSES AND TO TEST THE CORRECTNESS OF THE BIAS WINDING STRENGTH AND THE ADJUSTMENT OF THE L RELAY.
7 MAX	AM	7 PULSES PER SECOND-MAXIMUM TESTS THE ABILITY OF THE REGISTER TO NOT ABANDON DURING DIAL PULSES AND THE CORRECTNESS OF THE BIAS WINDING STRENGTH AND THE ADJUSTMENT OF THE L RELAY.
15 MIN	AM	15 PULSES PER SECOND MINIMUM TESTS THE ABILITY OF THE REGISTER L RELAY TO RELEASE AND TO REMAIN ON THE BACK CONTACT LONG ENOUGH TO OPERATE THE REGISTER LC RELAY OR TO OPERATE THE REGISTER LD RELAY AND RELEASE THE REGISTER LC RELAY.

KEY	CIRCUIT	FUNCTION
15 MAX	AM	15 PULSES PER SECOND-MAXIMUM TESTS THE REGISTER L RELAY FOR AN OPEN SECONDARY WINDING.
24 MIN	AM	24 PULSES PER SECOND-MINIMUM TESTS THE ABILITY OF THE L AND LA RELAYS TO RELEASE AND OPERATE THE RA RELAY FAST ENOUGH ON THE FIRST DIAL PULSE OF A TRAIN TO INSURE THAT LOCKING GROUND IS ESTABLISHED EARLY ENOUGH FOR THE LC RELAY.
24 MAX	AM	24 PULSES PER SECOND-MAXIMUM TESTS THE ABILITY OF THE REGISTER L RELAY TO OPERATE FAST ENOUGH TO MAKE ITS FRONT CONTACT BEFORE THE DIAL CLOSURE IS ENDED AND TO KEEP ITS BACK CONTACT OPEN LONG ENOUGH FOR THE LE RELAY TO EITHER OPERATE OR RELEASE. THIS KEY ALSO TESTS THE ABILITY OF THE REGISTER RA RELAY TO RELEASE IN THE MINIMUM TIME BETWEEN DIGITS. THE LC, LD AND LE RELAYS TO COMPLETE THE CYCLE OF OPERATIONS IN THE TIME ALLOWED AND THE P-RELAYS TO OPERATE IN THE MINIMUM CLOSURE RECEIVED FROM THE CONTACTS OF THE LE RELAY.
AAB	AM	ADJUSTMENT BIAS CONNECTS THE AUTOMATIC MONITOR AMPLIFIER TO A TEST VOLTAGE IN ORDER TO ADJUST THE BIAS VOLTAGE BY MEANS OF THE B1 POTENTIOMETER
AAT	AM	AFTER ASSIGNMENT TIME-OUT TESTS THE TIME-OUT FEATURE OF THE SENDER BEYOND 'WAITING ASSIGNMENT' POSITION.
ABN	AM	ABANDON CALL SIMULATES AN ABANDONED CALL.
ACO	AM	ALARM CUT-OFF RETIRE THE MINOR AUDIBLE ALARM.
BGO	AM	BATTERY & GROUND CHECKS THE BATTERY AND GROUND PULSING FEATURE IN THE SENDER.
BL	AM	BY-LINK CONTROLS BY-LINK TESTS.

KEY	CIRCUIT	FUNCTION
BLR	AM	BY-LINK RELEASE TESTS THE FEATURE OF DIAL PULSE INCOMING REGISTERS WHICH CHECKS THAT THE 'BL' LEAD THROUGH THE INCOMING REGISTER LINK IS CLOSED ON BY-LINK CALLS.
C20H	AM	CLASS 2 OFF-HOOK TESTS THE SENDERS ON CLASS 2 WITH OFF-HOOK SUPERVISION.
CBT	AM	CENTRAL B TEST TESTS THE OPERATION OF THE CENTRAL B REGISTER WITH ITS ASSOCIATED SWITCHBOARD SENDER ON NORMAL LOOP CONDITIONS.
CBT1	AM	CENTRAL B TEST - 1 TESTS THE OPERATION OF THE CENTRAL B REGISTER WITH ITS ASSOCIATED SWITCHBOARD SENDER ON MAXIMUM LOOP CONDITIONS.
CBTT	AM	CENTRAL B TONE TEST TRANSMITS A TONE SIGNAL TO THE B OPERATOR AS AN INDICATION FOR HER TO KEY UP A PREDETERMINED NUMBER.
CIOF	AM	CALL INDICATOR OVERFLOW TESTS THE OVERFLOW FEATURE OF THE SENDER.
CN	AM	COIN TESTS THE COIN FEATURES OF THE ORIGINATING REGISTERS.
CNTT	AM	COIN TONE TEST TESTS THAT THE ORIGINATING REGISTERS RETURN NO-SUCH-NUMBER TONE ON A FAILURE TO DETECT A COIN WHERE REGISTERS ARE ARRANGED FOR DIAL TONE FIRST OPERATION ON COIN LINES.
CR4	AM	COIN RETURN TESTS THAT THE ORIGINATING REGISTERS RETURN THE COIN ON CERTAIN CALLS WHICH THE MARKER TRANSLATES AS BEING FREE CALLS.
CTAB	AM	COIN TEST ABANDONED CALL TESTS THAT THE REGISTER COIN SUPERVISORY RELAY RECOGNIZES AN ABANDONED CALL DURING COIN TEST.
CX	AM	CX SUPERVISION SIMULATES TRUNKS WHICH HAVE CX TYPE SUPERVISION.

FUNCTION OF KEYS
AUTO. MON. REG. AND SDR.
TEST PANEL
REG. AND SDR. TEST PANEL

RM 3-51 3 SHEETS, SHEET 1 NO. 5 CROSSBAR

ORDER AS BSP ITEM MP-10700

BELL TELEPHONE LABORATORIES, INC.

PRINTED IN U.S.A.

AUTOMATIC MONITOR, REGISTER AND SENDER TEST PANEL (CONTD.)

KEY	CIRCUIT	FUNCTION	KEY	CIRCUIT	FUNCTION	KEY	CIRCUIT	FUNCTION
DC	AM	DOUBLE CONNECTION TESTS THE DOUBLE CONNECTION CHECKING FEATURE OF THE INCOMING REGISTERS.	MAC	AM	MONITOR AC APPLIES AC VOLTAGE TO THE FILAMENTS OF THE VACUUM TUBES OF THE MONITOR AMPLIFIER.	P1	AM	PRELIMINARY 1 TESTS THAT THE ORIGINATING OR INCOMING REGISTERS RECOGNIZE A PRELIMINARY PULSE.
DISC	AM	DISCONNECT SIMULATES A DISCONNECT BY A SUBSCRIBER.	MAN	AM	MANUAL TESTS MANUAL CLASSES OF SERVICE.	P11	AM	PRELIMINARY 11 PROVIDES FOR DIALING A PRELIMINARY 1-1.
DSS	AM	DIGITS STEP-BY-STEP CONTROLS THE DIGITS OR SELECTION REGISTRATIONS ON A STEP-BY-STEP BASIS.	MIR	AM	MONITORING INCOMING REGISTERS PROVIDES FOR MONITORING ON INCOMING REGISTERS EXCLUSIVELY.	PR	AM	PULSE REVERSAL REVERSES PULSE TIME SO THAT LONG PULSES ARE SENT WITH SHORT BETWEEN DIGIT INTERVALS.
DTR	AM	DISTANT TRUNK REVERSED TESTS THE OPERATION OF THE OUTGOING DIAL PULSE SENDER ON A SECOND 'OFF-HOOK' SIGNAL. ALL PATHS BUSY OR REVERSED TRUNK INDICATION.	MIRT	AM	MONITOR INCOMING REGISTER TEST PROVIDES FOR LISTENING AND TALKING ON INCOMING REGISTER TESTS.	QTR	AM	QUICK TROUBLE RECORDS PROVIDES FOR A TROUBLE RECORD PRIOR TO A TIME-OUT ON REGISTER TESTS WHICH HAVE ADVANCED TO CLASS CHECK BEFORE A TROUBLE CONDITION IS ENCOUNTERED.
DTT	AM	DIAL TONE TEST TESTS THE DIAL TONE FEATURE OF THE DIAL PULSE INCOMING REGISTER.	MOR	AM	MONITOR ORIGINATING REGISTERS PROVIDES FOR MONITORING ON ORIGINATING REGISTERS EXCLUSIVELY.	RAB	AM	REGISTER ABANDON SIMULATES AN ABANDONED CALL.
FAS	AM	FAST ASSIGNMENT APPLIES 'FAST ASSIGNMENT' CONDITIONS TO THE SENDER TG (TRUNK GUARD) RELAY.	MOTL	AM	MONITOR ORIGINATING TEST LINE CONNECTS THE TEST CIRCUIT RECEIVER TO THE ORIGINATING TEST LINE.	RBT	AM	REGISTER BUSY TEST TESTS THAT THE ORIGINATING REGISTER RETURNS BUSY-BACK TONE WHEN THE MARKER IS UNABLE TO COMPLETE THE CALL.
FKP	AM	FALSE KEY PULSE CHECKS THE OPERATION OF THE MF INCOMING REGISTER ON A SECOND KEY PULSE SIGNAL.	MOS	AM	MONITOR OUTGOING SENDERS PROVIDES FOR MONITORING ON OUTGOING SENDERS EXCLUSIVELY.	RIF	AM	REVERTIVE IF TEST PROVIDES A TEST OF THE IF TIMER OF THE REVERTIVE PULSE INCOMING REGISTER.
HLD	AM	HOLD HOLDS AN INCOMING OR ORIGINATING REGISTER OFF-NORMAL IF A TROUBLE CONDITION IS ENCOUNTERED DURING MONITORING.	MPIR	AM	MONITOR PARTICULAR INCOMING REGISTER PROVIDES FOR REPEAT MONITORING ON A PARTICULAR INCOMING REGISTER.	RLR	AM	REGISTER LINK RELEASE PROVIDES A TEST OF THE LR (LINK RELEASE) TIMER.
IG 0-5	AM	INCOMING GROUP SELECTS THE CORRESPONDING INCOMING REGISTER LINK GROUP FOR TESTING OR MONITORING.	MPOR	AM	MONITOR PARTICULAR ORIGINATING REGISTER PROVIDES FOR REPEAT MONITORING ON A PARTICULAR ORIGINATING REGISTER.	RLT	AM	REVERTIVE LOOP TEST PROVIDES A MAXIMUM LOOP CONDITION ON THE FUNDAMENTAL TIP AND RING.
IGH	AM	INCOMING GROUP HIGH PROVIDES FOR THE TRANSMITTING OF A 'HIGH' INCOMING GROUP SELECTION.	MPOS	AM	MONITOR PARTICULAR OUTGOING SENDER PROVIDES FOR REPEAT MONITORING ON A PARTICULAR OUTGOING SENDER.	RPF	AM	RING PARTY FIRST FAILURE TESTS THAT THE ORIGINATING REGISTER RECOGNIZES A FAILURE TO CHECK WHEN A RING PARTY IS INDICATED ON THE FIRST PARTY TEST AND THE TIP PARTY ON THE SECOND PARTY TEST. IT ALSO APPLIES AN OPERATE CURRENT FLOW VALUE TO THE TP (TIP PARTY) RELAY IN THE REGISTER.
IO	AM	INCOMING OVERFLOW TESTS THE INCOMING OVERFLOW FEATURE OF THE REVERTIVE PULSE OUTGOING SENDER.	NBL	AM	NON-BY-LINK PROVIDES FOR DIRECT PULSING OPERATION.	RPD	AM	REGISTER PARTIAL DIAL TESTS THAT THE ORIGINATING REGISTER RECOGNIZES A PARTIAL DIAL.
LL	AM	LOW LOSS PROVIDES FOR THE TRANSMITTING OF HIGH LEVEL SIGNALS TO THE MF INCOMING REGISTER.	ORH	AM	ORIGINATING REGISTER HOLD TESTS THAT THE ORIGINATING REGISTER RECEIVES A HOLDING GROUND FROM THE MARKER CONNECTOR.	RPS	AM	REGISTER PERMANENT SIGNAL PROVIDES FOR MAKING PERMANENT SIGNAL OR TIME-OUT TESTS ON THE ORIGINATING AND INCOMING REGISTERS.
LSI	AM	LONG SELECTION INTERVAL INCREASES THE INTERVAL BETWEEN THE SELECTION REGISTRATIONS.	OTR	AM	OUT TRUNK REVERSED TESTS THE OPERATION OF THE DP AND MF OUTGOING SENDERS WHEN A REVERSED TRUNK IS ENCOUNTERED.			

FUNCTION OF KEYS
AUTO. MON. REG. AND SDR.
TEST
REG. AND SDR. TEST PANEL

AUTOMATIC MONITOR, REGISTER AND SENDER TEST PANEL (CONTD.)

KEY	CIRCUIT	FUNCTION
RRO	AM	REGISTER REORDER TESTS THE REORDER FEATURE OF THE INCOMING REGISTERS.
RRP	AM	REGISTER RING PARTY TESTS THAT THE ORIGINATING REGISTER RECOGNIZES A RING PARTY ON THE FIRST AND SECOND PARTY CHECKS BY APPLYING A NON-OPERATE CURRENT FLOW VALUE TO THE TP RELAY.
RSC	AM	REGISTER STUCK COIN TESTS THAT THE ORIGINATING REGISTER RECOGNIZES A STUCK-COIN CONDITION.
RTP	AM	REGISTER TIP PARTY TESTS THAT THE ORIGINATING REGISTER RECOGNIZES A TIP PARTY ON THE FIRST AND SECOND PARTY CHECKS BY APPLYING AN OPERATE CURRENT FLOW VALUE TO THE TP RELAY.
RTT	AM	REVERTIVE TELL-TALE TESTS THE ABILITY OF THE REVERTIVE PULSE AND CENTRAL B INCOMING REGISTERS TO RECOGNIZE A TELL-TALE CONDITION.
RVT	AM	REVERSED BATTERY TIMING TEST TESTS THAT THE REVERSED BATTERY PULSE IN INCOMING ADVANCE POSITION DOES NOT EXCEED A MAXIMUM INTERVAL.
RVT1	AM	REVERSED BATTERY TIMING TEST-1 TESTS THAT THE REVERSED BATTERY PULSE IN INCOMING ADVANCE POSITION IS NOT DELAYED.
SDC	AM	STATIONS DELAY CANCELLED CANCELS THE STATIONS DELAY TIMING CHECK.
SER	AM	SERVICE CODES TESTS THAT THE ORIGINATING REGISTER RECOGNIZES SERVICE CODES (X11).
SF	AM	SINGLE FREQUENCY TESTS THE OPERATION OF THE REGISTER ON A SINGLE-FREQUENCY DIGIT.
SG 0-5	AM	SENDER GROUP SELECTS THE CORRESPONDING SENDER GROUP FOR TESTING OR MONITORING.

KEY	CIRCUIT	FUNCTION
SLO	AM	SLOW PULSING TRANSMITS THE PULSES ON A SLOW BASIS.
SPD	AM	STOP DIALING SIMULATES A STOP PULSING SIGNAL FOR CALLS TO COMMUNITY DIAL OFFICES THROUGH STEP-BY-STEP OFFICES.
STD	AM	STATION DELAY TESTS THAT THE REGISTER TIMES FOR A STATIONS DIGIT.
STM	AM	START MONITOR STARTS THE MONITOR CIRCUIT.
STP	AM	START PULSE CHECKS THE OPERATION OF THE REGISTER WHEN A START PULSE IS RECEIVED.
STPO	AM	STP RELAY OPERATE TESTS THE OPERATE AND RELEASE CAPABILITY OF THE STEPPING RELAY.
STRT	AM	STP RELAY READJUST TEST PROVIDES A READJUST TEST TO THE STEPPING RELAY.
STT	AM	START TEST STARTS THE REGISTER AND SENDER TEST CIRCUIT UNDER CONTROL OF THE MASTER TEST CONTROL CIRCUIT.
STVT	AM	START TRANSVERTER TESTS SENDERS EQUIPPED WITH THE AMA CONTROL TRANSVERTER START FEATURE.
SURGE	AM	SURGE TESTS THAT THE REGISTER DOES NOT REGISTER A FALSE PULSE ON A SURGE RESULTING WHEN A RETARD COIL HOLDING BRIDGE IS INSERTED IN THE LINE, BETWEEN DIGITS.
TA	AM	TIME ALARM CANCELS REGISTER AND SENDER TEST CIRCUIT TIMING.
TMT	AM	TIME-OUT TEST PROVIDES A SENDER TIME-OUT.
TPF	AM	TIP PARTY FIRST FAILURE TESTS THAT THE ORIGINATING REGISTER RECOGNIZES A FAILURE TO CHECK WHEN A TIP PARTY IS INDICATED ON THE FIRST PARTY TEST AND A RING PARTY ON THE SECOND PARTY TEST.

KEY	CIRCUIT	FUNCTION
TST	AM	TEST PROVIDES FOR INCOMING REGISTER OPERATION WITH THE TRUNK TEST CIRCUIT.
TWT	AM	TWIST NETWORK PROVIDES FOR SENDING A TWO-FREQUENCY DIGIT WITH ONE FREQUENCY ATTENUATED MORE THAN THE OTHER.
WAT	AM	WAITING ASSIGNMENT TIME-OUT TESTS THE TIME-OUT FEATURE OF THE SENDER DURING 'WAITING ASSIGNMENT'.
ZRO	AM	ZERO OPERATOR TESTS THAT THE ORIGINATING REGISTER RETURNS THE COIN ON ZERO OPERATOR CALLS.

REGISTER AND SENDER TEST PANEL

KEY	CIRCUIT	FUNCTION
SRS 0-9	AM	SENDER AND REGISTER SELECT INDICATES A SENDER OR REGISTER IN ITS ASSOCIATED GROUP.

 FUNCTION OF KEYS
 AUTO. MON. REG. AND SDR.
 TEST
 REG. AND SDR. TEST PANEL

NO. 5 CROSSBAR

3 SHEETS, SHEET 3 RM 3-51

ORDER AS BSP ITEM MP-10700

BELL TELEPHONE LABORATORIES, INC.

PRINTED IN U.S.A.

MASTER TEST CONTROL

KEY	CIRCUIT	FUNCTION
11	MT	ONE-ONE PREFIX CODE SIGNALS THE MARKER OR PRETRANSLATOR THAT IT IS HANDLING A 11 PREFIX CODE.
2DT	MT	TWO-DIGIT TRANSLATOR (A) SIGNALS THE MONITOR TO TEST THE 2DT FEATURE OF INCOMING REGISTERS. (B) SIGNALS THE MARKER TO USE ITS 2DT TRANSLATOR ON TANDEM OPERATIONS.
4DG	MT	FOUR DIGITS INDICATES A TERMINATING OFFICE WHICH HAS ONLY FOUR DIGIT NUMBERS AND NO PARTY LETTERS.
5DG	MT	FIVE DIGITS INDICATES A TERMINATING OFFICE WHICH MAY BE MANUAL WITH OVER 10,000 NUMBERS OR A STEP-BY-STEP 5-DIGIT OFFICE BUT HAS NO PARTY LETTERS.
A 0-9 THROUGH L 0-9	MT	CODE AND NUMBER (A) CONTROLS THE CODE AND NUMBER TRANSMITTED TO THE MARKER BEING TESTED OR USED IN ESTABLISHING A TEST CONNECTION. (B) CONTROLS THE CODE AND NUMBER TO BE USED BY THE REGISTER AND SENDER TEST CIRCUIT IN TESTING A SENDER OR REGISTER. (C) CONTROLS THE CODE AND NUMBER TRANSMITTED TO A TRANSVERTER BEING TESTED. (D) MATCHES THE NUMBER RECEIVED FROM THE TRANSLATOR. (E) CONTROLS THE CODE TRANSMITTED TO A PRETRANSLATOR BEING TESTED.
BB	MT	BUSY BACK CAUSES A NUMBER, WHICH IS PERMANENTLY BUSY, TO BE TRANSMITTED TO THE MARKER BEING USED IN ESTABLISHING THE TEST CONDITION.
CH 0-9	MT	CHANNEL PROVIDES FOR SELECTING A PARTICULAR CHANNEL BY BLANKING OUT ALL EXCEPT THE DESIRED CHANNEL.
CNR	MT	COIN RETURNED SIMULATES THE SEIZURE OF A MARKER BY AN ORIGINATING REGISTER WHICH HAS RETURNED THE COIN.

KEY	CIRCUIT	FUNCTION
CON	MT	CONTINUITY APPLIES A LOOP CONTINUITY TEST.
CP 0-9	MT	CODE PATTERN CONTROLS THE CODE PATTERN AND MESSAGE BILLING INDEX TRANSMITTED TO THE TRANSVERTER.
CST 0-2 OR CST 0-9	MT	CLASS OF SERVICE TENS OR CLASS TANDEM (A) CONTROLS THE CLASS OF SERVICE TENS INDICATION TO THE MARKER UNDER TEST OR BEING USED IN ESTABLISHING A TEST CONNECTION. (B) MATCHES THE CLASS OF SERVICE TENS INDICATION RECEIVED BY THE MARKER FROM THE LINE LINK FRAME. (C) (FOR CST 0-9 KEYS ONLY) - CONTROLS THE TANDEM CLASS TRANSMITTED TO THE MARKER OR THE AUTOMATIC MONITOR.
CSU 0-9	MT	CLASS OF SERVICE UNITS (A) CONTROLS THE CLASS OF SERVICE UNITS INDICATION TO THE MARKER UNDER TEST OR BEING USED IN ESTABLISHING A TEST CONNECTION. (B) MATCHES THE CLASS OF SERVICE UNITS INDICATION RECEIVED BY THE MARKER FROM THE LINE LINK FRAME.
DCK	MT	DOUBLE CONNECTION CHECK SIMULATES TO THE MARKER A DOUBLE CONNECTION ON THE INCOMING REGISTER LINK.
DT	MT	DIAL TONE SELECTS A DIAL TONE CLASS OF MARKER TEST.
EBH	MT	END OF BLOCK HUNT FORCES THE MARKER TO FIND NO IDLE PBX LINES IN THE FIRST TENS BLOCK, BUT TO FIND IDLE THE PBX LINE IN THE SUBSEQUENT TENS BLOCK WHICH CORRESPONDS TO THE OPERATED S- KEY.
FAA/FAB	MT	FOREIGN AREA TRANSLATOR SELECTS THE A OR B TRANSLATOR OF A PAIR OF FOREIGN AREA TRANSLATORS.
FCG	MT	FCG RELAY TEST APPLIES AN OPERATE TEST TO THE MARKER FCG RELAY.
FGG/FG1	MT	FRAME GROUP INDICATES TO THE MARKER THE PROPER TRUNK LINK FRAME GROUP.
FNA/FNB	MT	FREE NUMBER (A) OPERATED - CAUSES A POSITIVE CHECK THAT THE NUMBER IS CROSS-CONNECTED IN THE NUMBER GROUP AS AN FNA OR FNB FREE LINE.

KEY	CIRCUIT	FUNCTION
FS	MT	FRAME SELECT CONTROLS TRUNK LINK FRAME SELECTION BY MAKING EFFECTIVE THE FS 0-9 KEYS.
FS 0-9	MT	FRAME SELECTION INDICATES TO THE MARKER THE DESIRED TRUNK LINK FRAME.
FT 0-3	MT	FRAME TENS (A) PROVIDES FRAME TENS INFORMATION FOR MATCHING THE LINE LOCATION INFORMATION RECEIVED BY THE MARKER FROM THE NUMBER GROUP. (B) TRANSMITS FRAME TENS LOCATION TO THE MARKER OR TRANSVERTER BEING TESTED OR USED IN ESTABLISHING A TEST CONNECTION.
FU 0-9	MT	FRAME UNITS (A) PROVIDES FRAME UNITS INFORMATION FOR MATCHING THE LINE LOCATION INFORMATION RECEIVED BY THE MARKER FROM THE NUMBER GROUP. (B) TRANSMITS FRAME UNITS LOCATION TO THE MARKER OR TRANSVERTER BEING TESTED OR USED IN ESTABLISHING A TEST CONNECTION.
GPA/GPB	MT	GROUP A OR B FORCES THE SELECTION OF ALLOTTED GROUPS OF ORIGINATING REGISTERS AND TRUNKS A OR B, RESPECTIVELY.
GT	MT	GT RELAY TEST APPLIES AN OPERATE AND HOLD TEST TO THE MARKER GT RELAY.
HG 0-9	MT	HORIZONTAL GROUP (A) PROVIDES HORIZONTAL GROUP INFORMATION FOR MATCHING THE LINE LOCATION INFORMATION RECEIVED BY THE MARKER FROM THE NUMBER GROUP. (B) TRANSMITS HORIZONTAL GROUP LOCATION TO THE MARKER OR TRANSVERTER BEING TESTED OR USED IN ESTABLISHING A TEST CONNECTION.

FUNCTION OF KEYS
MASTER TEST CONTROL PANEL

RM 3-52 5 SHEETS, SHEET 1
ORDER AS BSP ITEM MP-10701

NO. 5 CROSSBAR

BELL TELEPHONE LABORATORIES, INC.

PRINTED IN U.S.A.

ISSUE 11 ANC
DATE 12-5-52

5 SHEETS, SHEET 1

MP-10701

MASTER TEST CONTROL PANEL (CONTD.)

<u>KEY</u>	<u>CIRCUIT</u>	<u>FUNCTION</u>
HLD	MT	HOLD HOLDS REGISTER OFF NORMAL RE- LAYS OPERATED.
HT 0-9	MT	HUNDREDS-TRUNK INDICATES TO THE MARKER THE IDENTIFYING HUNDREDS DIGIT OF THE SIMULATED TANDEM OR TOLL TRUNK.
IAO	MT	INTRAOFFICE OR INTER-MARKER GROUP TRUNK TEST CAUSES THE MASTER TEST CON- TROL CIRCUIT TO CONNECT TO THE TRUNK TEST CIRCUIT AND THEN CON- NECT TO A MARKER THROUGH THE MASTER TEST FRAME CONNECTOR TO DIRECT THE MARKER IN ESTABLISH- ING TEST CONNECTIONS TO THE INTRAOFFICE OR INTERMARKER GROUP TRUNK UNDER TEST.
IC (OA, OAT, OB, OBT, AB, FVD, NTAN, TAN, TOL, PC)	MT	INCOMING CLASS (A) CONTROLS THE INCOMING CLASS TRANSMITTED TO THE MARKER UNDER TEST. (B) CONTROLS THE INCOMING CLASS TRANSMITTED TO THE INCOMING REGISTER UNDER TEST. (C) CONTROLS THE INCOMING CLASS AND INCOMING TRUNK PHYSICAL OR THEORETICAL INDICATION TRANSMITTED TO THE MARKER ON THE MARKER STAGE OF LINE VERIFICATION CLASS OF TEST. (D) MATCHES THE OFFICE INDICA- TION RECEIVED BY THE TRANS- VERTER FROM THE TRANSLATOR ON THE TRANSVERTER STAGE OF A LINE VERIFICATION CLASS OF TEST. (E) PREPARES THE MASTER TEST CONTROL CIRCUIT, TRUNK TEST CIRCUIT, AND THE REGISTER AND SENDER TEST CIRCUIT FOR THE TOLL OR TANDEM TEST FEAT- URE. (F) PREPARES THE MASTER TEST CONTROL CIRCUIT FOR THE PULSE CONVERSION TEST FEAT- URES.
IMS	MT	INTER-MARKER SENDER SELECTS AN INTERMARKER SENDER CLASS OF TEST.
INC	MT	INCOMING CLASS SELECTS AN INCOMING CLASS OF MARKER TEST.

KEY	CIRCUIT	FUNCTION
IR	MT	INCOMING REGISTER SELECTS AN INCOMING REGISTER CLASS OF TEST.
ITC 0-9	MT	INCOMING TRUNK CLASS CONTROLS THE INCOMING TRUNK CLASS TRANSMITTED TO THE MARKER.
ITDO	MT	INCOMING TRUNK IN DISTANT OFFICE ESTABLISHES THE NECESSARY TEST CONNECTIONS FOR TESTING INCOMING TRUNK CIRCUITS IN DISTANT OFFICES.
ITNP	MT	INCOMING TRUNK - NO PULSING ESTABLISHES IN PART THE NECESSARY TEST CONNECTIONS FOR TESTING INCOMING TRUNK CIRCUITS ON A NO PULSING BASIS.
ITP	MT	INCOMING TRUNK - PULSING ESTABLISHES, IN PART, THE NECESSARY TEST CONNECTIONS FOR TESTING INCOMING TRUNK CIRCUITS ON A PULSING BASIS.
JSQ 0-5	MT	JUNCTOR SEQUENCE RESETS THE JUNCTOR SEQUENCE WALKING RELAYS OF THE MARKER TO THE DESIRED WALKING POSITION.
KRC	MT	KEY AND RINGING CONTROL CAUSES ANY NUMBER SET UP ON THE A- L- KEYS TO BE TRANSMITTED TO THE MARKER BEING USED TO ESTABLISH THE TEST CONNECTIONS AND MAKES EFFECTIVE THE RC- KEYS IN ORDER TO CONTROL THE RINGING COMBINATIONS.
KEY	MT	KEYS ALLOWS ANY NUMBER SET UP ON THE A- L- KEYS TO BE TRANSMITTED TO THE MARKER BEING USED TO ESTABLISH THE TEST CONNECTIONS.
L5D	MT	LETTERED STATIONS AND 5 DIGITS SIGNIFIES A TERMINATING OFFICE WHICH HAS OVER TEN THOUSAND LINES AND STATION LETTERS ASSOCIATED WITH THE LINES UNDER 10,000.
LB	AMT	LINE BUSY SIMULATES A LINE BUSY CONDITION TO THE MARKER.
LBL	MT	LINE BUSY AT LINE LINK SIMULATES A LINE BUSY CONDITION AT THE LINE LINK FRAME ON THE FIRST ATTEMPT TO SEIZE THE LINE AND A LINE IDLE CONDITION ON A PBX RECYCLE.

KEY	CIRCUIT	FUNCTION
LGT	MT	LOOP GROUND TEST (A) OPERATED - CAUSES GROUND TESTS TO BE APPLIED BY LOOPING TIP AND RING. (B) NORMAL - CAUSES GROUND TESTS TO BE APPLIED TO THE TIP.
LK	MT	LOCK CHECK SIMULATES AN OPEN LOCKING CIRCUIT FOR THE PRETRANSLATION CLASS RELAYS IN AN ORIGINATING REGISTER.
LP 0-11	MT	LAMP CONTROL PERMITS CONTROL OF PROGRESS AND IDENTIFICATION LAMPS OF THE JACK LAMP AND KEY CIRCUIT.
LR	MT	LINK RELEASE SIMULATES A LINK RELEASE FAILURE.
LST	MT	LETTERED STATIONS SIGNIFIES A TERMINATING OFFICE WHICH HAS NOT MORE THAN 10,000 LINES. USES 4-DIGIT NUMBERS AND LETTERED STATIONS.
LT	MT	LINE TEST CAUSES THE MASTER TEST CONTROL CIRCUIT TO CONNECT THROUGH THE MASTER TEST FRAME CONNECTOR TO A MARKER AND DIRECTS THE MARKER IN ESTABLISHING A TEST CONNECTION BETWEEN THE VOLTMETER TEST CIRCUIT AND THE LINE TO BE TESTED.
MB 0-9	MT	MESSAGE BILLING INDEX CONTROLS THE MESSAGE BILLING INDEX TRANSMITTED TO THE TRANSVERTER.
MF	MT	MULTIFREQUENCY FRAME SIMULATES A LINE LINK FRAME SERVING MULTIFREQUENCY SUBSCRIBERS ONLY.
MISC	MT	MISCELLANEOUS TESTS CAUSES THE TRUNK TEST CIRCUIT TO CONNECT THROUGH THE MASTER TEST FRAME CONNECTOR TO A MARKER TO DIRECT THE MARKER IN ESTABLISHING A TEST CONNECTION TO A TRUNK FOR MISCELLANEOUS CLASS OF TRUNK TESTS.
MLF	MT	MIXED LINE FRAME SIMULATES A LINE LINK FRAME SERVING BOTH DIAL PULSE AND MULTIFREQUENCY SUBSCRIBERS.
MLV	MT	MARKER LINE VERIFICATION CAUSES THE TEST CIRCUIT TO CONNECT TO A MARKER AND PRIME THE MARKER WITH THE NUMBER OF THE LINE TO BE VERIFIED.

FUNCTION OF KEYS
MASTER TEST CONTROL PANEL

BELL TELEPHONE LABORATORIES, INC.
PRINTED IN U.S.A.

NO. 5 CROSSBAR

5 SHEETS, SHEET 2

RM 3-52

ORDER AS BSP ITEM MP- 10701

MASTER TEST CONTROL PANEL (CONTD.)

KEY	CIRCUIT	FUNCTION	KEY	CIRCUIT	FUNCTION	KEY	CIRCUIT	FUNCTION
MT 0-9 OR MT 0-11	MT	MARKER-TRANSVERTER-PRETRANSLATOR SELECTS A CORRESPONDING MARKER TRANSVERTER OR PRETRANSLATOR WHEN USED IN ESTABLISHING TEST CONNECTIONS.	NTTS	MT	NO TEST TRUNK SELECT MAKES ALL TRUNKS OR ORIGINATING REGISTERS EXCEPT THE ONE CORRESPONDING TO THE OPERATED TS- KEY APPEAR BUSY TO THE MARKER AND REMOVES THE BUSY CONDITION FROM ALL TRUNKS OR ORIGINATING REGISTERS ON THE ASSOCIATED TRUNK LINK FRAME WHICH ARE MANUALLY MADE BUSY.	PCD	MT	PULSE CONVERSION DIAL SIMULATES TO THE MARKER A PULSE CONVERSION TRUNK REQUIRING OUTGOING DIAL PULSE SENDERS AND IF MORE THAN ONE GROUP OF OUTGOING DIAL PULSE SENDERS IS PROVIDED, INDICATES THE FIRST GROUP.
ND	MT	NO DIGITS GROUNDS THE ND1 LEAD TO THE MARKER TO SIGNAL THE MARKER TO SET UP IN THE SENDER A CONDITION THAT PROVIDES A RELEASE WITHOUT PULSING.	OBS	MT	OBSERVED SIMULATES AN OBSERVED CALL (SERVICE OBSERVING).	PCD1	MT	PULSE CONVERSION DIAL - GROUP 1 SIMULATES TO THE MARKER A PULSE CONVERSION TRUNK REQUIRING THE SECOND GROUP OF OUTGOING DIAL PULSE SENDERS.
NG A-H	MT	MAKES BUSY NUMBER GROUP MAKES ASSOCIATED NUMBER GROUP APPEAR BUSY TO THE ALLOTTER ON A MARKER TEST CALL.	OCN	MT	ODD CONNECTOR SIGNALS THE MARKER THAT AN ODD INCOMING REGISTER CONNECTOR SEIZURE IS BEING SIMULATED.	PD	MT	PARTIAL DIAL SIGNALS THE MARKER THAT IT IS HANDLING A PARTIAL DIAL CALL.
NGT	MT	NUMBER GROUP TEST CONTROLS SELECTION OF PARTICULAR NUMBER GROUPS BY THE PBX ALLOTTER OR MARKER TESTS.	OFF 0-5	MT	OFFICE MATCHES NUMBER GROUP CROSS-CONNECTIONS AGAINST AMA TRANSLATOR CROSS-CONNECTIONS ON LINE VERIFICATION TESTS.	PHC	MT	PHYSICAL CAUSES THE MARKER TO COMPLETE TO THE PHYSICAL OFFICE ON AN AB TRUNK CLASS CALL.
NH	MT	NO-HUNT SIGNALS THE MARKER THAT IT IS HANDLING A NO-HUNT CALL.	OGT	MT	OUTGOING TRUNK INDICATES AN OUTGOING CLASS OF TRUNK TEST.	PMM	MT	PARTY MIS-MATCH SIGNALS THE MARKER THAT THERE IS A PARTY MISMATCH.
NN	MT	NO-TEST NOR NO-HUNT SIGNALS THE MARKER IT IS HANDLING A SPECIAL HUNT CALL WHICH IS NEITHER NO-TEST NOR NO-HUNT.	OR	MT	ORIGINATING REGISTER SELECTS AN ORIGINATING REGISTER CLASS OF TEST.	PRL	MT	PRETRANSLATOR RELEASE OPENS THE PRL LEAD FROM THE PRETRANSLATOR.
NT	MT	NO-TEST SIGNALS THE MARKER IT IS HANDLING A NO-TEST CALL.	ORIG	MT	ORIGINATING CLASS SELECTS AN ORIGINATING CLASS OF MARKER TEST.	PS	MT	PERMANENT SIGNAL SIGNALS THE MARKER THAT IT IS HANDLING A PERMANENT SIGNAL CALL.
NTC	MT	NO-TEST CONNECTOR CAUSES THE MARKER TO SET UP A CONNECTION THROUGH THE NO-TEST CONNECTOR INSTEAD OF OPERATING THE LINE HOLD MAGNET.	OS 0-4	MT	OUTGOING SENDER DIRECTS THE MARKER TO THE SENDER WHICH CORRESPONDS TO THE OPERATED OS- KEY AND REMOVES THE BUSY CONDITION FROM ALL MANUALLY MADE BUSY SENDERS IN THE ASSOCIATED SUBGROUP AFTER THE MARKER HAS GAINED ACCESS TO THE SUBGROUP.	PTL	MT	POTENTIAL TEST LINE PROVIDES AN OPERATE TEST OF THE PTL TUBE.
NTFS	MT	NO TEST FRAME SELECT DIRECTS THE MARKER TO SELECT THE TRUNK LINK FRAME CORRESPONDING TO THE OPERATED FG- AND FS- KEYS WITHOUT FIRST TESTING FOR TLE TRUNKS OR ORIGINATING REGISTERS ON THAT FRAME.	OSS	MT	OUTGOING SENDER SELECT PROVIDES FOR PARTICULAR OUTGOING SENDER SELECTION BY MAKING EFFECTIVE THE ASSOCIATED SGA/SGE AND OS- KEYS.	PTR	MT	PRETRANSLATOR TROUBLE RELEASE OPENS THE PTR LEAD FROM THE PRETRANSLATOR.
			OT	MT	OPEN TRANSMITTING LEADS SIMULATES OPEN TRANSMITTING LEADS TO THE PRETRANSLATOR.	PTT	MT	PRETRANSLATOR TEST SELECTS A PRETRANSLATOR CLASS OF TEST.
			PBXH	MT	PBX HUNT DIRECTS THE MARKER TO SELECT THE PBX LINE IN A TEN BLOCK WHICH CORRESPONDS TO THE OPERATED S- KEY.	PU	MT	PLUGGING UP PROVIDES AN OPERATE TEST OF THE MARKER PU RELAY.
						RA 0-3	MT	ROUTE ADVANCE CONTROLS THE NUMBER OF MARKER ROUTE ADVANCES. THE MARKER WILL ROUTE ADVANCE A NUMBER OF TIMES CORRESPONDING TO THE OPERATED RA- KEY.
						RBT	MT	REGISTER BUSY TONE DIRECTS MARKER TO GIVE ORIGINATING REGISTER A BT TROUBLE RELEASE SIGNAL WITHOUT TAKING A TROUBLE RECORD.

FUNCTION OF KEYS
MASTER TEST CONTROL PANEL

RM 3-52 5 SHEETS, SHEET 3 NO. 5 CROSSBAR

ORDER AS REQ ITEM NO. 10701

BELL TELEPHONE LABORATORIES, INC.

PRINTED IN U.S.A.

ISSUE 11/52
DATE 12-5-52

5 SHEETS, SHEET 3

MP-10701

MASTER TEST CONTROL PANEL (CONTD.)

KEY	CIRCUIT	FUNCTION
RC 1-15	MT	RINGING CONTROL CONTROLS THE RINGING COMBINATION SET UP BY THE MARKER ON THE RINGING SWITCH OF AN INTRAOFFICE, REVERTING OR INCOMING TRUNK UNDER TEST.
REC	MT	RECORD CAUSES A MARKER OR A TRANSVERTER BEING TESTED OR USED IN ESTABLISHING A TEST CONNECTION TO PROVIDE A RECORD OF ITS PROGRESS BY CONNECTING TO THE TROUBLE RECORDER.
REP	MT	REPEAT CAUSES THE MASTER TEST CONTROL CIRCUIT TO REPEAT A PARTICULAR TEST ON THE REGISTER OR SENDER UNDER TEST.
RL	MT	RELEASE CAUSES THE MASTER TEST CONTROL CIRCUIT AND CONNECTING CIRCUITS TO RESTORE TO NORMAL.
RLK	MT	RELEASE CHECK OPENS THE RLK LEAD TO THE PRETRANSLATOR.
RLT	MT	RELEASE LOAD TEST PREVENTS ORIGINATING REGISTER RELEASE.
RMB	MT	RECORDER MADE BUSY TESTS THE ACTION OF A TRANSVERTER WHEN IT ENCOUNTERS A RECORDER MADE BUSY.
RN 0-9	MT	RECORDER NUMBER CONTROLS THE AMA RECORDER NUMBER TRANSMITTED TO THE TRANSVERTER.
RO	MT	REORDER SIGNALS THE MARKER TO SET UP A REORDER CONDITION IN THE TEST CIRCUIT WHICH IS SIMULATING A TRUNK.
ROT	MT	REORDER TEST SIGNALS THE MARKER TO SET UP A REORDER CONDITION IN THE SENDER.
RTBL	MT	RECORDER TROUBLE SIMULATES THE ACTION OF A RECORDER CIRCUIT WHICH HAS DETECTED TROUBLE WITHIN ITSELF IN ORDER TO CHECK THE ACTION OF THE TRANSVERTER WHEN IT RECEIVES A RECORDER TROUBLE SIGNAL.

KEY	CIRCUIT	FUNCTION
RV	MT	REVERSE TRANSFERS THE CONTINUITY TEST FEATURE FROM THE RING TO THE TIP.
S 0-9	MT	SLEEVE MAKES ALL NUMBERS IN A TEN BLOCK APPEAR BUSY EXCEPT THE ONE CORRESPONDING TO THE OPERATED S-KEY.
S1L	MT	STOP TRANSVERTER - 1 LINE STOPS THE TRANSVERTER AFTER IT SENDS THE FIRST LINE OF INFORMATION TOWARD THE RECORDER AND FORCES A TROUBLE RECORD OF THIS INFORMATION.
S2L	MT	STOP TRANSVERTER - 2 LINE STOPS THE TRANSVERTER AFTER IT SENDS THE SECOND LINE OF INFORMATION TOWARD THE RECORDER AND FORCES A TROUBLE RECORD OF THIS INFORMATION.
S3L	MT	STOP TRANSVERTER - 3 LINE STOPS THE TRANSVERTER AFTER IT SENDS THE THIRD LINE OF INFORMATION TOWARD THE RECORDER AND FORCES A TROUBLE RECORD OF THIS INFORMATION.
S4L	MT	STOP TRANSVERTER - 4 LINE STOPS THE TRANSVERTER AFTER IT SENDS THE FOURTH LINE OF INFORMATION TOWARD THE RECORDER AND FORCES A TROUBLE RECORD OF THIS INFORMATION.
SCN	MT	STUCK COIN SIGNALS STUCK COIN FOR USE IN DIRECTING THE MARKER TO CONNECT TO A STUCK COIN TRUNK.
SDR	MT	SENDER SELECTS A SENDER CLASS OF TEST.
SDT	MT	SENDER TEST CAUSES CONNECTION TO SENDER TEST CIRCUIT.
SDT1	MT	SENDER TEST 1 INDICATES TO THE TRANSVERTER THAT NO SPECIAL AMA TESTS ARE TO BE MADE SO THAT IT WILL GIVE A REGULAR RELEASE AFTER THE REGULAR CALL CHECKS HAVE BEEN COMPLETED.

KEY	CIRCUIT	FUNCTION
SDT2	MT	SENDER TEST 2 CAUSES THE TRANSVERTER TO FAIL ON FIRST AND SECOND TRIALS WHILE ATTEMPTING TO COMPLETE AN INITIAL ENTRY ON A CALL REQUIRING TOLL BILLING AND GIVES THE SENDER A TROUBLE RELEASE. ON BULK-BILLED CALLS FAILS ON BOTH TRIALS AND GIVES THE SENDER A REGULAR RELEASE.
SDT3	MT	SENDER TEST 3 PROVIDES THE CONDITIONS FOR CHECKING THAT THE PCI OUTGOING SENDER WILL NOT MAKE TRUNK TEST AND THE OTHER TYPE OUTGOING SENDERS WILL NOT SEND THE LAST DIGIT OF THE CALLED NUMBER UNTIL A TRANSVERTER RELEASE SIGNAL IS RECORDED AND THAT THEY WILL NOT RELEASE ON ABANDONED CALLS UNTIL THE TRANSVERTER HAS RELEASED.
SGA/SGB	MT	SENDER GROUP A/B DIRECTS THE MARKER TO THE DESIRED SENDER SUBGROUP A OR B, RESPECTIVELY.
SPL	MT	SPECIAL (A) MODIFIES THE OA, OB, AND AB TRUNK CLASSES TO SPECIAL TRUNK CLASSES OAS, OBS AND ABS. (B) SIGNALS THE MARKER TO HANDLE A SPECIAL CALL.
ST	MT	START STARTS THE MASTER TEST CONTROL CIRCUIT FUNCTIONING.
STE	MT	STOP TRANSVERTER - TROUBLE ENTRY PROVIDES A RECORD OF THE REGULAR ENTRY LINE AND TROUBLE ENTRY LINE WHEN OPERATED IN CONJUNCTION WITH ONE OF THE S-L KEYS.
STP1	MT	STEP 1 ALLOWS THE MARKER TO MAKE CHANNEL SELECTION IN JUNCTOR GROUP STEP 1, BUT IF NO CHANNEL IS AVAILABLE AND THE MARKER ADVANCES TO STEP 2, MAKES ALL THE CHANNELS ASSOCIATED WITH STEP 2 APPEAR BUSY.
STP2	MT	STEP 2 MAKES ALL CHANNELS IN JUNCTOR GROUP STEP 1 APPEAR BUSY TO THE MARKER, CAUSING IT TO ADVANCE AND MAKE CHANNEL SELECTION IN STEP 2.
TC	MT	TEST CONTINUITY APPLIES A POSITIVE POLARITY AS THE DC COMPONENT IN CURRENT FLOW TESTING THE MARKER CONTINUITY FEATURE.

FUNCTION OF KEYS
MASTER TEST CONTROL PANEL

MASTER TEST CONTROL PANEL (CONTD.)

KEY	CIRCUIT	FUNCTION
TCT	MT	TEST CONTINUITY TUBE CONTROLS THE TEST CURRENT APPLIED TO THE MARKER VACUUM TUBE IN TESTING THE CONTINUITY TEST FEATURE.
THC	MT	THEORETICAL INDICATES TO THE MARKER TO COMPLETE TO THE THEORETICAL OFFICE ON AN AB TRUNK CLASS CALL.
TICB	MT	TRUNK IDENTIFICATION CHECK BATTERY TESTS THE ABILITY OF THE TRANSVERTER TO RECOGNIZE A FALSE BATTERY CONDITION ON THE TIC LEAD.
TICG	MT	TRUNK IDENTIFICATION CHECK GROUND TESTS THE ABILITY OF THE TRANSVERTER TO RECOGNIZE A FALSE GROUND CONDITION ON THE TIC LEAD.
TLV	MT	TRANSVERTER - LINE VERIFICATION SELECTS A LINE VERIFICATION CLASS OF TEST.
TOF	MT	TRANSLATOR OVERFLOW (A) TESTS THE ABILITY OF THE TRANSVERTER TO ROUTE CALLS TO OVERFLOW. (B) ON AMA SENDER TESTS WITH THE SDT2 KEY OPERATED. CHECKS THE OF LEAD BETWEEN THE SENDER AND THE TRANSVERTER.
TP	MT	TIP PARTY SIGNALS THE MARKER, TRANSVERTER OR TRUNK TEST CIRCUIT THAT A TIP PARTY CALL IS BEING HANDLED.
TR2	MT	TRIAL-2 SIGNALS THE MARKER, TRANSVERTER OR PRETRANSLATOR TO FUNCTION ON A SECOND TRIAL BASIS.
TRNO	MT	TRANSLATOR NON-OPERATE CAUSES THE SURGE IN THE ELECTRONIC TRANSLATOR TO BE REDUCED BELOW THE MINIMUM OPERATING LEVEL TO CHECK FOR PROPER BIAS POTENTIAL ON THE CCID-CATHODE VACUUM TUBES OF THE TRANSLATOR.
TRO	MT	TRANSLATOR OPERATE CAUSES THE SURGE IN THE ELECTRONIC TRANSLATOR TO BE REDUCED TO THE MINIMUM OPERATING LEVEL.

KEY	CIRCUIT	FUNCTION
TRR	MT	TROUBLE RECORD REGULAR RELEASE DIRECTS MARKER TO TAKE A TROUBLE RECORD FOLLOWED BY A REGULAR RELEASE TO THE ORIGINATING REGISTER.
TRS	MT	TRANSFER START SIGNALS THE MARKER, TRANSVERTER OR PRETRANSLATOR THAT THERE WAS A CONNECTOR START TRANSFER.
TS	MT	TRUNK SELECT MAKES EFFECTIVE THE TS- KEYS AND MAKES ALL TRUNKS OR ORIGINATING REGISTERS EXCEPT THE ONE CORRESPONDING TO THE OPERATED TS- KEY APPEAR BUSY TO THE MARKER.
TS 0-19	MT	TRUNK SELECTED INDICATES TO THE MARKER THE DESIRED TRUNK OR ORIGINATING REGISTER.
TT 0-9	MT	TRUNK TENS INDICATES TO THE MARKER THE IDENTIFYING TENS DIGIT OF THE SIMULATED TANDEM OR TOLL TRUNK.
TTL	MT	TERMINATING TEST LINE TRANSMITS THE TERMINATING TEST LINE NUMBER TO THE MARKER BEING USED IN ESTABLISHING THE TEST CONNECTION.
TVT	MT	TRANSVERTER TEST SELECTS A TRANSVERTER CLASS OF TEST.
TVT1	MT	TRANSVERTER TEST-1 PERMITS THE SELECTION OF AN AMA RECORDER ON TRANSVERTER TEST CALLS FOR TESTING THE LEADS THROUGH THE RECORDER CONNECTOR AND FORCES A TROUBLE ENTRY ON THE AMA TAPE DUE TO THE ABSENCE OF A TRUNK IN THE CONNECTION.
UT 0-9	MT	UNITS-TRUNK INDICATES TO THE MARKER THE IDENTIFYING UNITS DIGIT OF THE SIMULATED TANDEM OR TOLL INCOMING TRUNK.
VF 0-4	MT	VERTICAL FILE (A) PROVIDES VERTICAL FILE INFORMATION FOR MATCHING THE LINE LOCATION INFORMATION RECEIVED BY THE MARKER FROM THE NUMBER GROUP.

KEY	CIRCUIT	FUNCTION
VG 0-11	MT	VERTICAL GROUP (B) TRANSMITS VERTICAL FILE LOCATION TO THE MARKER OR TRANSVERTER BEING TESTED OR USED IN ESTABLISHING A TEST CONNECTION. (A) PROVIDES VERTICAL GROUP INFORMATION FOR MATCHING THE LINE LOCATION INFORMATION RECEIVED BY THE MARKER FROM THE NUMBER GROUP. (B) TRANSMITS VERTICAL GROUP LOCATION TO THE MARKER OR TRANSVERTER BEING TESTED OR USED IN ESTABLISHING A TEST CONNECTION.
XII	MT	SERVICE CODE INDICATES TO THE MARKER THAT IT IS HANDLING A 3-DIGIT SERVICE CODE.
XLH	MT	CROSSED LINE HOLD MAGNET SIMULATES A CONDITION SIMILAR TO CROSSED LINE HOLD MAGNETS.

FUNCTION OF KEYS
MASTER TEST CONTROL PANEL

NO. 5 CROSSBAR

5 SHEETS, SHEET 5 RM 3-52

BELL TELEPHONE LABORATORIES, INC.

PRINTED IN U.S.A.

ORDER AS BSP ITEM MP-10701

KEY	CIRCUIT	FUNCTION
ANS	MTT	ANSWER APPLIES AN OPERATE TEST TO THE CALLED PARTY SUPERVISORY RELAY OF THE TRUNK CIRCUIT.
CN	MTT	COIN SIMULATES A COIN IN THE COIN BOX OF A COIN SUBSCRIBER STATION.
COMP	MTT	COMPENSATION PROVIDES FOR TESTING TRUNKS WHICH HAVE 1000 OHMS LOOP COMPENSATION.
E-M	MTT	E & M LEADS SIMULATES A CX INCOMING CIRCUIT.
GS	MTT	GROUND SHUNT TEST PLACES RESISTANCE BATTERY ON THE SIDE OF THE LINE ON WHICH THE GROUND SHUNT SHOULD APPEAR IN ORDER TO TEST THE ABILITY OF THE TRUNK CIRCUIT TO PROVIDE THE GROUND SHUNT
HS	MTT	HIGH RESISTANCE SLEEVE PROVIDES A HIGH RESISTANCE GROUND TO THE TEST JACK SLEEVE.
IMG	MTT	INTER-MARKER GROUP TRANSFERS THE TERMINATING SIDE OF THE TRUNK TEST CIRCUIT TO THE TERMINATING TEST LINE IN THE CALLED MARKER GROUP.
IRV	MTT	INCOMING REVERSE PROVIDES FOR TESTING TRUNKS WHICH SHOULD HAVE A GROUND ON THE RING.
LLP	MTT	LONG LOOP SIMULATES A LOOP OF 6207.4 OHMS TO THE A RELAY WINDINGS AS AN OPERATE TEST.
LS	MTT	LOW SLEEVE INFORMS THE REGISTER THAT A TEST CALL IS INVOLVED
PS1	MTT	PERMANENT SIGNAL - 1 CANCELS THE NORMAL TIME-OUT INTERVAL OF THE PERMANENT SIGNAL TRUNK UNDER TEST.
PS2	MTT	PERMANENT SIGNAL - 2 CANCELS THE NORMAL TIME-OUT INTERVAL OF THE PERMANENT SIGNAL TRUNK UNDER TEST TO BE OPERATED IN CONJUNCTION WITH THE PS1 KEY.

TRUNK TEST PANEL

KEY	CIRCUIT	FUNCTION
PTP	MTT	PRE-TRIP APPLIES A PRE-TRIP TEST.
RVP	MTT	REVERSED POLARITY APPLIES AN OPERATE TEST TO THE A RELAY.
SLP	MTT	SHORT LOOP SIMULATES A LOOP OF 3116 OHMS TO THE A RELAY.
STK-CN	MTT	STUCK COIN SIMULATES A STUCK COIN CONDITION.
SXS	MTT	STEP-BY-STEP SIMULATES AN INCOMING CALL FROM A STEP-BY-STEP OFFICE.
TLK	MTT	TALK CONNECTS THE MASTER TEST FRAME TELEPHONE CIRCUIT TO THE TRUNK TEST CIRCUIT TO SIMULATE A CALLING SUBSCRIBER'S LINE.
TR	MTT	TRANSFER TRANSFERS THE RINGING DETECTION CIRCUIT FROM THE TERMINATING TEST LINE TO THE ORIGINATING TEST LINE SO THAT THE RINGING FEATURES OF REVERTIVE RINGING TRUNKS CAN BE CHECKED.
TRP	MTT	TRIP APPLIES A TRIP TEST
TSW	MTT	TOLL SWITCHING INDICATES TOLL SWITCHING TRUNK TESTS ON WHICH THE TRUNK TEST CIRCUIT IS TO PROVIDE FOR TERMINATION.
TTB-0	MTT	TRANSFER TO TOLL BOARD-OPERATE TRANSFERS A TRUNK TO THE TOLL TEST BOARD FOR TRANS-MISSION TEST PURPOSES.
TTB-R	MTT	TRANSFER TO TOLL BOARD-RELEASE RELEASES THE CIRCUITS INVOLVED IN THE TRANSFER OF A TRUNK TO THE TOLL TEST BOARD.

BELL TELEPHONE LABORATORIES, INC.

PRINTED IN U.S.A.

NO. 5 CROSSBAR

FUNCTION OF KEYS
TRUNK TEST PANEL

RM 3-53

ORDER AS BSP ITEM MP-10702

TRUNK TEST PANEL

KEY	CIRCUIT	FUNCTION
ANS	MTT	ANSWER APPLIES AN OPERATE TEST TO THE CALLED PARTY SUPERVISORY RELAY OF THE TRUNK CIRCUIT.
CN	MTT	COIN SIMULATES A COIN IN THE COIN BOX OF A COIN SUBSCRIBER STATION.
COMP	MTT	COMPENSATION PROVIDES FOR TESTING TRUNKS WHICH HAVE 1000 OHMS LOOP COMPENSATION.
E-M	MTT	E & M LEADS SIMULATES A CX INCOMING CIRCUIT.
GS	MTT	GROUND SHUNT TEST PLACES RESISTANCE PATTERY ON THE SIDE OF THE LINE ON WHICH THE GROUND SHUNT SHOULD APPEAR IN ORDER TO TEST THE ABILITY OF THE TRUNK CIRCUIT TO PROVIDE THE GROUND SHUNT
HS	MTT	HIGH RESISTANCE SLEEVE PROVIDES A HIGH RESISTANCE GROUND TO THE TEST JACK SLEEVE.
IMG	MTT	INTER-MARKER GROUP TRANSFERS THE TERMINATING SIDE OF THE TRUNK TEST CIRCUIT TO THE TERMINATING TEST LINE IN THE CALLED MARKER GROUP.
IRV	MTT	INCOMING REVERSE PROVIDES FOR TESTING TRUNKS WHICH SHOULD HAVE A GROUND ON THE RING.
LLP	MTT	LONG LOOP SIMULATES A LOOP OF 6207.4 OHMS TO THE A RELAY WINDINGS AS AN OPERATE TEST.
LS	MTT	LOW SLEEVE INFORMS THE REGISTER THAT A TEST CALL IS INVOLVED.
PS1	MTT	PERMANENT SIGNAL - 1 CANCELS THE NORMAL TIME-OUT INTERVAL OF THE PERMANENT SIGNAL TRUNK UNDER TEST.
PS2	MTT	PERMANENT SIGNAL - 2 CANCELS THE NORMAL TIME-OUT INTERVAL OF THE PERMANENT SIGNAL TRUNK UNDER TEST TO BE OPERATED IN CONJUNCTION WITH THE PS1 KEY.

KEY	CIRCUIT	FUNCTION
PTP	MTT	PRE-TRIP APPLIES A PRE-TRIP TEST.
RVP	MTT	REVERSED POLARITY APPLIES AN OPERATE TEST TO THE A RELAY.
SLP	MTT	SHORT LOOP SIMULATES A LOOP OF 3116 OHMS TO THE A RELAY.
STK-CN	MTT	STUCK COIN SIMULATES A STUCK COIN CONDITION.
SXS	MTT	STEP-BY-STEP SIMULATES AN INCOMING CALL FROM A STEP-BY-STEP OFFICE.
TLK	MTT	TALK CONNECTS THE MASTER TEST FRAME TELEPHONE CIRCUIT TO THE TRUNK TEST CIRCUIT TO SIMULATE A CALLING SUBSCRIBER'S LINE.
TR	MTT	TRANSFER TRANSFERS THE RINGING DETECTION CIRCUIT FROM THE TERMINATING TEST LINE TO THE ORIGINATING TEST LINE SO THAT THE RINGING FEATURES OF REVERTIVE RINGING TRUNKS CAN BE CHECKED.
TRP	MTT	TRIP APPLIES A TRIP TEST
TSW	MTT	TOLL SWITCHING INDICATES TOLL SWITCHING TRUNK TESTS ON WHICH THE TRUNK TEST CIRCUIT IS TO PROVIDE FOR TERMINATION.
TTB-0	MTT	TRANSFER TO TOLL BOARD-OPERATE TRANSFERS A TRUNK TO THE TOLL TEST BOARD FOR TRANS-MISSION TEST PURPOSES.
TTB-R	MTT	TRANSFER TO TOLL BOARD-RELEASE RELEASES THE CIRCUITS INVOLVED IN THE TRANSFER OF A TRUNK TO THE TOLL TEST BOARD.

BELL TELEPHONE LABORATORIES, INC.

PRINTED IN U.S.A.

NO. 5 CROSSBAR

FUNCTION OF KEYS
TRUNK TEST PANEL

RM 3-53

ORDER AS BSP ITEM MP-10702

TROUBLE RECORDER PANEL

<u>KEY</u>	<u>CIRCUIT</u>	<u>FUNCTION</u>
AR	TRCT/TR	ALARM RELEASE RELEASES THE TROUBLE RECORD ALARMS.
CITOS	TRCT/TRC	CANCEL TEMPORARILY OUT OF SERVICE MAKES INEFFECTIVE THE FEATURE FOR LIMITING THE NUMBER OF TROUBLE INDICATIONS THE TROUBLE RECORDER WILL RECEIVE.
IG 0-9	TRT	INTERPOSER GROUND PROVIDES THE DESIRED PATTERN OF PUNCHES BY SUPPLYING GROUND TO THE ASSOCIATED INTERPOSER MAGNETS.
LDT	TRCT	LOAD TEST SETS UP A LOAD TEST OF THE KS-13834 PERFORATOR.
MC	TRT	MOTOR CONTROL STARTS THE TROUBLE RECORDER MOTOR.
MCC	TRCT/TRC	MOTOR CONTINUOUS CONTROL REMOVES THE CONTROL OF THE TROUBLE RECORDER MOTOR FROM THE TROUBLE RECORDER CONTROL CIRCUIT START RELAYS AND PLACES THIS KEY IN DIRECT CONTROL.
MCOR	TRCT/TR	MOTOR CONTROL RELEASE RESTORES THE TROUBLE RECORDER TO SERVICE.
MST	TRT	MOTOR SPEED TIMING PROVIDES FOR OPERATING THE MST REGISTER ON MOTOR SPEED TIMING TESTS.
PA	TRCT	PATTERN SETS UP A PATTERN TEST OF THE INTERPOSER MAGNETS.
RTI	TRCT	RELEASE TEST INTERPOSER SETS UP AN INTERPOSER RELEASE TEST OF THE KS-13834 PERFORATOR.
SPC	TRCT	SPEED COUNTER CONTROLS A PERFORATOR MOTOR SPEED CHECK.
STC	TRCT/TRT	START CONTINUOUS PROVIDES FOR CONTINUOUS TROUBLE RECORDS.

TIME OF DAY PANEL (ON EARLIER INSTALLATIONS ONLY)

<u>KEY</u>	<u>CIRCUIT</u>	<u>FUNCTION</u>
DT	TD	DAY TENS STEPS THE DT SWITCH ON A STEP AT A TIME BASIS.*
DU	TD	DAY UNITS STEPS THE DU SWITCH ON A STEP AT A TIME BASIS.*
HT	TD	HOUR TENS STEPS THE HT SWITCH ON A STEP AT A TIME BASIS.*
HU	TD	HOUR UNITS STEPS THE HU SWITCH ON A STEP AT A TIME BASIS.*
MO	TD	MONTH STEPS THE MO SWITCH ON A STEP AT A TIME BASIS.*
MT	TD	MINUTE TENS STEPS THE MT SWITCH ON A STEP AT A TIME BASIS.*
MU	TD	MINUTE UNITS STEPS THE MU SWITCH ON A STEP AT A TIME BASIS.*
P	TD	PULSES STEPS THE P SWITCH ON A STEP AT A TIME BASIS.*

*EFFECTIVE ONLY WHEN THE VK KEY, ON THE TROUBLE RECORDER
PANEL, IS OPERATED.

BELL TELEPHONE LABORATORIES, INC.

PRINTED IN U.S.A.

NO. 5 CROSSBAR

RM 3-54

FUNCTION OF KEYS
TROUBLE RECORDER PANEL
TIME OF DAY PANEL

ORDER AS BSP ITEM MP- 10703

VOLTMETER PANEL

KEY	CIRCUIT	FUNCTION
AM	VT	AMMETER USES THE AMMETER SCALE FEATURE OF THE METER AND APPLIES 48-VOLT BATTERY TO THE RING SIDE OF THE LINE.
CC	VT	COIN COLLECT APPLIES A COIN COLLECT POTENTIAL TO THE TIP AND RING LEADS.
CR	VT	COIN RETURN APPLIES A COIN RETURN POTENTIAL TO THE TIP AND RING LEADS.
FEMF	VT	FOREIGN ELECTROMOTIVE FORCE DISCONNECTS THE TEST BATTERY FROM THE METER AND CONNECT THE METER TO GROUND IN SERIES WITH THE RING SIDE OF THE LINE.
G	VT	GROUND SUPPLIES A GROUND TO THE TIP SIDE OF THE LINE.
H	VT	HOWLER APPLIES THE HOWLER TO THE LINE.
RG	VT	REVERSED GROUND OPENS THE RINGING GROUND LEAD SO THAT RINGING CURRENT MAY BE APPLIED WITHOUT GROUND TO THE RING LEAD.
+STA	VT	POSITIVE STATION APPLIES 116V + BATTERY TO THE RING OF THE LINE IN SERIES WITH 100,000-OHM VOLTMETER TO PROVIDE CONTINUITY TESTS OF POSITIVE SUBSCRIBER'S STATIONS EQUIPPED WITH COLD-CATHODE TYPE SUBSCRIBER SETS.
-STA	VT	NEGATIVE STATION APPLIES 116V - BATTERY TO THE RING OF THE LINE IN SERIES WITH 100,000-OHM VOLTMETER TO PROVIDE CONTINUITY TESTS OF NEGATIVE SUBSCRIBER'S STATIONS EQUIPPED WITH COLD-CATHODE TYPE SUBSCRIBER SETS.
T	VT	TALK CUTS IN THE TELEPHONE CIRCUIT AND SUPPLY BATTERY AND GROUND TO THE RING AND TIP.
T1 REV	VT	TEST 1 - REVERSE REVERSES THE TIP AND RING LEADS TO MASTER TEST CONTROL CIRCUIT OR T1 TEST JACK, WHEN USED.

KEY	CIRCUIT	FUNCTION
T2 REV	VT	TEST 2 - REVERSE REVERSES THE TIP AND RING LEADS WHEN USING THE T2 TEST JACK.
VM REV	VT	VOLTMETER REVERSE CONNECTS THE VOLTMETER TO THE TIP SIDE OF THE LINE.
VMT1	VT	VOLTMETER TEST 1 CUTS IN THE VOLTMETER TO THE RING SIDE OF THE LINE ON TESTS USING THE T1 TEST JACK OR THE MASTER TEST CONTROL CIRCUIT.
VMT2	VT	VOLTMETER TEST 2 CUTS IN THE VOLTMETER TO THE RING SIDE OF THE LINE ON TESTS USING THE T2 TEST JACK.
±	VT	RINGING SUPPLIES RINGING CURRENT TO THE RING SIDE OF THE LINE AND GROUND TO THE TIP.
1,000	VT	1,000 OHMS CUTS IN 100V BATTERY THROUGH A 1,000-OHM RESISTANCE TO THE RING LEAD.
20,000	VT	20,000 OHMS CUTS IN 100V BATTERY THROUGH A 20,000-OHM RESISTANCE TO THE RING LEAD.

TELEPHONE PANEL

KEY	CIRCUIT	FUNCTION
BUZ	AUX SIG	BUZZER RELEASES THE AUDIBLE SIGNAL WHICH INDICATES INCOMING CALLS TO THE ASSOCIATED TELEPHONE CIRCUITS.
LOC FR L	TKL	LOCAL FRAME LINE PROVIDES A DIRECT TALKING CONNECTION BETWEEN FRAMES.
NA	AUX SIG	NIGHT ALARM MAKES INEFFECTIVE THE NIGHT ALARM FEATURE OF THE OFFICE.
RING	TKL	RINGING APPLIES RINGING POTENTIAL TO ASSOCIATED TRUNKS OF THE OUTGOING RINGDOWN TYPE.
SCO	TKL	SECONDARY CUT-OFF REMOVES THE TRANSMITTER (COIL A) FROM THE CONNECTION.
*TALK OR TRK	TKL	OFFICIAL AND TALK LINES PROVIDES FOR ORIGINATING AND RECEIVING CALLS ON OFFICIAL AND LOCAL LINES.

*DESIGNATED IN ACCORDANCE WITH THEIR OFFICIAL NUMBER OR ASSOCIATED TERMINATING LOCATION.

FUNCTION OF KEYS
VOLTMETER PANEL
TELEPHONE PANEL

JACK PANEL (BOTTOM)

KEY	CIRCUIT	FUNCTION
CTR	JLK	CANCEL TIMED RELEASE CANCELS THE TIMED RELEASE FEATURE OF A SENDER.
PST	JLK	PERMANENT SIGNAL TRUNK RELEASES THE PERMANENT SIGNAL HOLDING TRUNK.
PUCT	JLK	PLUGGING UP - CUT-THROUGH CONTROLS THE AUTOMATIC CUT-THROUGH FEATURE OF THE ASSOCIATED PLUGGING-UP LINE CIRCUIT.
PUTR	JLK	PLUGGING UP - TRANSFER CONTROLS THE TRANSFER RELAY IN THE ASSOCIATED PLUGGING-UP LINE CIRCUIT.

JACK PANEL (TOP)

KEY	CIRCUIT	FUNCTION
AMB-AR	JLK	ALL MARKERS BUSY - ALARM RELEASE RETIRE THE ALL-MARKERS- BUSY ALARM.
APS	JLK	ALL PERMANENT SIGNALS INDICATES THAT TROUBLE RECORDS OF ALL PERMANENT SIGNAL CALLS ARE DESIRED.
AT-AR	JLK	ANNOUNCEMENT TRUNKS - ALARM RELEASE CONTROLS THE LOCKING OF THE ALARM ON ANNOUNCEMENT TRUNKS.
ATVB-AR	JLK	ALL TRANSVERTERS BUSY - ALARM RELEASE RETIRE THE ALL-TRANSVER- TERS-BUSY ALARM.
BAT	JLK	BATTERY SUPPLIES BATTERY TO THE PROGRESS AND IDENTIFICATION LAMPS ASSOCIATED WITH THE MARKERS, TRANSVERTERS, ETC.
CCT	JLK	CANCEL CONTINUITY TEST INDICATES TO THE MARKERS TO CANCEL THE CONTINUITY TEST.

JACK PANEL (TOP)(CONTD.)

KEY	CIRCUIT	FUNCTION
CGT	JLK	CANCEL GROUND TEST INDICATES TO THE MARKERS TO CAN- CEL THE GROUND TEST ON NON-PBX AND LOOP START COIN LINES.
CGT N PBX	JLK	CANCEL GROUND TEST - NON-PBX INDICATES TO THE MARKERS TO CANCEL THE GROUND TEST ON LOOP START NON-PBX AND COIN LINES.
CGT PBX	JLK	CANCEL GROUND TEST - PBX INDICATES TO THE MARKERS TO CANCEL THE LOOP TEST ON PBX LINES.
CLPT	JLK	CANCEL LOOP TEST INDICATES TO THE MARKERS TO CANCEL LOOP TEST ON NON-PBX AND LOOP START COIN LINES.
CMTCA	JLK	MARKER CONNECTOR TRAFFIC CONTROL A - COMBINED OR COMPLETING SUBGROUP CANCELS THE MARKER CONNECTOR TRAFFIC CONTROL FEATURE A.
CMTCB	JLK	MARKER CONNECTOR TRAFFIC CONTROL B - COMBINED OR COMPLETING SUBGROUP CANCELS THE MARKER CONNECTOR TRAFFIC CONTROL FEATURE B.
CS-AR	JLK	COIN SUPERVISORY - ALARM RELEASE RETIRE THE COIN SUPERVISORY RELEASE CIRCUIT ALARM.
DA	JLK	GROUP BUSY ALARM DELAY CONTROLS GROUP BUSY ALARM FOR ALL INCOMING REGISTERS, AND FOR ALL OUTGOING SENDERS.
DMTCA	JLK	MARKER CONNECTOR TRAFFIC CONTROL A - DIAL TONE SUBGROUP CANCELS THE MARKER CONNECTOR TRAFFIC CONTROL FEATURE A.
DMTCB	JLK	MARKER CONNECTOR TRAFFIC CONTROL B - DIAL TONE SUBGROUP CANCELS THE MARKER CONNECTOR TRAFFIC CONTROL FEATURE B.
ERL-AR	JLK	EMERGENCY REPORTING LINE - ALARM RELEASE CONTROLS THE LOCKING OF THE ALARM ON EMERGENCY REPORTING LINES.
MC-AR	JLK	MARKER CONNECTOR - ALARM RELEASE RETIRE THE MARKER CONNECTOR TIME-OUT ALARM.
MTCA	JLK	MARKER CONNECTOR TRAFFIC CONTROL A CANCELS THE MARKER CONNECTOR TRAFFIC CONTROL FEATURE A.

KEY	CIRCUIT	FUNCTION
MTCB	JLK	MARKER CONNECTOR TRAFFIC CONTROL B CANCELS THE MARKER CONNECTOR TRAF- FIC CONTROL FEATURE B.
NPS	JLK	NO PERMANENT SIGNALS INDICATES THAT NO TROUBLE RECORDS OF PERMANENT SIGNAL CALLS ARE TO BE PRODUCED.
PRTC-AR	JLK	PRETRANSLATOR CONNECTOR - ALARM RELEASE RETIRE THE PRETRANSLATOR TIME-OUT ALARM.
RDA	JLK	REGISTER DELAY ALARM CONTROLS ALARM DELAY WHEN ALL IN- COMING REGISTERS ARE BUSY.
RS	ALMS	RE-SET RETIRE THE ALARM SENDING CIRCUIT AND RESTORES THE ALARMS TO THE IMMEDI- ATE OFFICE.
SDA	JLK	SENDER DELAY ALARM CONTROLS ALARM DELAY WHEN ALL OUT SENDER GROUPS ARE BUSY.
TR	JLK	TRANSFER MAKES EFFECTIVE THE ALARM SENDING CIRCUIT.
TR-AR	JLK	TRAFFIC REGISTER - ALARM RELEASE RETIRE THE ALARMS ASSOCIATED WITH THE TRAFFIC REGISTER CIRCUITS.
TVC-AR	JLK	TRANSVERTER CONNECTOR - ALARM RELEASE RETIRE THE TRANSVERTER CONNECTOR TIME-OUT ALARM.
TVTCA	JLK	TRANSVERTER CONNECTOR TRAFFIC CONTROL A CANCELS THE TRANSVERTER CONNECTOR TRAFFIC CONTROL FEATURE A.
TVTCB	JLK	TRANSVERTER CONNECTOR TRAFFIC CONTROL B CANCELS THE TRANSVERTER CONNECTOR TRAFFIC CONTROL FEATURE B.

 FUNCTION OF KEYS
 JACK PANEL (BOTTOM)
 JACK PANEL (TOP)

AUTOMATIC MONITOR, REGISTER AND SENDER TEST PANEL

LAMP	CIRCUIT	INDICATION
AD WHITE	AM	AREA DIRECTING THE FIRST AREA DIRECTING DIGIT IS BEING PULSED.
AD1 WHITE	AM	AREA DIRECTING 1 THE SECOND AREA DIRECTING DIGIT OR PRELIMINARY PULSE IS BEING PULSED.
BLT WHITE	AM	BY-LINK TEST A BY-LINK TEST IS BEING MADE.
BP WHITE	AM	BY-PASS THE BY-PASS STEERING RELAY IS OPERATED AND NO SIGNAL IS BEING TRANSMITTED.
CKK WHITE	AM	CLASS CHECK THE INCOMING CLASS INFORMA- TION RECEIVED FROM THE INCOM- ING REGISTER IS BEING CHECKED.
CKS WHITE	AM	CHECK START THE CALLED NUMBER RECEIVED FROM THE REGISTER IS BEING CHECKED.
CO WHITE	AM	CUT-OFF A CHECK IS BEING MADE OF THE CO LEAD THROUGH THE CROSSPOINT OF THE LINK SWITCH TO THE IN- COMING REGISTER.
CR1 WHITE	AM	COIN RETURN 1 THE APPLICATION OF COIN RETURN POTENTIAL.
CR2 WHITE	AM	COIN RETURN 2 THE LINE OPEN INTERVAL AFTER COIN RETURN IS BEING CHECKED.
CR3 WHITE	AM	COIN RETURN 3 A TEST IS BEING MADE TO CHECK THAT THE COIN WAS RE- TURNED.
CR4 WHITE	AM	COIN RETURN 4 THE MARKER HAS DIRECTED THE REGISTER TO RETURN THE COIN.

LAMP	CIRCUIT	INDICATION
D WHITE	AM	DISCONNECT THE REGISTER AND SENDER TEST CIRCUIT IS AWAITING A CHECK OF THE D LEAD TO THE INCOMING REGISTER THROUGH THE CROSSPOINT OF THE LINK SWITCH.
DT1 WHITE	AM	DIGIT TIMING 1 (A) WITH THE STD KEY NORMAL - THE REGISTER HAS PROVIDED A FALSE STATIONS DELAY. (B) WITH THE STD KEY OPERATED - THE REGISTER DID NOT PROVIDE A STATIONS DELAY.
DT2 WHITE	AM	DIGIT TIMING 2 THE MAXIMUM TIME FOR STATIONS DELAY HAS BEEN EXCEEDED.
FD WHITE	AM	FINAL DIGIT THE FINAL DIGIT HAS BEEN DIALED.
FLE WHITE	AM	FINAL BRUSH THE REGISTER AND SENDER TEST CIRCUIT IS SET FOR FINAL BRUSH SELECTION.
FLO WHITE	AM	FALSE L OPERATE THE L RELAY IN THE INCOMING REGISTER OPERATED ON THE NON- OPERATE TEST.
FLT WHITE	AM	FINAL TENS THE REGISTER AND SENDER TEST CIRCUIT IS SET FOR FINAL TENS SELECTION.
FLU WHITE	AM	FINAL UNITS THE REGISTER AND SENDER TEST CIRCUIT IS SET FOR FINAL UNITS SELECTIONS.
FPT WHITE	AM	FIRST PARTY TEST THE FIRST PARTY TEST IS BEING MADE.
GTNO WHITE	AM	GROUND TEST NON-OPERATE A NON-OPERATE TEST OF THE GT RELAY IN THE ORIGINATING REGISTER IS BEING MADE.
GTO WHITE	AM	GROUND TEST OPERATE AN OPERATE TEST OF THE GT RE- LAY IN THE ORIGINATING REGISTER IS BEING MADE.

LAMP	CIRCUIT	INDICATION
IA WHITE	AM	INCOMING ADVANCE THE REGISTER AND SENDER TEST CIRCUIT IS SET FOR INCOMING AD- VANCE SELECTION.
IB WHITE	AM	INCOMING BRUSH THE REGISTER AND SENDER TEST CIRCUIT IS SET FOR INCOMING BRUSH SELECTION.
IFF WHITE	AM	IF TIMER FAILURE A FAILURE OF THE IF TIMER IN THE INCOMING REGISTER TO FUNCTION PROPERLY.
IG WHITE	AM	INCOMING GROUP THE REGISTER AND SENDER TEST CIRCUIT IS SET FOR INCOMING GROUP SELECTION.
IR WHITE	AM	INCOMING REGISTER AN INCOMING REGISTER IS BEING MONITORED ON.
KP WHITE	AM	KEY PULSE (A) FKP KEY OPERATED - FIRST KP SIGNAL. (B) 3FKP KEY OPERATED - 3-FRE- QUENCY KP SIGNAL. (C) 3F KEY OPERATED - REGULAR KP SIGNAL.
KP1 WHITE	AM	KEY PULSE 1 (A) NO KEYS OPERATED - REGULAR KP SIGNAL. (B) FKP KEY OPERATED - SECOND KP SIGNAL. (C) 3FKP KEY OPERATED - REGULAR KP SIGNAL. (D) SF KEY OPERATED - SINGLE FREQUENCY
LK WHITE	AM	LOCK LEAD CHECK A CHECK IS BEING MADE FOR RE- SISTANCE BATTERY ON THE LK LEAD FROM THE INCOMING REGISTER THROUGH THE CROSSPOINT OF THE LINK SWITCH.
LO WHITE	AM	LOCKOUT LEAD CHECK A CHECK IS BEING MADE FOR DI- RECT GROUND ON THE LO LEAD FROM THE INCOMING REGISTER TO THE LINK CIR- CUIT.
MST WHITE	AM	MARKER START THE REGISTER HAS CALLED FOR A MARKER.

LAMP INDICATIONS
AUTOMATIC MONITOR,
REGISTER AND SENDER TEST
PANEL

RM 3-61 2 SHEETS, SHEET 1 NO. 5 CROSSBAR

ORDER AS BSP ITEM MP-10706

BELL TELEPHONE LABORATORIES, INC.

PRINTED IN U.S.A.

AUTOMATIC MONITOR, REGISTER AND SENDER TEST PANEL (CONTD.)

LAMP	CIRCUIT	INDICATION	LAMP	CIRCUIT	INDICATION	LAMP	CIRCUIT	INDICATION
MST1 WHITE	AM	MARKER START 1 THE ORIGINATING REGISTER HAS RECOGNIZED THE END OF DIALING.	RO WHITE	AM	REORDER THE INCOMING REGISTER HAS GROUNDED THE RO LEAD TO THE MARKER.	TMT WHITE	AM	TIMING TEST THE SENDER IS OFF-NORMAL ON A TIMING TEST.
NVA WHITE	AM	NO-VOLTAGE ALARM NO 60-CYCLE CURRENT IS AVAIL- ABLE OR THAT ITS CIRCUIT IS OPEN TO THE AMPLIFIER.	RRAB WHITE	AM	REVERTIVE REGISTER ABANDON THE REGISTER HAS FAILED ON THE ABANDON CALL TEST.	WL WHITE	AM	WINK LONG THE REGISTER HAS SENT A WINK SIGNAL OF TOO LONG A DURATION.
OH WHITE	AM	OPERATE HOLD A CHECK IS BEING MADE FOR GROUND ON THE OH LEAD FROM THE INCOMING REGISTER THROUGH THE CONTACTS OF THE ASSOCIATED SELECT MAGNET.	RTT WHITE	AM	REVERTIVE TELLTALE THE REGISTER HAS FAILED ON THE TELLTALE TEST.	WS WHITE	AM	WINK SHORT A CHECK IS BEING MADE OF THE ABILITY OF THE REGISTER TO SEND A WINK SIGNAL OF SUFFICIENT DURA- TION.
OK WHITE	AM	OKAY THE TEST HAS BEEN SATISFACTORILY COMPLETED.	RVB WHITE	AM	REVERSED BATTERY AN INCOMING ADVANCE POSI- TION IN THE REGISTER.	X WHITE	AM	CROSS A FALSELY GROUNDED LEAD TO THE MARKER (DIS, RBT, OR RLT) FROM THE REGISTER AND SENDER TEST CIR- CUIT. ALSO LIGHTS WHEN THE MONITOR RELAYS IN TWO OR MORE CIRCUITS OPERATE.
OR WHITE	AM	ORIGINATING REGISTER AN ORIGINATING REGISTER IS BEING MONITORED ON.	SPT WHITE	AM	SECOND PARTY TEST THE SECOND PARTY TEST IS BEING MADE.			
ORH WHITE	AM	ORIGINATING REGISTER HOLD A CHECK IS BEING MADE OF THE ABILITY OF THE ORIGINATING REGISTER TO HOLD ON THE GROUND FROM THE MARKER CONNECTOR.	TAN WHITE	AM	TANDEM CLASS THE DP AND/OR MF INCOMING REGISTER IS ARRANGED FOR SCREENING OF TANDEM CLASS CALLS.			
ORON WHITE	AM	ORIGINATING REGISTER OFF-NORMAL THE ORIGINATING REGISTER IS READY TO RECEIVE PULSES.	TAN 1-4 WHITE	AM	TANDEM CLASS 1-4 THE TANDEM CLASS OF THE TANDEM TRUNK.			
OS WHITE	AM	OUTGOING SENDER AN OUTGOING SENDER IS BEING MONITORED ON.	TBL WHITE	AM	TROUBLE A TROUBLE HAS BEEN EN- COUNTERED.			
OSA-M WHITE	AM	OUTSTEERING DIGIT THE CORRESPONDING DIGIT IS BEING PULSED.	TC WHITE	AM	TRUNK CLOSURE THE REGISTER AND SENDER TEST CIRCUIT IS AWAITING TRUNK CLOSURE BY THE SENDER.			
PL WHITE	AM	PULSING THE SENDER HAS RECEIVED THE START PULSE SIGNAL AND IS OUT- PULSING.	TCN WHITE	AM	TC1 RELAY NON-OPERATE A NON-OPERATE TEST TO THE TC1 RELAY IN THE REGISTER IS BEING APPLIED.			
RB WHITE	AM	REGISTER BUSY A CHECK IS BEING MADE FOR 226-OHM BATTERY ON THE RB LEAD FROM THE INCOMING REGISTER.	TK WHITE	AM	TRUNK CHECK THE TRUNK GUARD RELAY IN THE SENDER IS CONNECTED THROUGH TO THE REGISTER AND SENDER TEST CIRCUIT.			
RLK WHITE	AM	RELEASE CHECK A CHECK IS BEING MADE OF THE LINK RELEASE FEATURE OF THE INCOMING REGISTER.	TK1 WHITE	AM	TRUNK CHECK 1 THE TRUNK LOOP HAS BEEN CLOSED TOWARD THE SENDER.			

LAMP INDICATIONS MASTER TEST CONTROL PANEL			MASTER TEST CONTROL PANEL			LAMP INDICATIONS MASTER TEST CONTROL PANEL		
LAMP	CIRCUIT	INDICATION	LAMP	CIRCUIT	INDICATION	LAMP	CIRCUIT	INDICATION
ATT WHITE	MT	AUTOMATIC TT RELAY MASTER TEST ATTEMPT TO OPERATE A TT RELAY OF A TRUNK ON A TRUNK LINK FRAME ON WHICH THE AUTOMATIC PROGRESSION TRUNK TEST CIRCUIT HAS ALREADY OPERATED A TT RELAY OF SOME TRUNK.	CMC WHITE	MT	CMC LEAD THE PRETRANSLATOR GROUNDED THE CMC TRANSMITTING LEAD.	ITDO WHITE	MT	INCOMING TRUNK IN DISTANT OFFICE AN INCOMING TRUNK IN DISTANT OFFICE CLASS OF TEST IS BEING MADE.
BN WHITE	MT	BLANK NUMBER THE NUMBER GROUP IS CROSS-CONNECTED TO ROUTE THE NUMBER SET UP ON THE TEST CONTROL KEYS TO BLANK NUMBER INTERCEPT.	CNR WHITE	MT	COIN RETURN THE MARKER HAS SATISFACTORILY SIGNALLED THE REGISTER TO RETURN THE COIN	ITNP WHITE	MT	INCOMING TRUNK - NO-PULSING AN INCOMING TRUNK CLASS OF TEST IS BEING MADE ON A NO-PULSING BASIS.
BT-OF WHITE	MT	BUSY TONE - OVERFLOW THE MARKER OR TRANSVERTER TO WHICH THE TEST CIRCUIT IS CONNECTED HAS GROUNDED ITS TROUBLE RELEASE LEAD (BT OR OF).	DIS1 WHITE	MT	DISCONNECT THE MARKER IS READY TO RELEASE AND IS AWAITING THE PROPER FUNCTIONING OF ITS DISCONNECT RELAYS.	ITP WHITE	MT	INCOMING TRUNK - PULSING AN INCOMING TRUNK CLASS OF TEST IS BEING MADE ON A PULSING BASIS.
BY WHITE	MT	BUSY THE CALLED-LINE IS BUSY.	DT WHITE	MT	DIAL TONE A DIAL TONE CLASS OF MARKER TEST IS BEING MADE.	LF WHITE	MT	LINE FINDER AN LF 0-9 RELAY IN THE MARKER HAS OPERATED.
CK WHITE	MT	CHECK (A) THE MARKER HAS RECEIVED A GROUND AND RETURNED A LOCKING GROUND ON THE OBS1 LEAD ON DIAL TONE AND ORIGINATING REGISTER CLASSES OF TESTS. (B) THE MARKER HAS SENT A REORDER INDICATION TO THE SENDER AND RECEIVED A LOCKING GROUND BACK ON SENDER AND OUTGOING TRUNK CLASSES OF TESTS. (C) AN SRT SIGNAL HAS BEEN SENT TO THE SENDER AND THE SENDER HAS RETURNED A LOCKING GROUND ON AN INTERMARKER GROUP SENDER CLASS OF TEST.	FL WHITE	MT	FREE LINE THE CALL IS TO A FREE LINE.	LIT WHITE	JKL/LITC	LINE INSULATION TEST THE LINE INSULATION TEST CIRCUIT AND THE NON-SPECIAL MARKER USED FOR LINE INSULATION TESTS ARE IN USE.
CM3 WHITE	MT	CM3 LEAD THE PRETRANSLATOR GROUNDED THE CM3 TRANSMITTING LEAD.	G1 WHITE	MT	GROUND THE PRETRANSLATOR HAS GROUNDED THE G1 LEAD.	LK2 WHITE	MT	LINKAGE DOUBLE CHECKED THE MARKER HAS SET UP AND DOUBLE CHECKED THE LINKAGE FOR THE CALL.
CMA WHITE	MT	CMA LEAD THE PRETRANSLATOR GROUNDED THE CMA TRANSMITTING LEAD.	GR WHITE	MT	GROUND REMOVED THE PRETRANSLATOR HAS GROUNDED THE GR LEAD.	LT WHITE	MT	LINE TEST A LINE TEST CLASS OF TEST IS BEING MADE.
CMB WHITE	MT	CMB LEAD THE PRETRANSLATOR GROUNDED THE CMB TRANSMITTING LEAD.	HD WHITE	MT	HOLD INDICATES BATTERY ON THE HD LEAD WHICH IS INITIALLY SUPPLIED BY THE TEST CIRCUIT AND THEN BY THE PRETRANSLATOR.	M WHITE	MT	MARGINAL ONE OF THE MARGINAL M 0-9 RELAYS OF THE MARKER HAS OPERATED.
			IAO WHITE	MT	INTRAOFFICE OR INTERMARKER AN INTRAOFFICE OR INTERMARKER GROUP CLASS OF TRUNK TEST IS BEING MADE.	MISC WHITE	MT	MISCELLANEOUS A MISCELLANEOUS CLASS OF TRUNK TEST IS BEING MADE.
			IMS WHITE	MT	INTERMARKER SENDER AN INTERMARKER SENDER CLASS OF TEST IS BEING MADE.	MLV WHITE	MT	MARKER LINE VERIFICATION A MARKER LINE VERIFICATION CLASS OF TEST IS BEING MADE.
			INC WHITE	MT	INCOMING AN INCOMING CLASS OF MARKER TEST IS BEING MADE.	MLVF WHITE	MT	MARKER LINE VERIFICATION - FAILURE THE CROSS-CONNECTIONS IN THE NUMBER GROUP OR IN THE LINE LINK FRAME FOR THE NUMBER BEING VERIFIED FAIL TO MATCH THE SETTING OF THE KEYS OF THE TEST CIRCUIT.
			IR WHITE	MT	INCOMING REGISTER AN INCOMING REGISTER CLASS OF TEST IS BEING MADE.	MLVM WHITE	MT	MARKER LINE VERIFICATION - MATCH THE CROSS-CONNECTIONS IN THE NUMBER GROUP OR IN THE LINE LINK FRAME FOR THE NUMBER BEING VERIFIED MATCH THE SETTING OF THE KEYS OF THE TEST CIRCUIT.

ISSUE PLANC
DATE 12-3-52

3 SHEETS, SHEET 1

MP-10707

BELL TELEPHONE LABORATORIES, INC.

PRINTED IN U.S.A.

MASTER TEST CONTROL PANEL (CONTD.)

LAMP	CIRCUIT	INDICATION
MPT WHITE	MT	MESSAGE REGISTER POTENTIAL A MESSAGE REGISTER POTENTIAL TEST HAS BEEN MADE AND THE MPT RELAY IN THE MARKER HAS OPERATED.
MRL WHITE	MT	MARKER RELEASE THE MARKER OR TRANSVERTER TO WHICH THE TEST CIRCUIT IS CONNECTED HAS GROUNDING EITHER ITS MRL OR RL LEAD.
MTT WHITE	MT	MANUAL TT RELAY MASTER TEST CONTROL HAS A TT RELAY OPERATED IN SOME TRUNK.
NTB WHITE	MT	NO-TEST CONNECTOR BUSY THE NO-TEST CONNECTOR IS BUSY.
NTT WHITE	MT	NO-TEST TEST TRAIN THE MARKER IS USING THE NO-TEST TRAIN.
OFL WHITE	MT	OVERFLOW THE CALL WAS ROUTED TO OVERFLOW.
OGT WHITE	MT	OUTGOING TRUNK AN OUTGOING TRUNK CLASS OF TEST IS BEING MADE.
OR WHITE	MT	ORIGINATING REGISTER AN ORIGINATING REGISTER CLASS OF TEST IS BEING MADE.
ORIG WHITE	MT	ORIGINATING AN ORIGINATING CLASS OF MARKER TEST IS BEING MADE.
PBX WHITE	MT	PRIVATE BRANCH EXCHANGE THE CALL IS TO A PBX SUBSCRIBER.
PC WHITE	MT	PULSE CONVERSION THE TEST CIRCUIT IS PREPARED TO HANDLE PULSE CONVERSION CLASS OF TESTS.
POF WHITE	MT	PULSE CONVERSION OVERFLOW THE PULSE CONVERSION SENDER HAS APPLIED LOW RESISTANCE BATTERY TO THE AB LEAD AS AN OVERFLOW SIGNAL.
PRL WHITE	MT	PRETRANSLATOR REGULAR RELEASE THE PRETRANSLATOR HAS GROUNDING EITHER THE RLK OR PRL RELEASE LEAD.

LAMP	CIRCUIT	INDICATION
PTR WHITE	MT	PRETRANSLATOR TROUBLE RELEASE THE PRETRANSLATOR HAS GROUNDING THE PTR TROUBLE RELEASE LEAD.
PTT WHITE	MT	PRETRANSLATOR TEST A PRETRANSLATOR CLASS OF TEST IS BEING MADE.
RA1 WHITE	MT	ROUTE ADVANCE 1 THE MARKER USED ON THE TEST ROUTE ADVANCED ONCE.
RA2 WHITE	MT	ROUTE ADVANCE 2 THE MARKER USED ON THE TEST ROUTE ADVANCED TWICE.
RA3 WHITE	MT	ROUTE ADVANCE 3 THE MARKER USED ON THE TEST ROUTE ADVANCED THREE TIMES.
RBT1 WHITE	MT	RBT1 LEAD THE MARKER HAS GROUNDING THE RBT1 LEAD DUE TO A TROUBLE CONDITION ENCOUNTERED.
RI WHITE	MT	REGULAR INTERCEPT THE NUMBER GROUP IS CROSS-CONNECTED TO ROUTE THE NUMBER SET UP ON THE TEST CONTROL KEYS TO REGULAR INTERCEPT.
RON WHITE	MT	REGISTER OFF NORMAL LIGHTS AT BEGINNING OF TEST AND REMAINS LIGHTED AS LONG AS REGISTER IS OFF NORMAL.
RP WHITE	MT	RING PARTY THE CALL IS TO A RING PARTY SUBSCRIBER.
SB WHITE	MT	SENDER BUSY ALL SENDERS OF THE TYPE REQUIRED FOR THE SELECTED ROUTE ARE BUSY.
SD WHITE	MT	STATIONS DELAY THE PRETRANSLATOR HAS GROUNDING THE SD TRANSMITTING LEAD.
SDR WHITE	MT	SENDER A SENDER CLASS OF TEST IS BEING MADE.
SLK WHITE	MT	SLEEVE CHECK THE NUMBER GROUP SLEEVE CROSS-CONNECTION IS VERIFIED ON AN MLY CLASS OF TEST WITH THE RC10 KEY OPERATED.

LAMP	CIRCUIT	INDICATION
TAN WHITE	MT	TANDEM A TANDEM INCOMING CLASS IS TO BE SIMULATED.
TB WHITE	MT	TRUNK BUSY ALL TRUNKS FOR THE SELECTED ROUTE ARE BUSY.
TBI WHITE	MT	TROUBLE INTERCEPT THE NUMBER GROUP IS CROSS-CONNECTED TO ROUTE THE NUMBER SET UP ON THE TEST CONTROL KEYS TO TROUBLE INTERCEPT.
TC1 WHITE	MT	TRAFFIC CONTROL THE MARKER HAS GROUNDING THE TC1 LEAD, INDICATING THE MARKER HAS BEEN SEIZED.
TCT WHITE	MT	TEST OF CONTINUITY TEST FEATURE THE CONTINUITY TUBE IN THE MARKER OPERATED ON ITS NON-OPERATE TEST.
TLV WHITE	MT	TRANSVERTER LINE VERIFICATION A TRANSVERTER LINE VERIFICATION CLASS OF TEST IS BEING MADE.
TLVF WHITE	MT	TRANSLATOR LINE VERIFICATION - FAILURE THE CROSS-CONNECTIONS IN THE TRANSLATOR FAIL TO MATCH THE LINE LOCATION FOR THE DIRECTORY NUMBER SET UP ON THE TEST CONTROL KEYS.
TLVM WHITE	MT	TRANSLATOR LINE VERIFICATION - MATCH THE CROSS-CONNECTIONS IN THE TRANSLATOR MATCH THE LINE LOCATION FOR THE DIRECTORY NUMBER SET UP ON THE TEST CONTROL KEYS.
TOL WHITE	MT	TOLL A TOLL INCOMING CLASS IS TO BE SIMULATED.
TP WHITE	MT	TIP PARTY THE CALL IS TO A TIP-PARTY SUBSCRIBER.
TRL WHITE	MT	TROUBLE RELEASE THE MARKER OR TRANSVERTER TO WHICH THE TEST CIRCUIT IS CONNECTED HAS GROUNDING ITS TRL OR TR LEAD RESPECTIVELY.

LAMP INDICATIONS
MASTER TEST CONTROL PANEL

MASTER TEST CONTROL PANEL (CONTD.)

LAMP	CIRCUIT	INDICATION
TRL1 WHITE	MT	TROUBLE RELEASE THE MARKER HAS GROUNDED ITS TROUBLE RELEASE LEAD AND A TROUBLE RECORD IS NOT DESIRED.
TSK WHITE	MT	TRUNK FRAME SELECTED THE TST RELAY ON THE TRUNK LINK FRAME OPERATED.
TVT WHITE	MT	TRANSVERTER A TRANSVERTER CLASS OF TEST IS BEING MADE.
XFT WHITE	MT	WRONG TRUNK FRAME THE MARKER HAS BEEN DIRECTED TO A TRUNK LINK FRAME WHICH DOES NOT HAVE TRUNKS FOR THE ROUTE DESIRED.
XTSE WHITE	MT	CROSSED TRUNK FRAME SELECTION FALSE GROUND ON THE TSK LEAD WHEN THE TST RELAY OF THE TRUNK LINK FRAME SHOULD NOT BE OPER- ATED.
+1 WHITE	MT	RINGING CODE 1+ SUPERIMPOSED RINGING CODE 1+ REQUIRED FOR THE SELECTED NUMBER.
+2 WHITE	MT	RINGING CODE 2+ SUPERIMPOSED RINGING CODE 2+ REQUIRED FOR THE SELECTED NUMBER.
1 WHITE	MT	RINGING CODE 1 RINGING CODE 1 REQUIRED FOR THE SELECTED NUMBER.
2 WHITE	MT	RINGING CODE 2 RINGING CODE 2 REQUIRED FOR THE SELECTED NUMBER.
3 WHITE	MT	RINGING CODE 3 RINGING CODE 3 REQUIRED FOR THE SELECTED NUMBER.
4 WHITE	MT	RINGING CODE 4 RINGING CODE 4 REQUIRED FOR THE SELECTED NUMBER.
5 WHITE	MT	RINGING CODE 5 RINGING CODE 5 REQUIRED FOR THE SELECTED NUMBER.

LAMP INDICATIONS
MASTER TEST CONTROL PANEL

LAMP	CIRCUIT	INDICATION
AE WHITE	MTT	ANSWER ENTRY THE ANSWER ENTRY HAS OCCURRED.
AS WHITE	MTT	ORIGINATING TEST LINE SLEEVE A SATISFACTORY ORIGINATING TEST LINE SLEEVE CONNECTION.
CC RED	MTT	COIN COLLECT COIN COLLECT POTENTIAL IS BEING APPLIED.
CND WHITE	MTT	COIN DISPOSED OF THE COIN HAS BEEN DIS- POSED OF.
CR GREEN	MTT	COIN RETURN COIN RETURN POTENTIAL IS BEING APPLIED.
DE WHITE	MTT	DISCONNECT ENTRY THE DISCONNECT ENTRY HAS OCCURRED.
DR WHITE	MTT	DOUBLE REGISTRATION MORE THAN ONE MESSAGE REGISTRATION HAS OCCURRED.
E WHITE	MTT	E LEAD CHECK BATTERY ON THE OUTGOING TRUNK T1 LEAD.
IE WHITE	MTT	INITIAL ENTRY AN INITIAL ENTRY HAS BEEN OBTAINED.
OGT-CS WHITE	MTT	OUTGOING TRUNK - CALLED PARTY SUPERVISORY RELAY THE CS RELAY HAS OPERATED.
PAD-IN WHITE	MTT	PAD-IN THE PAD IS IN THE CIRCUIT.
PAD-OUT WHITE	MTT	PAD-OUT THE PAD IS OUT OF THE CIRCUIT.
PK RED	MTT	POLARITY CHECK A REVERSAL OF THE TIP AND RING LEADS.
R+ WHITE	MTT	RING LEAD - POSITIVE POTENTIAL A POSITIVE RINGING POTEN- TIAL ON THE RING LEAD.

TRUNK TEST PANEL

LAMP	CIRCUIT	INDICATION
R- WHITE	MTT	RING LEAD - NEGATIVE POTENTIAL A NEGATIVE RINGING POTEN- TIAL ON THE RING LEAD.
RN 0-9 WHITE	MTT	RECORDER THE ASSOCIATED RECORDER IS INVOLVED IN THE TEST.
RP RED	MTT	RING PARTY A RING-PARTY CHARGE CONDI- TION.
SLV WHITE	MTT	SLEEVE THE INCOMING TRUNK SLEEVE IS CLOSED THROUGH
T ₅ WHITE	MTT	TRUNK TENS THE TENS DIGIT OF THE TRUNK NUMBER.
T+ WHITE	MTT	TIP LEAD - POSITIVE POTENTIAL A POSITIVE RINGING POTEN- TIAL ON THE TIP LEAD.
T- WHITE	MTT	TIP LEAD - NEGATIVE POTENTIAL A NEGATIVE RINGING POTEN- TIAL ON THE RING LEAD.
TAS WHITE	MTT	TOLL ORIGINATING TEST LINE SLEEVE THE MARKER HAS GROUNDED THE OUTGOING TRUNK SLEEVE.
TP GREEN	MTT	TIP PARTY A TIP-PARTY CHARGE CONDITION.
TS WHITE	MTT	TERMINATING SUPERVISION A SATISFACTORY TERMINAT- ING TEST LINE SLEEVE CONNEC- TION.
TTB GREEN	MTT	TOLL TEST BOARD THE TRUNK LEADS ARE TRANSFERRED TO THE TOLL TEST BOARD.

LAMP	CIRCUIT	INDICATION
U ₅ WHITE	MTT	TRUNK UNITS THE UNITS DIGIT OF THE TRUNK NUMBER.

LAMP INDICATIONS
TRUNK TEST PANEL

TROUBLE RECORDER PANEL

LAMP	CIRCUIT	INDICATION
DL-AM WHITE	JLK	DISPLAY LOST - AUTOMATIC MONITOR THE AUTOMATIC MONITOR ENCOUNTERED A BUSY CONDITION WHEN IT TRIED TO SEIZE THE TROUBLE RECORDER.
DL-EMR WHITE	JLK	DISPLAY LOST - EMERGENCY RECORDER THE EMERGENCY RECORDER ENCOUNTERED A BUSY CONDITION WHEN IT TRIED TO SEIZE THE TROUBLE RECORDER.
DL-M 0-11 WHITE	JLK	DISPLAY LOST - MARKER THE ASSOCIATED MARKER ENCOUNTERED A BUSY CONDITION WHEN IT TRIED TO SEIZE THE TROUBLE RECORDER.
DL-MTE WHITE	JLK	DISPLAY LOST - MASTER TIMING CIRCUIT - EVEN THE EVEN MASTER TIMING CIRCUIT ENCOUNTERED A BUSY CONDITION WHEN IT TRIED TO SEIZE THE TROUBLE RECORDER.
DL-MTO WHITE	JLK	DISPLAY LOST - MASTER TIMING CIRCUIT - ODD THE ODD MASTER TIMING CIRCUIT ENCOUNTERED A BUSY CONDITION WHEN IT TRIED TO SEIZE THE TROUBLE RECORDER.
DL-PRT WHITE	JLK	DISPLAY LOST - PRETRANSLATOR THE ASSOCIATED PRETRANSLATOR ENCOUNTERED A BUSY CONDITION WHEN IT TRIED TO SEIZE THE TROUBLE RECORDER.
DL-R 0-9 WHITE	JLK	DISPLAY LOST - RECORDER THE ASSOCIATED RECORDER ENCOUNTERED A BUSY CONDITION WHEN IT TRIED TO SEIZE THE TROUBLE RECORDER.
DL-TV 0-4 WHITE	JLK	DISPLAY LOST - TRANSVERTER THE ASSOCIATED TRANSVERTER ENCOUNTERED A BUSY CONDITION WHEN IT TRIED TO SEIZE THE TROUBLE RECORDER.
MB RED	TR	MAKE BUSY THE TROUBLE RECORDER IS IN A BUSY CONDITION.
MCO RED	TRT	MOTOR CUT-OFF THE POWER HAS BEEN REMOVED FROM THE MOTOR.

LAMP	CIRCUIT	INDICATION
ON WHITE	TRT	OFF-NORMAL THE TROUBLE RECORDER IS OFF-NORMAL ON A TEST CALL.
RON WHITE	TRCT/TR	RECORDER OFF-NORMAL THE TROUBLE RECORDER IS OFF-NORMAL.
SC WHITE	TRT	SLIPPING CLUTCH THE TROUBLE RECORDER PERFORATOR IS COASTING TO THE 'HOME' POSITION.
TDA WHITE	TD	TIME-OF-DAY ALARM A FAILURE OF THE PULSING FEATURE IN THE TIME-OF-DAY CIRCUIT.
TOS RED	TRTC/TRC	TEMPORARILY OUT OF SERVICE THE TROUBLE RECORDER IS TEMPORARILY OUT OF SERVICE DUE TO RECEIVING THE LIMITED NUMBER OF RECORDS IN THE PREDETERMINED TIME INTERVAL.
TRC WHITE	TRCT/TRT	TROUBLE RECORD COMPLETE THE RECORDING OF THE TROUBLE RECORD IS COMPLETE.
TRMB RED	TRCT	TROUBLE RECORDER MADE BUSY THE TROUBLE RECORDER IS IN A BUSY CONDITION.
TRR RED	JLK	TROUBLE RECORDER REQUEST A SOURCE CIRCUIT MADE A REQUEST FOR THE TROUBLE RECORDER.
TST WHITE	TRCT	TEST THE PERFORATOR CONNECTOR RELAYS ARE OPERATED AND THE PERFORATOR TEST CAN PROCEED.
WAR WHITE	TRCT/TR	WARNING THE UNPERFORATED CARD BIN IS NEARLY EMPTY OF CARDS.

TIME OF DAY PANEL

LAMP	CIRCUIT	INDICATION
DT 0-3 WHITE	TD	DAY TENS THE POSITION OF THE DT SWITCH.
DU 0-9 WHITE	TD	DAY UNITS THE POSITION OF THE DU SWITCH.
HT 0-2 WHITE	TD	HOURLY TENS THE POSITION OF THE HT SWITCH.
HU 0-9 WHITE	TD	HOURLY UNITS THE POSITION OF THE HU SWITCH.
MO 0-12 WHITE	TD	MONTH THE POSITION OF THE MO SWITCH.
MT 0-5 WHITE	TD	MINUTE TENS THE POSITION OF THE MT SWITCH.
MU 0-9 WHITE	TD	MINUTE UNITS THE POSITION OF THE MU SWITCH.

JACK PANEL (TOP)

LAMP	CIRCUIT	INDICATION
ACV WHITE	JLK	NO AC VOLTAGE ALARM THE AC-DC AUDIBLE OR ± AUDIBLE OR THE RINGING GROUND IS MISSING AND THE CONTINUITY TEST FEATURE OF THE MARKERS HAS BEEN CANCELLED.
AMB WHITE	JLK	ALL MARKERS BUSY THE ASSOCIATED MARKER GROUP IS BUSY.
ATVB WHITE	JLK	ALL TRANSVERTERS BUSY THE ASSOCIATED TRANSVERTER GROUP IS BUSY.
BSR-SG WHITE	JLK	BASIC SETTING RELEASE - SUBGROUP THE BASIC SETTING RELEASE FEATURE IS IN EFFECT ON THE AS- SOCIATED PRETRANSLATOR SUBGROUP.
CAMB WHITE	JLK	ALL COMBINED OR COMPLETING MARKERS BUSY (A) THE COMBINED MARKER GROUP IS BUSY. (B) THE COMPLETING MARKER SUB- GROUP IS BUSY.
CCT AMBER	JLK	CANCEL CONTINUITY TEST THE CONTINUITY TEST FEATURE OF THE MARKERS IS CANCELLED.
CGT AMBER	JLK	CANCEL GROUND TEST THE GROUND TEST FEATURE OF THE MARKERS IS CANCELLED ON NON- PBX AND LOOP START COIN LINES.
CGT N PBX AMBER	JLK	CANCEL GROUND TEST - NON-PBX THE GROUND TEST FEATURE OF THE MARKERS IS CANCELLED ON LOOP START NON-PBX AND COIN LINES.
CGT PBX AMBER	JLK	CANCEL GROUND TEST - PBX THE GROUND TEST FEATURE OF THE MARKERS IS CANCELLED ON PBX LINES.
CLPT AMBER	JLK	CANCEL LOOP TEST THE LOOP TEST FEATURE OF THE MARKERS IS CANCELLED ON NON-PBX AND LOOP START COIN LINES.
CMBA WHITE	JLK	ALL COMBINED OR COMPLETING MARKERS BUSY ALARM (A) THE COMBINED MARKER GROUP HAS REMAINED BUSY CONTINUOUSLY FOR A PERIOD OF AT LEAST 41 TO 73 SECONDS.

LAMP	CIRCUIT	INDICATION
		(B) THE COMPLETING MARKER SUB- GROUP HAS REMAINED BUSY CONTINUOUSLY FOR A PERIOD OF AT LEAST 41 TO 73 SEC- ONDS.
CMBE WHITE	JLK	EVEN MASTER TIMING CIRCUIT CON- TROLLER MADE BUSY THE CONTROLLER FOR THE EVEN MASTER TIMING CIRCUIT IS MADE BUSY.
CMBO WHITE	JLK	ODD MASTER TIMING CIRCUIT CON- TROLLER MADE BUSY THE CONTROLLER FOR THE ODD MASTER TIMING CIRCUIT IS MADE BUSY.
CMCGA RED	JLK	MARKER CONNECTOR GATE A ALARM (A) A FAILURE OF THE TRAFFIC CONTROL FEATURE OF MARKER CONNECTOR GATE A FOR THE COMBINED MARKER GROUP. (B) A FAILURE OF THE TRAFFIC CONTROL FEATURE OF MARKER CONNECTOR GATE A FOR THE COMPLETING MARKER SUBGROUP.
CMCGB RED	JLK	MARKER CONNECTOR GATE B ALARM (A) A FAILURE OF THE TRAFFIC CONTROL OF MARKER CON- NECTOR GATE B FOR THE COMBINED MARKER SUBGROUP. (B) A FAILURE OF THE TRAFFIC CONTROL OF MARKER CON- NECTOR GATE B FOR THE COMPLETING MARKER.
CMTCA RED	JLK	MARKER CONNECTOR TRAFFIC CON- TROL - A (A) THE TRAFFIC CONTROL FEA- TURE OF THE MARKER CON- NECTOR GATE A HAS BEEN CANCELLED FOR THE COM- BINED MARKER GROUP. (B) THE TRAFFIC CONTROL FEA- TURE OF MARKER CONNECTOR GATE A HAS BEEN CANCELLED FOR THE COMPLETING MARKER GROUP.
CMTCB RED	JLK	MARKER CONNECTOR TRAFFIC CON- TROL - B (A) THE TRAFFIC CONTROL FEA- TURE OF MARKER CONNECTOR GATE B HAS BEEN CANCELLED FOR THE COMBINED MARKER. (B) THE TRAFFIC CONTROL FEA- TURE OF MARKER CONNECTOR GATE B HAS BEEN CANCELLED FOR THE COMPLETING MARKER SUBGROUP.

LAMP	CIRCUIT	INDICATION
CS-AB WHITE	JLK	COIN SUPERVISORY - ALL BUSY ALL COIN SUPERVISORY CIRCUITS ARE BUSY.
CS-CT WHITE	JLK	COIN SUPERVISORY - COIN TIMING CANCELLED THE TEST FOR THE PRESENCE OF A COIN COLLECT OPERATION IS CAN- CELLED.
CS-GB WHITE	JLK	COIN SUPERVISORY - GROUP BUSY ALL COIN SUPERVISORY CIRCUITS IN THE SAME LINK GROUP ARE BUSY.
CT RED	MTFT	CONNECTED TRUNK THE TRUNK TO WHICH THE CT IS PATCHED IS BUSY.
D-MBA WHITE	JLK	ALL-DIAL-TONE-MARKERS-BUSY ALARM DIAL TONE MARKER SUBGROUP HAS REMAINED BUSY FOR A PERIOD OF AT LEAST 41 TO 73 SECONDS.
DMCGA RED	JLK	MARKER CONNECTOR GATE A ALARM THE FAILURE OF THE TRAFFIC CONTROL FEATURE OF MARKER CON- NECTOR GATE A FOR THE DIAL TONE MARKER SUBGROUP.
DMCGB RED	JLK	MARKER CONNECTOR GATE B ALARM THE FAILURE OF THE TRAFFIC CONTROL FEATURE OF MARKER CON- NECTOR GATE B FOR THE DIAL TONE MARKER SUBGROUP.
DMTCA RED	JLK	MARKER CONNECTOR TRAFFIC CONTROL A THE TRAFFIC CONTROL FEATURE GATE A HAS BEEN CANCELLED FOR THE DIAL TONE MARKER SUBGROUP.
DMTCB RED	JLK	MARKER CONNECTOR TRAFFIC CONTROL B THE TRAFFIC CONTROL FEATURE GATE B HAS BEEN CANCELLED FOR THE DIAL TONE MARKER SUBGROUP.
DP-ORB WHITE	JLK	DIAL PULSE ORIGINATING REGISTER BUSY ALL DIAL PULSE ORIGINATING REGISTERS IN GROUP ARE BUSY.
DP-ORST WHITE	JLK	DIAL PULSE ORIGINATING REGISTER SHORT TIMING ALL DIAL PULSE ORIGINATING REGISTERS ARE ON SHORT TIMING.
EM WHITE	JLK	EMERGENCY RECORDER THE EMERGENCY RECORDER IS IN USE.

LAMP INDICATIONS
JACK PANEL (TOP)

JACK PANEL (TOP) (CONTD.)

LAMP	CIRCUIT	INDICATION	LAMP	CIRCUIT	INDICATION	LAMP	CIRCUIT	INDICATION
ERL WHITE	JLK	EMERGENCY REPORTING LINE ALARM PERMANENT SIGNAL CONDITION PRESENT FOR AT LEAST TWO MINUTES ON THE LINE AUXILIARY CIRCUIT FOR PUBLIC EMERGENCY REPORTING. LAMP LOCKED IN UNTIL BOTH THE PERMANENT SIGNAL CONDITION IS CLEARED AND THE ERL-AR KEY IS OPERATED.	LTD 0-4 WHITE	JLK	LOCAL TEST DESK THE TEST MAN HAS COMPLETED TESTING ON THE ASSOCIATED CIRCUIT.	MTFG AMBER	JLK	MASTER TIMING FRAME FUSE GUARD A FUSE FAILURE ON THE MASTER TIMING FRAME.
FAT WHITE	JLK	FOREIGN AREA TRANSLATOR FOREIGN AREA TRANSLATOR IS IN USE.	M- WHITE	JLK	MARKER THE ASSOCIATED MARKER IS IN USE.	MT0 WHITE	JLK	MASTER TIMING CIRCUIT - ODD THE ODD MASTER TIMING CIRCUIT IS IN USE.
FAT FG AMBER	JLK	FOREIGN AREA TRANSLATOR ALARM FUSE FAILURE ON FOREIGN AREA TRANSLATOR.	M-C WHITE	JLK	MARKER - COMBINED OR COMPLETING (A) THE ASSOCIATED COMBINED MARKER IS IN USE. (B) THE ASSOCIATED COMPLETING MARKER IS IN USE.	NGC- WHITE	JLK	NUMBER GROUP FRAME THE ASSOCIATED NUMBER GROUP FRAME IS IN USE.
FATC FG AMBER	JLK	FOREIGN AREA TRANSLATOR FUSE ALARM FUSE FAILURE ON FOREIGN AREA TRANSLATOR CONNECTOR.	M-D WHITE	JLK	MARKER - DIAL TONE THE ASSOCIATED DIAL TONE MARKER IS IN USE.	NPS AMBER	JLK	NO PERMANENT SIGNALS THE FEATURE FOR CANCELLING ALL TROUBLE RECORDS OF PERMANENT SIGNAL CALLS IS IN EFFECT.
IG AMBER	JLK	INTERRUPTER TRANSFER THE TR KEY OF ONE OF THE INTERRUPTER CIRCUITS IS IN THE OPERATED POSITION.	MBA WHITE	JLK	ALL-MARKERS-BUSY ALARM THE MARKER GROUP HAS REMAINED BUSY CONTINUOUSLY FOR A PERIOD OF AT LEAST 41 TO 73 SECONDS.	ORMC- RED	JLK	ORIGINATING REGISTER MARKER CONNECTOR THE ASSOCIATED ORIGINATING REGISTER MARKER CONNECTOR IS IN USE.
IRGB WHITE	JLK	INCOMING REGISTER GROUP BUSY THE ASSOCIATED INCOMING REGISTER GROUP IS BUSY.	MCGA RED	JLK	MARKER CONNECTOR GATE A ALARM A FAILURE OF THE TRAFFIC CONTROL FEATURE OF MARKER CON- NECTOR GATE A.	ORP- WHITE	JLK	ORIGINATING REGISTER POSITION THE ORIGINATING REGISTER AS- SOCATED WITH THE CORRESPONDING POSITION IN THE ORIGINATING REGIS- TER MARKER CONNECTOR IS IN USE.
IRMC RED	JLK	INCOMING REGISTER MARKER CONNECTOR THE ASSOCIATED INCOMING MARKER CONNECTOR IS IN USE.	MCOB RED	JLK	MARKER CONNECTOR GATE B ALARM A FAILURE OF THE TRAFFIC CONTROL FEATURE OF MARKER CON- NECTOR GATE B.	PCNV WHITE	JLK	PERFORATOR CABINET - NO-VOLTAGE ALARM FAILURE OF AC SUPPLY TO THE AMA PERFORATOR CABINETS.
IRP WHITE	JLK	INCOMING REGISTER POSITION THE INCOMING REGISTER WHICH IS ASSOCIATED WITH THE CORRESPONDING POSITION IN THE INCOMING REGISTER MARKER CONNECTOR IS IN USE.	MFG- AMBER	JLK	MARKER FRAME FUSE GUARD A FUSE FAILURE ON THE AS- SOCATED MARKER FRAME.	PRT- WHITE	JLK	PRETRANSLATOR THE ASSOCIATED PRETRANSLATOR IS IN USE.
IRST WHITE	JLK	INCOMING REGISTER SHORT TIMING THE ASSOCIATED INCOMING REGISTER IS ON A SHORT TIMING BASIS.	MF-ORB WHITE	JLK	MULTIFREQUENCY ORIGINATING REGISTER BUSY ALL MULTIFREQUENCY ORIGINATING REGISTERS IN GROUP ARE BUSY.	PRTC- RED	JLK	PRETRANSLATOR CONNECTOR THE ASSOCIATED PRETRANSLATOR CONNECTOR IS IN USE.
LLC- WHITE	JLK	LINE LINK FRAME THE ASSOCIATED LINE LINK FRAME IS CONNECTED TO A MARKER.	MF-ORST WHITE	JLK	MULTIFREQUENCY ORIGINATING REGISTER SHORT TIMING ALL MULTIFREQUENCY ORIGINATING REGISTERS ARE ON SHORT TIMING.	PRTFG- AMBER	JLK	PRETRANSLATOR FRAME FUSE GUARD A FUSE FAILURE ON THE AS- SOCATED PRETRANSLATOR FRAME.
LLMC- RED	JLK	LINE LINK MARKER CONNECTOR THE ASSOCIATED LINE LINK MARKER CONNECTOR IS IN USE.	MTCA RED	JLK	MARKER CONNECTOR TRAFFIC CONTROL A THE TRAFFIC CONTROL FEATURE OF MARKER CONNECTOR GATE A HAS BEEN CANCELLED.	PSC- WHITE	JLK	PERMANENT SIGNAL CONCENTRATING CIRCUIT THE ASSOCIATED PERMANENT SIGNAL CONCENTRATING CIRCUIT IS IN USE.
LO AMBER	ALMS	LINE OPEN OPEN TIP AND RING CONDUCTORS OR OPEN RING CONDUCTOR BETWEEN ALARM SENDING AND ALARM RECEIV- ING CIRCUITS.	MTCB RED	JLK	MARKER CONNECTOR TRAFFIC CONTROL B THE TRAFFIC CONTROL FEATURE OF MARKER CONNECTOR GATE B HAS BEEN CANCELLED.	PUA RED	JLK	PICK-UP ALARM THE PKU LEAD IN A SWITCHBOARD CIRCUIT HAS BECOME GROUNDED.
			MTE WHITE	JLK	MASTER TIMING CIRCUIT - EVEN THE EVEN MASTER TIMING CIRCUIT IS IN USE.			

LAMP INDICATIONS
JACK PANEL (TOP)

BELL TELEPHONE LABORATORIES, INC.

PRINTED IN U.S.A.

NO. 5 CROSSBAR

3 SHEETS, SHEET 2 RM 3-65

ORDER AS BSP ITEM MP-10710

LAMP	CIRCUIT	INDICATION
R- WHITE	JLK	RECORDER THE ASSOCIATED AMA RECORDER IS IN USE.
RIT WHITE	JLK	RECORDER IN TROUBLE A TROUBLE HAS BEEN ENCOUNTERED BY THE AMA RECORDER UNDER TEST.
RSG- WHITE	JLK	REGISTER SUBGROUP THE ASSOCIATED ORIGINATING REGISTER SUBGROUP IN THE PRETRANSLATOR CONNECTOR IS IN USE.
RSGP- WHITE	JLK	REGISTER POSITION IN SUBGROUP THE ORIGINATING REGISTER ASSOCIATED WITH THE CORRESPONDING POSITION IN THE PRETRANSLATOR CONNECTOR IS IN USE.
R-S-TOA RED	JLK	REGISTER AND SENDER TIME-OUT ALARM THE COMMON ALARM TIMING CIRCUIT FOR REGISTERS AND SENDERS HAS FUNCTIONED AFTER SOME REGISTER OR SENDER TIMED OUT.
RT 0-4 AMBER	JLK	ROUTE TRANSFER THE ASSOCIATED ROUTE TRANSFER FEATURE IS IN EFFECT.
RUT WHITE	JLK	RECORDER UNDER TEST AN AMA RECORDER IS UNDER TEST.
RW WHITE	JLK	RECORDER WAITING AN AMA RECORDER IS WAITING TO USE THE MASTER TIMING CIRCUIT FOR END-OF-TAPE CONTROL.
SC- WHITE	JLK	SENDER CONNECTOR THE ASSOCIATED SENDER CONNECTOR IS IN USE.
SCSP- WHITE	JLK	SENDER CONNECTOR SENDER POSITION INDICATES THAT THE SENDER ASSOCIATED WITH THE CORRESPONDING POSITION IN THE SENDER CONNECTOR IS IN USE.
SGB- WHITE	JLK	SENDER GROUP BUSY THE ASSOCIATED GROUP OF SENDERS IS BUSY.
TLC WHITE	JLK	TRUNK LINK FRAME THE ASSOCIATED TRUNK LINK FRAME IS CONNECTED TO A MARKER.
TLNB AMBER	JLK	TRUNK LINK FRAME MADE BUSY A TRUNK LINK FRAME IS MADE BUSY.

JACK PANEL (TOP) (CONTD.)

LAMP	CIRCUIT	INDICATION
TR AMBER	ALS	TRANSFERRED THE ALARM SENDING FEATURE IS IN EFFECT.
TRNSL- WHITE	JLK	TRANSLATOR THE ASSOCIATED TRANSLATOR IS IN USE.
TVBA WHITE	JLK	ALL TRANSVERTERS-BUSY ALARM THE TRANSVERTER GROUP HAS BEEN BUSY CONTINUOUSLY FOR A PERIOD OF AT LEAST 41 TO 73 SECONDS.
TVC- RED	JLK	TRANSVERTER CONNECTOR THE ASSOCIATED TRANSVERTER CONNECTOR IS IN USE.
TVCGA RED	JLK	TRANSVERTER CONNECTOR GATE A ALARM A FAILURE OF THE TRAFFIC CONTROL FEATURE OF TRANSVERTER CONNECTOR GATE A.
TVCGB RED	JLK	TRANSVERTER CONNECTOR GATE B ALARM A FAILURE OF THE TRAFFIC CONTROL FEATURE OF TRANSVERTER CONNECTOR GATE B.
TVCSP- WHITE	JLK	TRANSVERTER CONNECTOR SENDER POSITION THE SENDER ASSOCIATED WITH THE CORRESPONDING POSITION IN THE TRANSVERTER CONNECTOR IS IN USE.
TVFG- WHITE	JLK	TRANSVERTER FRAME FUSE GUARD A FUSE FAILURE ON THE ASSOCIATED TRANSVERTER FRAME.
TVTCA RED	JLK	TRANSVERTER CONNECTOR TRAFFIC CONTROL A INDICATES THE TRAFFIC CONTROL FEATURE OF THE TRANSVERTER CONNECTOR GATE A HAS BEEN CANCELLED BY THE OPERATED TVTCA KEY.
TVTCB RED	JLK	TRANSVERTER CONNECTOR TRAFFIC CONTROL B INDICATES THE TRAFFIC CONTROL FEATURE OF THE TRANSVERTER CONNECTOR GATE B HAS BEEN CANCELLED BY THE OPERATED TVTCB KEY.

LAMP INDICATIONS
JACK PANEL (TOP)

BELL TELEPHONE LABORATORIES, INC.

PRINTED IN U.S.A.

NO. 5 CROSSBAR

3 SHEETS, SHEET 3 RM 3-65

ORDER AS BSP ITEM MP- 10710

JACK PANEL (BOTTOM)

LAMP	CIRCUIT	INDICATION
AN-TRK WHITE	JLK	ANNOUNCEMENT TRUNK ALARM DUE TO ANNOUNCEMENT TRUNK REVERSAL.
BY RED	JLK	BUSY BUSY CONDITION WHEN MANUAL OUTGOING TRUNK TEST CIRCUIT IS CONTROLLED FROM MASTER TEST FRAME.
IRMB TO- WHITE	JLK	INCOMING REGISTER TIME OUT THE ASSOCIATED INCOMING REGISTER HAS TIMED OUT.
ORMB TO- WHITE	JLK	ORIGINATING REGISTER TIME OUT THE ASSOCIATED ORIGINATING REGISTER HAS TIMED OUT.
OT PS- WHITE	JLK	OVERFLOW TRUNK - PERMANENT SIGNAL THE ASSOCIATED OVERFLOW TRUNK IS CONNECTED TO A LINE ON WHICH A PERMANENT SIGNAL CONDITION EXISTS.
PSH C WHITE	JLK	PERMANENT SIGNAL HOLDING - COIN A COIN LINE IS CONNECTED TO THE ASSOCIATED PERMANENT SIGNAL HOLDING TRUNK.
PSH NC WHITE	JLK	PERMANENT SIGNAL HOLDING - NO COIN A LINE WHICH IS NEITHER COIN OR PBX IS CONNECTED TO THE ASSOCIATED PERMANENT SIGNAL HOLDING TRUNK.
PSH PBX WHITE	JLK	PERMANENT SIGNAL HOLDING PBX A PBX LINE IS CONNECTED TO THE ASSOCIATED PERMANENT SIGNAL HOLDING TRUNK.
PU B GREEN	JLK	PLUGGING UP - BUSY THE ASSOCIATED PLUGGING UP LINE IS IN USE.
PU L RED	JLK	PLUGGING UP - LINE THE CONDITION OF THE ASSOCIATED LINE WITH REGARD TO SHORTS AND GROUNDS.
SMB TO WHITE	JLK	SENDER TIME-OUT THE ASSOCIATED OUTGOING SENDER HAS TIMED OUT.
SUP WHITE	JLK	SUPERVISORY SUPERVISORY SIGNALS WHEN MANUAL OUTGOING TRUNK TEST CIRCUIT IS CONTROLLED FROM MASTER TEST FRAME.

TELEPHONE PANEL

LAMP	CIRCUIT	INDICATION
TL* WHITE	TKL	TIE LINE THE ASSOCIATED OFFICIAL OR LOCAL TIE LINE IS BUSY.
TRK* WHITE	TKL	TRUNK THE ASSOCIATED OFFICIAL TRUNK IS BUSY.

*DESIGNATED IN ACCORDANCE WITH THEIR OFFICIAL NUMBER OR ASSOCIATED TERMINATING LOCATION.

VOLTMETER TEST PANEL

LAMP	CIRCUIT	INDICATION
BY1 WHITE	VT	BUSY TEST 1 A BUSY CONDITION OF THE ASSOCIATED TRUNK BEING TESTED USING THE TEST 1 CIRCUIT.
BY2 WHITE	VT	BUSY TEST 2 A BUSY CONDITION OF THE ASSOCIATED TRUNK BEING TESTED USING THE TEST 2 CIRCUIT.
CN WHITE	VT	COIN A COIN IS PRESENT.
H WHITE	VT	HOWLER (A) BRIGHT - THE HOWLER IS BUSY. (B) DARK - THE HOWLER IS IDLE.
S WHITE	VT	SUPERVISION THE SUBSCRIBER'S RECEIVER IS OFF THE HOOK.

JACK	CIRCUIT	PURPOSE
MB	TR	MAKE BUSY TO MAKE THE TROUBLE RE- CORDER BUSY.
RC-AR-AM	JLK	REMOTE CONTROL - ALARM RE- LEASE - AUTOMATIC MONITOR WHEN PATCHED TO THE TRR-AR JACK, IT PROVIDES FOR RETIRING THE TROUBLE RECORDER REQUEST ALARM THROUGH THE USE OF AN AS- SOCIATED JACK AT THE AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT EQUIPMENT BAYS OF THE MASTER TEST FRAME.
RC-AR-M	JLK	REMOTE CONTROL - ALARM RE- LEASE - MARKER WHEN PATCHED TO THE TRR-AR JACK, IT PROVIDES FOR RETIRING THE TROUBLE RECORDER REQUEST ALARM THROUGH THE USE OF AN AS- SOCIATED JACK AT THE MARKER FRAMES.
RC-AR-MT	JLK	REMOTE CONTROL - ALARM RE- LEASE - MASTER TIMING CIRCUIT WHEN PATCHED TO THE TRR-AR JACK, IT PROVIDES FOR RETIRING THE TROUBLE RECORDER REQUEST ALARM THROUGH THE USE OF AN ASSOCIATED JACK AT THE MASTER TIMING FRAMES.
RC-AR-PRT	JLK	REMOTE CONTROL - ALARM RE- LEASE - PRETRANSLATOR WHEN PATCHED TO THE TRR-AR JACK, IT PROVIDES FOR RETIRING THE TROUBLE RECORDER REQUEST ALARM THROUGH THE USE OF AN ASSOCIATED JACK AT THE PRETRANSLATOR FRAMES.
RC-AR-R	JLK	REMOTE CONTROL - ALARM RE- LEASE - RECORDER WHEN PATCHED TO THE TRR-AR JACK, IT PROVIDES FOR RETIRING THE TROUBLE RECORDER REQUEST ALARM THROUGH THE USE OF AN ASSOCIATED JACK AT THE RECORDER AND RECORDER CON- NECTOR FRAMES.
RC-AR-SP	JLK	REMOTE CONTROL - ALARM RE- LEASE - SPARE A SPARE REMOTE CONTROL ALARM RELEASE JACK WHICH MAY BE CROSS-CONNECTED TO ANY DESIRED LOCATION.

TROUBLE RECORDER PANEL

JACK	CIRCUIT	PURPOSE
RC-AR-TV	JLK	REMOTE CONTROL - ALARM RELEASE - TRANSVERTER WHEN PATCHED TO THE TRR-AR JACK, IT PROVIDES FOR RETIRING THE TROUBLE RECORDER REQUEST ALARM THROUGH THE USE OF AN AS- SOCIATED JACK ON THE TRANSVERTER FRAMES.
TRMB	TRCT	TROUBLE RECORDER MAKE BUSY TO MAKE THE TROUBLE RECORDER BUSY.
TRMB-AM	JLK	TROUBLE RECORDER MAKE BUSY - AUTOMATIC MONITOR TO MAKE THE TROUBLE RECORDER BUSY TO THE AUTOMATIC MONITOR, REGISTER AND SENDER TEST CIRCUIT.
TRMB-EMR	JLK	TROUBLE RECORDER MAKE BUSY - EMERGENCY RECORDER TO MAKE THE TROUBLE RECORDER BUSY TO THE EMERGENCY AMA RE- CORDER.
TRMB-M 0-11	JLK	TROUBLE RECORDER MAKE BUSY - MARKER TO MAKE THE TROUBLE RECORDER BUSY TO THE ASSOCIATED MARKER.
TRMB-MTE	JLK	TROUBLE RECORDER MAKE BUSY - MASTER TIMING CIRCUIT - EVEN TO MAKE THE TROUBLE RECORDER BUSY TO THE EVEN MASTER TIMING CIRCUIT.
TRMB-MTO	JLK	TROUBLE RECORDER MAKE BUSY - MASTER TIMING CIRCUIT - ODD TO MAKE THE TROUBLE RECORDER BUSY TO THE ODD MASTER TIMING CIRCUIT.
TRMB-PRT 0-2	JLK	TROUBLE RECORDER MAKE BUSY - PRETRANSLATOR TO MAKE THE TROUBLE RECORDER BUSY TO THE ASSOCIATED PRETRANS- LATOR.
TRMB-R 0-9	JLK	TROUBLE RECORDER MAKE BUSY - RECORDER TO MAKE THE TROUBLE RECORDER BUSY TO THE ASSOCIATED AMA RE- CORDER.
TRMB-TV 0-4	JLK	TROUBLE RECORDER MAKE BUSY - TRANSVERTER TO MAKE THE TROUBLE RECORDER BUSY TO THE ASSOCIATED TRANS- VERTER
TRR-AR	JLK	TROUBLE RECORDER REQUEST - ALARM RELEASE TO RETIRE THE TROUBLE RECORDER REQUEST ALARM.

 PURPOSE OF JACKS
 TROUBLE RECORDER
 PANEL

BELL TELEPHONE LABORATORIES, INC.

NO. 5 CROSSBAR

RM 3-71

ORDER AS BSP ITEM MP-10712

JACK	CIRCUIT	PURPOSE
BSR-SG 0-2	JLK	BASIC SETTING RELEASE - SUBGROUP TO RELEASE THE BASIC SETTING IN THE ASSOCIATED PRETRANSLATOR SUBGROUP.
CT	MTFT	CONTINUITY TEST TO TEST OUTGOING TRUNKS FOR CONTINUITY AND REVERSALS.
FAT-MB	JLK	FOREIGN AREA TRANSLATOR - MAKE BUSY TO MAKE THE FOREIGN AREA TRANSLATOR BUSY.
LTD 1-5	JLK	LOCAL TEST DESK TO PATCH CIRCUIT TO THE LOCAL TEST DESK.
M-C-MB-	JLK	COMPLETING MARKER - MAKE BUSY TO MAKE THE ASSOCIATED COMPLETING MARKER BUSY TO SERVICE CALLS.
M-D-MB-	JLK	DIAL TONE MARKER - MAKE BUSY TO MAKE THE ASSOCIATED DIAL TONE MARKER BUSY TO SERVICE CALLS.
M-MB 0-11	JLK	MARKER - MAKE BUSY TO MAKE THE ASSOCIATED COMBINED MARKER BUSY TO SERVICE CALLS.
PRT-MB 0-2	JLK	PRETRANSLATOR - MAKE BUSY TO MAKE THE ASSOCIATED PRETRANSLATOR BUSY TO SERVICE CALLS.
PSC-MB 0-3	JLK	PERMANENT SIGNAL CONCENTRATING - MAKE BUSY TO MAKE THE ASSOCIATED PERMANENT SIGNAL CONCENTRATING CIRCUIT BUSY TO THE PERMANENT SIGNAL HOLDING TRUNKS.
R	JLK	REMOTE CONTROL FOR USE WITH A 32A TEST SET FOR REMOTE CONTROL (START OR RELEASE) OF THE RECORDER TEST PORTION OF THE MASTER TIMING CIRCUIT.

TOP JACK PANEL

JACK	CIRCUIT	PURPOSE
R-MB 0-9	JLK	RECORDER - MAKE BUSY TO MAKE THE ASSOCIATED AMA RECORDER BUSY TO SERVICE CALLS.
R-MB-EM	JLK	EMERGENCY RECORDER - MAKE BUSY TO MAKE THE EMERGENCY AMA RECORDER BUSY TO SERVICE CALLS.
R-TN 0-9	JLK	RECORDER - TRANSFER TO TRANSFER THE CALL IDENTITY INDEXER FROM THE ASSOCIATED AMA RECORDER TO THE EMERGENCY AMA RECORDER.
R-TN-EM	JLK	EMERGENCY RECORDER - TRANSFER TO TRANSFER THE CALL IDENTITY INDEXER FROM THE EMERGENCY RECORDER TO ITS ASSOCIATED AMA RECORDER.
R-TST 0-9	JLK	RECORDER TEST TO PREPARE THE MASTER TIMING CIRCUIT TO FUNCTION WITH THE ASSOCIATED AMA RECORDER ON A RECORDER TEST.
R-TST-EM	JLK	EMERGENCY RECORDER TEST TO PREPARE THE MASTER TIMING CIRCUIT TO FUNCTION WITH THE EMERGENCY AMA RECORDER ON A RECORDER TEST.
RT 0-4	JLK	ROUTE TRANSFER TO CONTROL THE TRANSFER OF ROUTES FOR PARTICULAR CODES. ONE ROUTE IS ASSOCIATED WITH EACH RT- JACK.
SP	JLK	SPARE A ROW OF UNWIRED JACKS USED TO STORE SHORTING PLUGS WHEN THEY ARE NOT IN USE.
T-MB-	JLK	TRUNK - MAKE BUSY TO MAKE THE ASSOCIATED OUTGOING TRUNK, COIN JUNCTOR, OR COIN SUBSCRIBER TO TRUNK INTERMARKER GROUP TRUNK BUSY. JACK IS DESIGNATED BY OFFICE NAME AND TRUNK OR JUNCTOR NUMBER.

JACK	CIRCUIT	PURPOSE
T-T-	JLK	TRUNK - TEST TO PROVIDE TESTING ACCESS TO THE ASSOCIATED OUTGOING TRUNK, COIN JUNCTOR, OR COIN SUBSCRIBER TO TRUNK INTERMARKER GROUP TRUNK. JACK IS DESIGNATED BY OFFICE NAME AND TRUNK OR JUNCTOR NUMBER.
TRNSL-MB 0-31	JLK	TRANSLATOR - MAKE BUSY TO MAKE THE ASSOCIATED TRANSLATOR BUSY.
TV-MB 0-4	JLK	TRANSVERTER - MAKE BUSY TO MAKE THE ASSOCIATED TRANSVERTER BUSY TO SERVICE CALLS.
VMTST-T1	VT	VOLTMETER TEST - TEST 1 TO PATCH THE CIRCUIT TO BE TESTED TO THE TEST 1 PORTION OF THE VOLTMETER TEST CIRCUIT.
VMTST-T2	VT	VOLTMETER TEST - TEST 2 TO PATCH THE CIRCUIT TO BE TESTED TO THE TEST 2 PORTION OF THE VOLTMETER TEST CIRCUIT.

 PURPOSE OF JACKS
 TOP JACK PANEL

BOTTOM JACK PANEL

JACK	CIRCUIT	PURPOSE	JACK	CIRCUIT	PURPOSE	JACK	CIRCUIT	PURPOSE
IR-MB-	JLK	INCOMING REGISTER - MAKE BUSY TO MAKE THE ASSOCIATED INCOMING REGISTER BUSY TO SERVICE CALLS.	OR-MB-	JLK	ORIGINATING REGISTER - MAKE BUSY TO MAKE THE ASSOCIATED ORIGINATING REGISTER BUSY TO SERVICE CALLS.	TVC-MB-	JLK	TRANSVERTER CONNECTOR - MAKE BUSY TO MAKE THE ASSOCIATED TRANSVERTER CONNECTOR BUSY.
IRMC-MB-	JLK	INCOMING REGISTER MARKER CONNECTOR - MAKE BUSY TO MAKE THE ASSOCIATED INCOMING REGISTER MARKER CONNECTOR BUSY.	ORMC-MB-	JLK	ORIGINATING REGISTER MARKER CONNECTOR - MAKE BUSY TO MAKE THE ASSOCIATED ORIGINATING REGISTER MARKER CONNECTOR BUSY.			
LLMC-MB-	JLK	LINE LINK MARKER CONNECTOR - MAKE BUSY TO MAKE THE ASSOCIATED LINE LINK MARKER CONNECTOR BUSY.	OT-T-	JLK	OVERFLOW TRUNK - TEST TO PROVIDE TESTING ACCESS TO THE LINE TO WHICH THE ASSOCIATED COMMON OVERFLOW TRUNK IS CONNECTED.			
MOGTT-MB	JLK	MANUAL OUTGOING TRUNK TEST - MAKE BUSY TO MAKE AN OUTGOING TRUNK TO BE TESTED BY THE MANUAL OUTGOING TRUNK TEST CIRCUIT BUSY, WHEN THE MB JACK OF THE OUTGOING TRUNK IS PATCHED TO THIS JACK.	PRTC-MB-	JLK	PRETRANSLATOR CONNECTOR - MAKE BUSY TO MAKE THE ASSOCIATED PRETRANSLATOR BUSY.			
MOGTT-RC	JLK	MANUAL OUTGOING TRUNK TEST - REMOTE CONTROL TO CONTROL THE MANUAL OUTGOING TRUNK TEST CIRCUIT FROM THE MASTER TEST FRAME WHEN A 32A TEST SET IS PLUGGED INTO THIS JACK.	PSH-T-	JLK	PERMANENT SIGNAL HOLDING - TEST TO PROVIDE TESTING ACCESS TO THE LINE TO WHICH THE ASSOCIATED PERMANENT SIGNAL HOLDING TRUNK IS CONNECTED.			
MOGTT-T	JLK	MANUAL OUTGOING TRUNK TEST - TEST TO PROVIDE TESTING ACCESS TO AN OUTGOING TRUNK TO BE TESTED BY THE MANUAL OUTGOING TRUNK TEST CIRCUIT, WHEN THE T JACK OF THE OUTGOING TRUNK IS PATCHED TO THIS JACK.	PU-L	JLK	PLUGGING UP - LINE TO PROVIDE TESTING ACCESS TO THE PLUGGED-UP LINE TO WHICH THE ASSOCIATED PLUGGING-UP LINE CIRCUIT IS CONNECTED.			
MOGTT-TEL A MOGTT-TEL B	JLK	MANUAL OUTGOING TRUNK TEST - TELEPHONE A OR B TO PERMIT MONITORING ON THE TRUNK BEING TESTED BY THE MANUAL OUTGOING TRUNK TEST CIRCUIT BY MEANS OF A TELEPHONE SET PLUGGED INTO EITHER OF THESE JACKS.	S-MB-	JLK	SENDER - MAKE BUSY TO MAKE THE ASSOCIATED SENDER BUSY TO SERVICE CALLS.			
			SC-MB-	JLK	SENDER CONNECTOR - MAKE BUSY TO MAKE THE ASSOCIATED SENDER CONNECTOR BUSY.			
			SDT	JLK	SENDER TEST PATCHED TO MB JACK OF SENDER TO BE TESTED.			

 PURPOSE OF JACKS
 BOTTOM JACK PANEL

PART 1 - CLASS CHECK ON ORIGINATING CONNECTIONS

TRUNK		CHARGE OR CLASS INFORMATION	MARKER TO TRUNK LEADS GROUNDED	TRUNK RELAY	MARKER CLASS RELAYS OPERATED	MARKER ROUTE SERIES RELAY	MARKER CLASS CHECK RELAY	CARD PUNCHES	NOTES
1. 1AO Flat	SD-26060-01	No Charge	None	None	None	NCNC	NOC	▼ NOC	
2. 1AO Flat & AMA	SD-26061-01	No Charge (Flat Rate Call)	None	None	None	NCNC	NOC	▼ NOC	
3. 1AO " " "	"	AMA Charge Call	None	None	TP, TPK or RP, RPK	MBS-1	CLK	▼ CLK	1
4. 1AO Mess. Rate	SD-26062-01	Mess. Reg. Charge (Ring Party)	TC	MRP	TC	TCNC	CLK	▼ TC ▼ CLK	
5. 1AO " " "	"	" " " (Tip Party)	TC & TP	TP & MRP	TC & TP & TPK	TCNC	CLK	▼ TC ▼ TP' ▼ CLK	
6. 1AO Coin	SD-26064-01	Coin Charge Call	TC	TC	TC	TCNC	CLK	▼ TC ▼ CLK	2
7. OGT Flat Rate & AMA	SD-26085-01	No Charge	None	None	None	NCNC	NOC	▼ NOC	
8. " " " " "	"	AMA Charge	None	None	None	MBS-	CLK	▼ CLK	1
9. OGT Mess. Rate	SD-26086-01	No Charge (Flat Rate Call)	None	None	None	NCNC	NOC	▼ NOC	
10. " " "	"	Mess. Reg. Charge (Ring Party)	TC	TCM	TC	TCNC	CLK	▼ TC ▼ CLK	
11. " " "	"	" " " (Tip Party)	TC & TP	TCM & TP	TC & TP & TPK	TCNC	CLK	▼ TC ▼ TP' ▼ CLK	
12. OGT Coin	SD-26087-01	Coin Charge	CN	None	CNC	NCCN	CLK	▼ CN ▼ CLK	3
13. " "	"	" "	None	None	None	NCNC	NOC	▼ NOC	3
14. Recdng. Compltg., SPCl Srvc., V.C. Intc. (Non-Coin)	SD-26090-01	No Class of Service Discrimi- nation	None	None	None	NCNC	NOC	▼ NOC	
15. " " " " "	"	Class of Service Tone	TC	TC	TC	OPS-	CLK	▼ OPR ▼ TC ▼ CLK	4
16. Recdng. Compltg., SPCl Srvc., V.C. Intc. (Coin)	SD-26091-01	No Class of Service Discrimi- nation	None	None	None	NCNC	NOC	▼ NOC	
17. " " " " "	"	Class of Service Tone	TC	TC	TC	OPS-	CLK	▼ OPR ▼ TC ▼ CLK	4
18. Comb. Tone Non-Coin	SD-26132-01	Line Busy	TC	LB	TC	HL	CLK	▼ TC ▼ LB ▼ CLK	
19. " " " "	"	Vac. Code or Partial Dial	TP	VP	TPK	VP	CLY	▼ TP' ▼ CLK	
20. " " " "	"	Overflow	None	None	None	PBY	NOC	▼ NOC	
21. Comb. Tone Coin	SD-26133-01	Line Busy	TC	LB	TC	HL	CLK	▼ TC ▼ LB ▼ CLK	
22. " " "	"	Vac. Code or Partial Dial	TP	VP	TPK	VP	CLK	▼ TP' ▼ CLK	
23. " " "	"	" " " " "	None	None	None	PBY	NOC	▼ NOC	
24. Permanent Sig. Holding	SD-26134-01	Perm. Sig. PEK	TC	PB	TC	PPY	CLK	▼ TC ▼ CLK	
25. " " "	"	" " Coin	TP	CN	TPK	PCN	CLK	▼ TP' ▼ CN ▼ CLK	
26. " " "	"	" " Non-Coin, Non-PEK	None	None	None	PNC	NOC	▼ NOC	

ROUTE SERIES RELAY AND
CLASS INFORMATION TABLES

RM-702-1

3 SHEETS, SHEET 1

NO.5 CROSSBAR

AMERICAN TELEPHONE & TELEGRAPH & CO.

38-Y-4350 3 SHEETS, SHEET 1

PART 1 - CLASS CHECK ON ORIGINATING CONNECTIONS

TRUNK		CHARGE OR CLASS INFORMATION	MARKER TO TRUNK LEADS GROUNDED	TRUNK RELAY	MARKER CLASS RELAYS OPERATED	MARKER ROUTE SERIES RELAY	MARKER CLASS CHECK RELAY	CARD PUNCHES	NOTES
27. Common Overflow	SD-26131-01	Overflow Tone	None	None	None	CAA	NOC	▼NOC	
28. " "	"	Permanent Sig. Tone	TC	PS	TC	CAA	CLK	▼TC ▼CLK	
29. Auxiliary OGT	SD-26111-01	From Subscriber (AMA Charge)	None	None	None	MBS-	CLK	▼CLK	1
30. " "	"	From Incoming Tandem Trunk	None	None	None	NCNC	NOC	▼NOC	
31. " "	"	From Incoming Toll Trunk	RC	TO	TC	TOS	CLK	▼TC ▼CLK	
32. Intermarker Group Sub. to Sub. Flat Rate	SD-26140-01	No Charge	None	None	None	NCNC	NOC	▼NOC	
33. Intermarker Group Sub. to Sub. Flat & AMA	SD-26141-01	No Charge	None	None	None	NCNC	NOC	▼NOC	
34. " " " " " " " "	"	AMA Charge	None	None	None	MBS-	CLK	▼CLK	1
35. Intermarker Group Sub. to Sub. Coin	SD-26142-01	Coin Charge	None	None	None	NCNC	NOC	▼NOC	6
36. Intermarker Group Sub. to Sub. Message Rate	SD-25839-01	Mess. Reg. Charge (Ring Party) " " " (Tip Party)	TC TC & TP	TCM TCM & TP	TCL TC,TP,TPK	TCNC TCNC	CLK CLK	▼TC ▼CLK ▼TC ▼TP' ▼CLK	
37. Intermarker Group Sub. to Trunk Flat & AMA	SD-26145-01	No Charge	None	None	None	NCNC	NOC	▼NOC	
38. " " " " " " " "	"	AMA Charge	None	None	None	MBS-	CLK	▼CLK	1
39. Intermarker Group Sub. to Trunk Coin	SD-26147-01	Coin Charge	None	None	None	NCNC	NOC	▼NOC	3
40. " " " " " " " "	"	" "	CN	None	CNC	NCCN	CLK	▼CLK	?

NOTES

- (1) On calls from tip party of 2-party lines, TP in marker operates from orig. reg. In all other cases, RP in marker operates. Marker sends this information to sender and makes class check.
- (2) This trunk does not require coin signal but does require a charge signal. Therefore the route series relay TCNC is used.

- (3) In this trunk, the CN lead is optional. Route series relay NCCN is used when CN lead is provided. NCNC is used when not provided. NCCN grounds CN lead, NCNC does not. TC lead does not need grounding because this trunk charges every call. For this reason, NCCN is used in place of TCNC; or NCNC is used in place of TCNC.

- (4) The class of service tone feature is an option of this trunk. Tone is sent to operator to indicate certain classes of service.
- (5) CAA relay does not ground leads to trunk unless call has route advanced from perm. sig. trunk. In this case, operated CAA and either PPX, PCN, or PNC will ground TC lead.
- (6) This trunk handles coin calls only. No "CN" signal is needed. Every call is charged. No talk charge (TC) signal is needed.

ROUTE SERIES RELAY AND
CLASS INFORMATION TABLES

PART 2 — ROUTE SERIES RELAY TABLE

<u>PUNCHING</u>	<u>ROUTE SERIES RELAY</u>	<u>USE</u>	<u>LEADS TO TRUNK GROUNDED</u>	<u>NOTES</u>
NN	NCNC	When trunk requires no signals from marker.	None	
NC	NCCN	When trunk requires a coin class signal.	CN	
TC	TCNC	When trunk requires a charge signal on a charge call.	TC	
TN	TCCN	When trunk requires charge and coin class signals.	TC & CN	
MBS-0	MBS-0	For an AMA test call or AMA free call.	None	
MBS1-8	MBS1-8	For different charge units on AMA bulk billed (2-line entry) calls.	None	
MBS-9	MBS-9	For toll charge AMA detailed billing (4-line entry) calls.	None	
PP	PPX	Permanent signal PBX subscriber.	TC	
PM	PCN	" " coin " .	TP	
PN	PNC	" " non-PBX, noncoin subs.	None	
TO	TOS	When trunk should return toll type supervision.	RC	
CA	CAA	Catch all relay for last alternate route.	None	5

ROUTE SERIES RELAY AND
CLASS INFORMATION TABLES

TROUBLE ANALYSIS DATA
INDEX OF TROUBLE RECORDER CARD PUNCHES

PUNCH DESIGNATION	PUNCH LOCATION			CARD COORDINATES	FUNCTIONAL MEANING
	OS	FS	SD#		
2P			12-26001	S3 7	TWO PARTY
CHO-9	708-1		21-26001	R7 50-59	CHANNEL
CHE	710-1		20-26001	S8 35	CHANNEL END (JXPI OPERATED)
CK	702-1		3-26001	S8 41	CHECK
CKG			23-26001	S8 31	CHECK GROUND CLOSURE
CN			12-26001	R4 31	COIN CALL
CN-	701-1		2-26022	S6 10-13	CONNECTOR NUMBER
CON			24-26001	S7 44	CONTINUITY
CSO-29	705-1		12-26001	S2 30-59	CLASS OF SERVICE
CTO-2	705-1		12-26001	R1 25-27	CLASS TENS
CU $\frac{2}{5}$	705-1		12-26001	R0 25-29	CLASS UNITS
D			26-26001	S7 1	DIAL PULSE FRAME
DCT			23-26001	S7 46	DOUBLE CONNECTION TEST
DCT1			23-26001	S7 47	DOUBLE CONNECTION TEST NO. 1
DIS1			23-26001	S7 54	DISCONNECT NO. 1
DRO-9	631-1(2)		25805	S8 19-29	DISPLAY REGISTERED
DRTO-1	631-1(2)		25805	S7 19-20	DISPLAY REGISTERED TENS
DTK			11-26001	S8 55	DIAL TONE CHECK
EF	707-2		16-26001	S1 59	EXTENSION FRAME
FAK	710-1		22-26001	R8 50	FRAME "A" APPEARANCE CHECK
FCG			24-26001	S5 57	FALSE CROSS AND GROUND

TROUBLE ANALYSIS DATA
INDEX OF TREL REC'DR CARD PUNCHES
DIAL TONE CALL

RM 701-1 6 SHEETS, SHEET 1

NO.5 CROSSBAR

AMERICAN TELEPHONE & TELEGRAPH CO.

PRINTED IN U.S.A.

38-Y-4331

TROUBLE ANALYSIS DATA
INDEX OF TROUBLE RECORDER CARD PUNCHES (CONTD.)

PUNCH DESIGNATION	PUNCH LOCATION			CARD COORDINATES	FUNCTIONAL MEANING
	OS	FS	SD#		
FCK	702-1	2-26001		S8 39	FRAME CONNECTOR CHECK
FM	708-1	21-26001		S8 52	FAILURE TO MATCH
FML	702-1	2-26001		S8 42	FRAME MEMORY LOCK
FRO-9	701-1	2-26022		S6 0-9	CONNECTOR FRAME
FSO-19	702-1	3-26001		S1 30-49	FRAME SELECTION
FTO-3		10-26001		R1 0-3	FRAME TENS
FT'0-3		10-26001		R0 0-3	FRAME TENS PRIME
FTCK	702-1	2-26001		S8 40	FRAME TEST CHECK
FTK1		8-26001		S7 33	VERTICAL FILE TEST CHECK
FTTO-3		10-26001		S4 30-33	FRAME TENS TEST
FU $\frac{2}{5}$		10-26001		R1 4-8	FRAME UNITS
FU' $\frac{2}{5}$		10-26001		R0 4-8	FRAME UNITS PRIME
FUTO-9		10-26001		S4 34-43	FRAME UNITS TEST
GLH	710-1	20-26001		S7 43	GROUND LINE HOLD MAGNET
GT2	710-1	20-26001		S7 45	GROUND TEST AUXILIARY
GTL		13-26001		S8 33	GROUND TRANSMITTING LEADS
HG' $\frac{2}{5}$		9-26001		R0 15-19	HORIZONTAL GROUP
HGK		7-26001		S7 36	HORIZONTAL GROUP CHECK
HOTO-9		7-26001		S3 45-54	HORIZONTAL GROUP TEST
HMS1	710-1	20-26001		S7 39	HOLD MAGNET START NO. 1
HTK1		7-26001		S7 32	HORIZONTAL GROUP TEST CHECK

TROUBLE ANALYSIS DATA
INDEX OF TREL REC'DR CARD PUNCHES
DIAL TONE CALL
RM 701-1 .6 SHEETS, SHEET 2

TROUBLE ANALYSIS DATA
INDEX OF TROUBLE RECORDER CARD PUNCHES (CONTD.)

PUNCH DESIGNATION	PUNCH LOCATION			CARD COORDINATES	FUNCTIONAL MEANING
	OS	FS	SD#		
HTR		25-26001		S7 42	HEAVY TRAFFIC
JCO-9	707-1(2)	17-26001		R6 30-39	JUNCTOR CUT-IN
JCK	708-1	21-26001		S8 47	JUNCTOR CONNECTOR CHECK
JCO-4	706-1	16-26001		R6 40-44	JUNCTOR GROUP
LCO-9	710-1	1-26032		S0 50-59	LINK CONNECTOR
LCK	710-1	19-26001		S8 46	LINK CONNECTOR CHECK
LDT		25-26001		S7 59	LONG DELAY TIMER
LFK	703-1	11-26001		S7 35	LINE LINK FRAME CHECK
LK	707-1(2)	17-26001		S8 49	LEFT SIDE CHECK
LL ² / ₅		9-26001		S4 25-29	LINE LINKAGE
LTR	710-1	20-26001		S7 41	LIGHT TRAFFIC
LV2	710-1	1-26032		R8 52	LEVEL
LXPI	710-1	20-26001		S8 36	LINE CROSSPOINT NO. 1
MAK1	702-1	3-26001		S8 43	MARKER CONNECTOR CUT-IN
MAN		12-26001		S3 6	MANUAL
MKR	631-1(2)	25805		S8 15	MARKER
MF		26-26001		S7 2	MULTIFREQUENCY PULSE FRAME
MLF		26-26001		S7 0	MIXED LINE FRAME
MRL		26-26001		S7 55	MARKER RELEASE
OBS1		8-26001		S4 16	SERVICE OBSERVATION NO. 1
OBS2		8-26001		S4 17	SERVICE OBSERVATION NO. 2

TROUBLE ANALYSIS DATA
INDEX OF TREL REC'DR CARD PUNCHES
DIAL TONE CALL
RM 701-1 6 SHEETS, SHEET 3

NO.5 CROSSBAR

AMERICAN TELEPHONE & TELEGRAPH CO.

PRINTED IN U.S.A.

38-Y-4331

TROUBLE ANALYSIS DATA
INDEX OF TROUBLE RECORDER CARD PUNCHES (CONTD.)

PUNCH DESIGNATION	PUNCH LOCATION			CARD COORDINATES	FUNCTIONAL MEANING
	OS	FS	SD#		
PO-9	706-1	14-26001		R6 50-59	PATTERN NUMBER
PA	706-1	18-26001		R6 47	PATTERN A
PB		18-26001		R6 48	PATTERN B
PC		18-26001		R6 49	PATTERN C
PNR	706-1	18-26001		R6 46	PATTERN NORMAL
PR	706-1	16-26001		S1 57	PAIRED FRAME
RA		27-26001		S8 54	ROUTE ADVANCE
RCY		27-26001		S8 53	RECYCLE
RF	707-2	16-26001		S1 58	REGULAR FRAME
RK	707-1(2)	17-26001		S8 50	RIGHT SIDE CHECK
RK1		13-26001		S8 56	REGISTRATION CHECK NO. 1
RK2		13-26001		S8 57	REGISTRATION CHECK NO. 2
RK3		13-26001		S8 58	REGISTRATION CHECK NO. 3
SDT		25-26001		S7 58	SHORT DELAY TIMER
SF	706-1	16-26001		S1 56	SINGLE FRAME
SL	710-1	20-26001		S7 40	SLEEVE (TRUNK LINK FRAME)
SNK		27-26001		S8 59	SELECTION AND NORMAL CHECK
SQA		15-26001		S5 58	SEQUENCE ADVANCE
STP1	708-1	21-26001		R5 30	JUNCTOR STEP NO. 1
STP2	708-1	21-26001		R5 31	JUNCTOR STEP NO. 2
TBO	704-1	4-26001		S1 50	TRUNK BLOCK
TBK	704-1	4-26001		S8 44	TRUNK BLOCK CHECK

TROUBLE ANALYSIS DATA
INDEX OF TROUBLE RECORDER CARD PUNCHES (CONTD.)

PUNCH DESIGNATION	PUNCH LOCATION			CARD COORDINATES	FUNCTIONAL MEANING
	OS	FS	SD#		
TCL			28-26001	S8 34	TRAFFIC CONTROL NO. 1
TCHK	706-1		18-26001	S8 48	TEST CHANNEL CHECK
TGO			26-26001	R8 30	TRUNK GROUP
TK	708-1		21-26001	S8 51	TEST CHECK
TR2			26-26001	S4 15	SECOND TRIAL
TRK			26-26001	S4 14	FIRST TRIAL CHECK
TRL			26-26001	S7 52	TROUBLE RELEASE
TRS			26-26001	S8 12	TRANSFER START
TSO-9	704-1		4-26001	S0 30-39	TRUNK SELECTED
TSE	704-1		5-26001	S8 45	TRUNK SELECTION END
VF'0-4			9-26001	R0 20-24	VERTICAL FILE
VFTO-4	705-1		8-26001	S3 55-59	VERTICAL FILE TEST
VG' $\frac{2}{6}$			9-26001	R0 9-14	VERTICAL GROUP PRIME
VGTO-11			6-26001	S3 30-41	VERTICAL GROUP TEST
VTkl			6-26001	S7 31	VERTICAL GROUP TEST CHECK
WT			25-26001	S7 57	WORK TIMER
XBT			30-26001	S5 53	CROSS BUSY TONE
XCH			30-26001	S6 57	CROSS CHANNEL TEST
XCS			30-26001	S5 32	CROSS CLASS OF SERVICE
XF			30-26001	S6 50	CROSS FRAME

TROUBLE ANALYSIS DATA
INDEX OF TREL REC'DR CARD PUNCHES
DIAL TONE CALL

RM 701-1

6 SHEETS, SHEET 5

NO.5 CROSSBAR

AMERICAN TELEPHONE & TELEGRAPH CO.

PRINTED IN U.S.A.

TROUBLE ANALYSIS DATA
INDEX OF TROUBLE RECORDER CARD PUNCHES (CONTD.)

PUNCH DESIGNATION	PUNCH LOCATION			CARD COORDINATES	FUNCTIONAL MEANING
	OS	FS	SD#		
XHG			30-26001	S5 30	CROSS HORIZONTAL GROUP
XJC			30-26001	S6 42	CROSS JUNCTOR CONNECTOR LEADS
XJG			30-26001	S6 43	CROSS JUNCTOR GROUP LEADS
XJS			30-26001	S6 44	CROSS JUNCTOR SELECT MAGNETS
XLC			30-26001	S6 47	CROSS LINK CONNECTOR
XLG			30-26001	S5 31	CROSS LINE GROUP
XLR			30-26001	S6 45	CROSS LEFT AND RIGHT SIDES
XLS			30-26001	S5 33	CROSS LINE SELECT MAGNETS
XLV			30-26001	S6 48	CROSS LEVEL LEADS
XPG			30-26001	S5 44	CROSS PATTERN GROUP
XSL			30-26001	S6 51	CROSS SLEEVE TRUNK
XTC			30-26001	R1 48	CROSS TRUNK CONTROL
XTCL			30-26001	S5 50	CROSS TRAFFIC CONTROL AUXILIARY
XTGL			30-26001	S6 41	CROSS TRUNK GROUP LEADS
XTRK			30-26001	S5 51	CROSS FIRST TRIAL CHECK LEAD
XTRL			30-26001	S5 52	CROSS TROUBLE RELEASE
XTS			30-26001	S6 46	CROSS TRUNK SWITCH SELECT MAGNETS
XTSL			30-26001	S6 52	CROSS TRUNK SELECTION
XVGA			30-26001	S6 58	CROSS VERTICAL GROUP A
XVGB			30-26001	S6 59	CROSS VERTICAL GROUP B

