31.25

SHEET INDEX

CONTENTS	SHEET NO.	ISSUE NO. 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
SHEET INDEX SUPPORTING INFORMATION OPTION INDEX	A1	1																								
FS 1 SPEECH CIRCUIT FS 2 CONTROL CIRCUIT FS 3 RECORDER CIRCUIT	B1	1																								
FS 4 AMPLIFIER INPUT CIRCUIT FS 6 AMPLIFIER OUTPUT CIRCUIT FS 7 MISCELLANEOUS CIRCUIT FS 8 POWER CIRCUIT	B2	1																								
FS 9 AMPLIFIER FS 10 CONNECTING CIRCUIT FS 11 AUXILIARY CIRCUIT	B3	1																								
APP FIG. 1	C1	1																								
APP FIG. 2	C2	1																								
APP FIG. 4,5	C3	1																								
CIRCUIT NOTES INFORMATION NOTES	D1	1																								
SC 1 ANNOUNCEMENT RECORD	E1	1																								
SC 2 ANNOUNCEMENT REPRODUCE	E2	1																								
SC 2 ANNOUNCEMENT REPRODUCE QUICK START OPTION Q.	E3	1																								
CIRCUIT REQUIREMENT TABLE	F1	1																								

CONTENTS	SHEET NO.	ISSUE NO. 26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50

DWG ISSUE	CD ISSUE	DATE ISSUED	DRAWN	APPD
1	1	10-23-80	CDI FCR	JPK RTS LA

OPTION INDEX

APP OR WRG	LOCATION	APP OR WRG	LOCATION
Z	1G6	G	2G4
Y	1G6	F	1B4,1D1,2G1,2G4
X	2A9		1A4,1E0
W	2A9		
V	1B0,1C0		
S	2G4		
R	1D0		
P	2G4	A	1F1
N	1A2		
Q	1B4,1C4,1D4,1F4 2G4,2H3,2G1		
H	2G4,2H6		

SUPPORTING INFORMATION

CATEGORY	NO.

SHEET INDEX NOTES

1. WHEN CHANGES ARE MADE IN THIS DRAWING ONLY THOSE SHEETS AFFECTED WILL BE REISSUED.
2. THIS SHEET INDEX WILL BE REISSUED AND BROUGHT UP TO DATE EACH TIME ANY SHEET OF THE DRAWING IS REISSUED, OR A NEW SHEET IS ADDED.
3. THE ISSUE NUMBER ASSIGNED TO A CHANGED OR NEW SHEET WILL BE THE SAME ISSUE NUMBER AS THAT OF THE SHEET INDEX.
4. SHEETS THAT ARE NOT CHANGED WILL RETAIN THEIR EXISTING ISSUE NUMBER.
5. THE LAST ISSUE NUMBER OF THE SHEET INDEX IS RECOGNIZED AS THE LATEST ISSUE NUMBER OF THE DRAWING AS A WHOLE.

NOTICE – NOT FOR USE OR DISCLOSURE OUTSIDE THE BELL SYSTEM EXCEPT UNDER WRITTEN AGREEMENT.

INO1

COMMON SYSTEMS

ANNOUNCEMENT CIRCUIT
EMPLOYING KS-16765 LIST 12 ANNOUNCEMENT SET

AT&TCO STANDARD

DWG SIZE 6S

ISSUE /

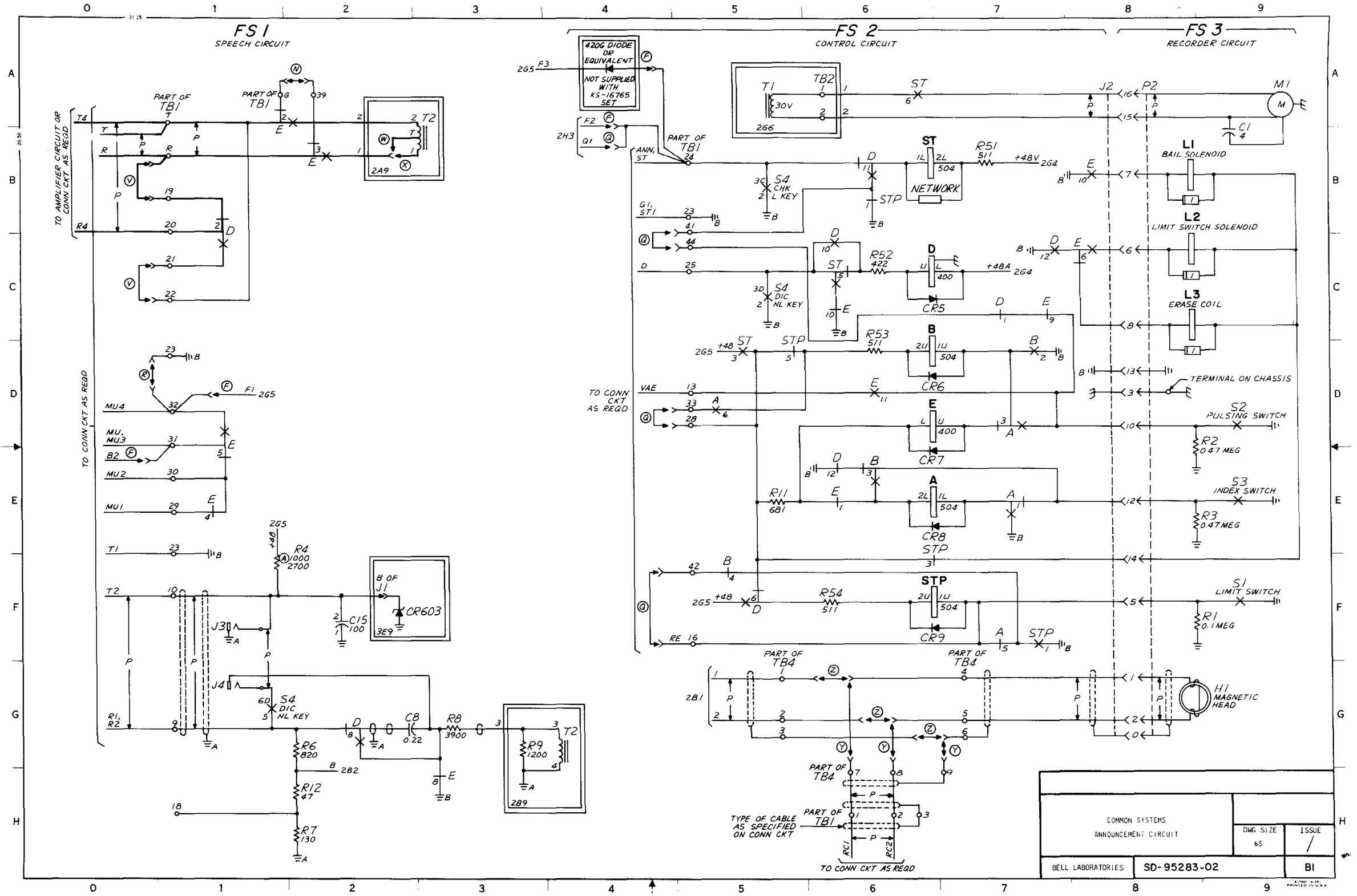
BELL LABORATORIES

SD-95283-02

A1
12 SHEETS

E-7500 (6-76)
PRINTED IN U.S.A.

TCI Library www.telephonecollectors.info



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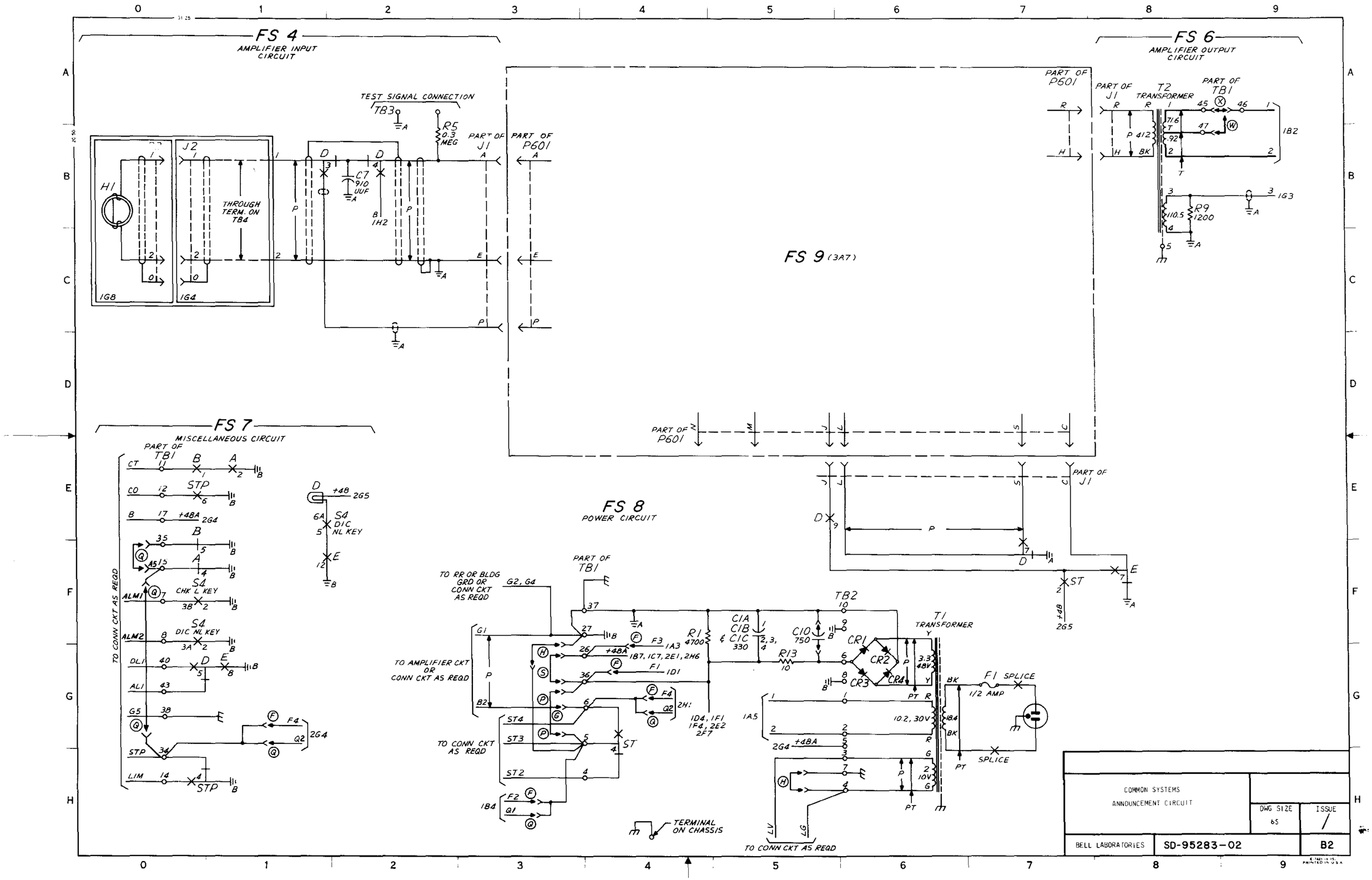

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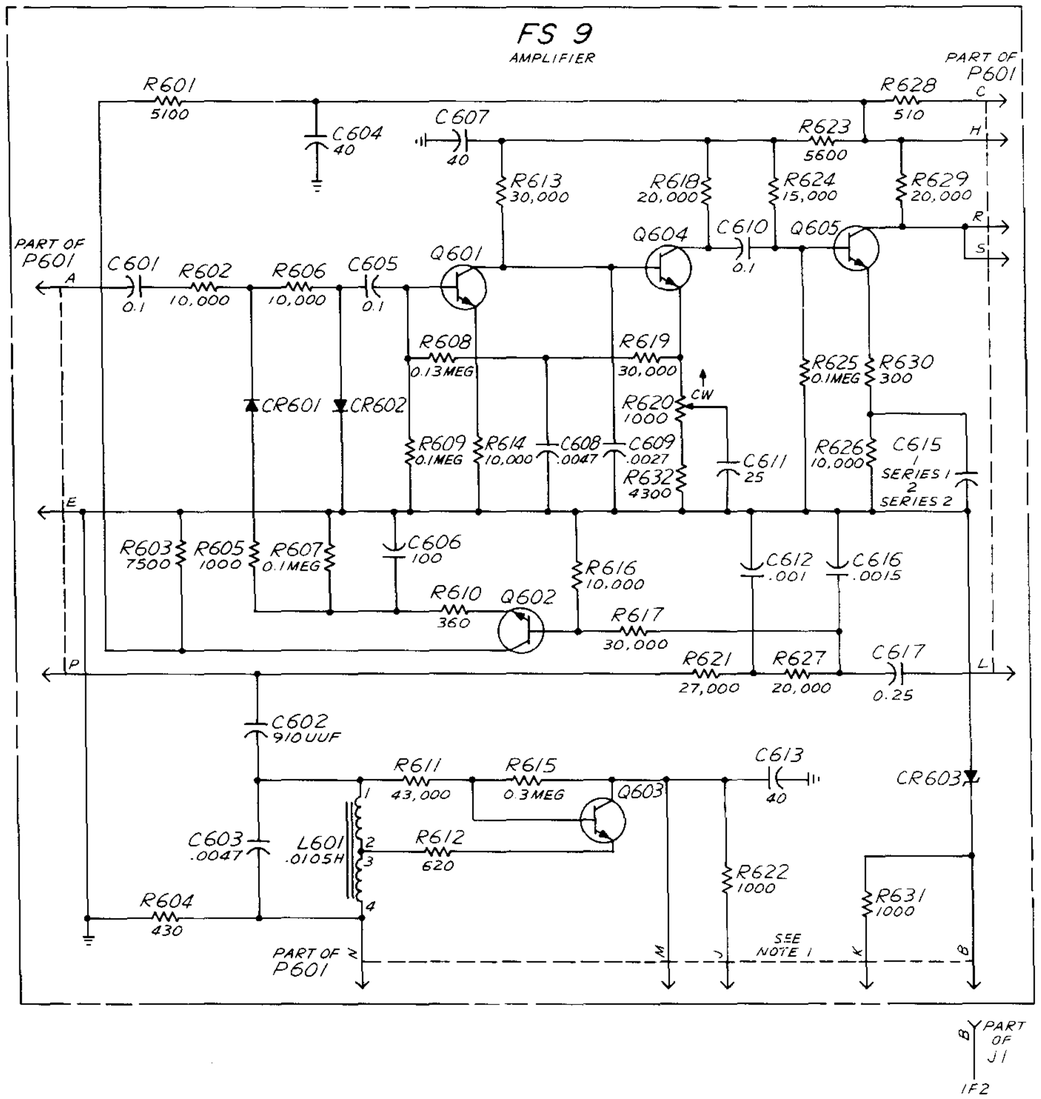

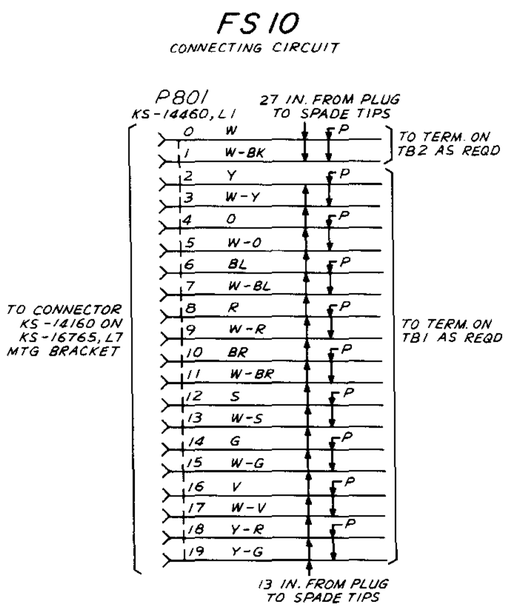

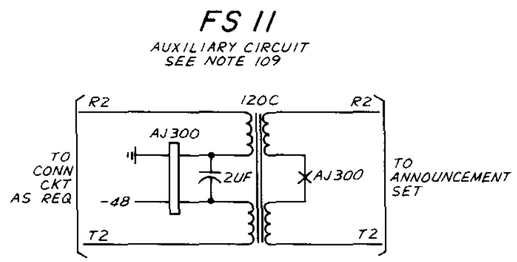

NOTES:

1. K TERMINAL NOT USED IN LIST 12 ANNOUNCEMENT SET: USED IN LIST 11 ONLY. (SEE 3F9).

COMMON SYSTEMS ANNOUNCEMENT CIRCUIT	DWG SIZE 6S	ISSUE 1
BELL LABORATORIES	SD-95283-02	B3

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APP FIG. 1

RELAY

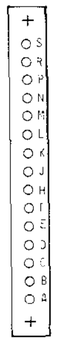
DESIG	A		B				D		E				ST		STP												DESIG
CODE	BF 19		BF 19				BJ 24		BJ 24				BF 19		BF 19												CODE
OPTION																											OPTION
	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARRR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC	CONT ARR	LOC			
12							EBM	a	EBM	2F1																	12
11							EBM	1B6	EBM	1D6																	11
10							EBM	1B6	EBM	b																	10
9							EBM	2E5	EBM	1D7																	9
8							EBM	1G2	EBM	a																	8
7							EBM	2F7	EBM	2F8																	7
6	M	1E5	M				EBM	1F5	EBM	1C8			M	1A6	M	2E0											6
5	EBM	1F7	EBM	2F0			EBM	2G0	EBM	1D1			EBM	1C6	EBM	1D5											5
4	EMB	2F0	EMB	1F5			EBM	2B2	EBM	1E1			EMB	2G4	EMB	2H0											4
3	EBM	1D7	EBM	1E6			EBM	2B1	EBM	1B1			EBM	1D5	EBM	1F6											3
2	M	2E1	M	1D7			EBM	1B1	EBM	1A1			M	2F7	M												2
1	EMB	1E7	EMB	2E0			EBM	1C7	EBM	1E6			EMB		EMB	a											1
COIL		1E6		1C6				1C6		1D6				1B6		1F6											COIL
							a	1C7 1E6	a	1H2 2G1					a	1B6 1F7											
									b	1B8 1C6																	

CAPACITOR

	DESIG	LOC	CODE
(1)	C1A	2F	SPRAGUE,D-27842
	C1B	2F	
	C1C	2F	
	C7	2B2	SANGAMO,CM20D911J
	C8	1G2	SPRAGUE,96P22401S2
	C10	2F6	SPRAGUE,39D75T0075JL0
	C15	1F2	SPRAGUE,40D107G012D04

CONNECTOR

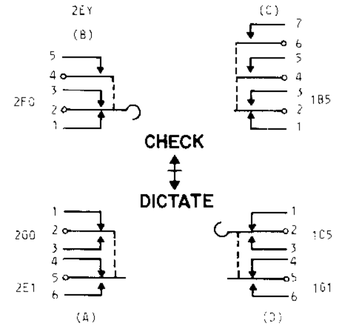
KS-16345 L2



DESIG	J1	
CONN	SOCKET	
OPTION		
	NO.	LOC
	S	2E7
	R	2A8
	P	2C3
	N	
	M	
	L	2E6
	K	
	J	2E5
	H	2B8
	F	
	E	2C3
	D	
	C	2E7
	B	3F9
	A	2B3

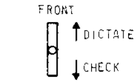
KEY UNIT

S4

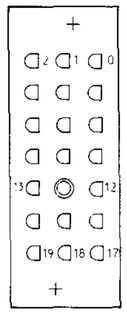


KEY UNIT TOP

S4



KS-14173 L1



DESIG	J2	
CONN	SOCKET	
OPTION		
	NO.	LOC
	19	
	18	-
	17	-
	16	1A8
	15	1A8
	14	1F8
	13	1D8
	12	1E8
	11	-
	10	1D8
	9	-
	8	1C8
	7	1B8
	6	1C8
	5	1F8
	4	-
	3	1D8
	2	1D8
	1	1D8
	0	1D8

CORD & PLUG

POWER

DESIG	LOC	CODE
PG1	2G8	B-650422-1 OR EQUIV

FUSE

DESIG	LOC	CODE
F1	2G7	BUSSMAN,AGC 1/2 AMP

JACK

DESIG	LOC	CODE
J3	1F1	223A
J4	1G1	223A

LAMP

DESIG	LOC	CODE
D	2E1	2Y

NETWORK

DESIG	LOC	CODE
ST	2B6	185A

RECTIFIER

DESIG	LOC	CODE
CR1	2F6	1N4003
CR2	2F6	1N4003
CR3	2F6	1N4003
CR4	2F6	1N4003
CR5	1C6	458A
CR6	1D6	458A
CR7	1D6	458A
CR8	1E6	458A
CR9	1F6	458A

TRANSFORMER

DESIG	LOC	CODE
T1	2F7	E-517091 (POWER)
T2	2A8	529B (OUTPUT)

RESISTOR

DESIG	LOC	CODE
R1	2F5	4700Ω ±10%,GB,ALLEN-BRADLEY
		(A) 1000Ω ±10%,GM
R4	1F1	2700Ω ±10%,HB
R5	2A2	0.3 MEG ±5%,EB — ALLEN-BRADLEY
R6	1G1	820 ±5%,GB
R7	1H1	130Ω ±5%,EB
R8	1G3	3900Ω ±5%,EB — ALLEN-BRADLEY
R9	2B9	1200Ω ±5%,EB
R11	1E5	681Ω,WARD LEONARD,AXI OHM-5X
R12	1H1	47Ω ±5%,EB,ALLEN-BRADLEY
R13	2F6	10Ω ±5%,KS-14603,L3A
R51	1B7	511Ω ±5%,KS-20289 L6C,511
R52	1C6	422Ω ±5%,KS-20289 L6C,422
R53	1D6	511Ω ±5%,KS-20289 L6C,511
R54	1F6	511Ω ±5%,KS-20289 L6C,511

TERMINAL BOARD

DESIG	TB1						TB2		TB3		TB4	
CODE	840851786						840851786		THERMIONIC CORP 160-2041-02-01-00		840851786	
	NO.	LOC	NO.	LOC	NO.	LOC	NO.	LOC	NO.	LOC	NO.	LOC
	G	1A1	17	2E0	34	2H0	1	2G6	-	2A2	1	1G5
	R	1B0	18	1H0	35	2F1	2	2G6	-	2A2	2	1G5
	T	1A0	19	1B0	36	2G4	3	2H6			3	1G5
	1	1H6	20	1B0	37	2F4	4	2H6			4	1G7
	2	1H6	21	1C0	38	2G0	5	2H6			5	1G7
	3	1H6	22	1C0	39	1A1	6	2G6			6	1G7
	4	2H4	23	1B4/	40	2G0	7	2H6			7	1H6
	5	2G4		1D0/	41	2C4	8	2G6			8	1H6
	6	2G4		1F0	42	1F4	9	2F6			9	1H6
	7	2F0	24	1B4	43	2G0	10	2F6				
	8	2G0	25	1C4	44	1C4						
	9	1G0	26	2G4	45	2A9						
	10	1F0	27	2F4	46	2A9						
	11	2E0	28	2D4	47	2A9						
	12	2E0	29	1E0								
	13	1D4	30	1E0								
	14	2H0	31	1D0								
	15	2E0	32	1D0								
	16	1F4	33	1D4								

SHEET NOTE:

1. UNLESS OTHERWISE SPECIFIED "B" OR "L" NUMBERS REFERRED TO ARE WECo.DRAWING NUMBERS;ORDER AS FOLLOWS:"B" OR "L" (NO.) (PART OF KS-16765,L12)

COMMON SYSTEMS ANNOUNCEMENT CIRCUIT	DWG SIZE 6S	ISSUE /
BELL LABORATORIES	SD-95283-02	C1

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APP FIG. 2

(FS 3)

KS-16765,L3 RECORDER

SOLENOID

B-190918

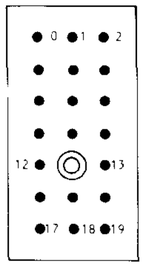
L1	L2
1B8	1C8

CAPACITOR

DESIG	LOC	CODE
C1	1A9	F54Y605JT-10 GUDEMAN

CONNECTOR

CINCH, 14586



DESIG	P2	
CONN	PLUG	
OPTION		
	NO.	LOC
	19	
	18	
	17	
	16	1A8
	15	1A8
	14	1F8
	13	1D8
	12	1E8
	11	
	10	1D8
	9	
	8	1C8
	7	1B8
	6	1C8
	5	1F8
	4	
	3	1D8
	2	1G8
	1	1G8
	0	1G8

ERASE COIL

L3

B 190922

1C8

HEAD

DESIG	LOC	CODE
H1	1G8	B-191264

MOTOR

DESIG	LOC	CODE
M1	1A9	L-517092 PART OF B-650412 DRIVE ASSEMBLY

NETWORK

DESIG	LOC	CODE
L1	1B8	185A
L2	1C8	
L3	1D8	

RESISTOR

DESIG	LOC	CODE	
R1	1F8	0.1 MEG	ALLEN BRADLEY, EB, ±10%
R2	1D8	0.47 MEG	
R3	1E8	0.47 MEG	

SWITCH

B-191179	B 190969-1	B-19069-2
S1	S2	S3
1F9	1D9	1E9

NOTES:

1. UNLESS OTHERWISE SPECIFIED "B" & "L" NUMBERS REFERRED TO ARE WECo DRAWING NUMBERS: ORDER AS FOLLOWS,"B" (OR "L") (DWG NO.) PART OF KS-16765 L12.

COMMON SYSTEMS ANNOUNCEMENT CIRCUIT	DWG SIZE 6S	ISSUE /
BELL LABORATORIES	SD-95283-02	C2

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APP FIG. 4

(FS 9)

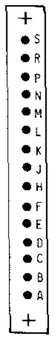
KS-16765,L6 AMPLIFIER (PRINTED WIRING BOARD ASSEMBLY)

CAPACITOR

DESIG	LOC	CODE
C601	3B5	356C104K GUDEMAN
C602	3D6	CM20D911J ELECTRO MOTIVE
C603	3E6	35D822J OR EQUIV
C604	3A6	KS-16390,L8
C605	3B6	356C104K GUDEMAN GUDEMAN
C606	3C6	40D107F003 SPRAGUE OR EQUIV
C607	3A7	KS-16390,L8
C608	3C7	356C472J GUDEMAN OR EQUIV
C609	3C8	356C272J GUDEMAN OR
C610	3B8	356C104K EQUIV
C611	3C8	40D256F012 SPRAGUE OR EQUIV
C612	3C8	CM20D102J ELECTRO MOTIVE
C613	3E8	KS-16390,L8
C615	3C9	40D205F050 SERIES 1 / 40D205F050 SERIES 2 — SPRAGUE OR EQUIV
C616	3C9	356C152J GUDEMAN OR EQUIV
C617	3D9	542C

CONNECTOR

KS-16345 L1



DESIG	P601	
CONN	PLUG	
OPTION		
	TERM.	LOC
	S	3B9
	R	3B9
	P	3D5
	N	3F6
	M	3F8
	L	3D9
	K	3F9
	J	3F8
	H	3A9
	F	
	E	3C5
	D	
	C	3A9
	B	3F9
	A	3B5

DIODE

DESIG	LOC	CODE
CR601	3C6	1N1692 GEN ELEC OR EQUIV
CR602	3C6	
CR603	3E9	446C

RESISTOR

DESIG	LOC	CODE
R601	3A5	5100Ω
R602	3B6	10,000Ω
R603	3C5	7500Ω
R604	3E5	430Ω
R605	3C6	1000Ω ALLEN BRADLEY, EB, ±5% OR EQUIV
R606	3B6	10,000Ω
R607	3C6	0.1 MEG
R608	3B7	0.13 MEG
R609	3C7	0.1 MEG
R610	3D7	360Ω
R611	3E7	43,000Ω
R612	3E7	620Ω
R613	3A7	30,000Ω
R614	3C5	1000Ω
R615	3E7	0.3 MEG
R616	3C7	10,000Ω

INDUCTOR

DESIG	LOC	CODE
L601	3E6	1589B

RESISTOR (CONT)

DESIG	LOC	CODE
R617	3D8	30,000Ω
R618	3A8	20,000Ω
R619	3B8	30,000Ω
R621	3D8	27,000
R622	3E8	1000Ω ALLEN BRADLEY, EB, ±5% OR EQUIV
R623	3A8	5600Ω
R624	3A8	15,000Ω
R625	3B8	0.1 MEG
R626	3C9	10,000Ω
R627	3D8	20,000Ω
R628	3A9	510Ω
R629	3A9	20,000Ω
R630	3B9	300Ω
R631	3E9	1000Ω
R632	3C8	4300Ω

POTENTIOMETER

DESIG	LOC	CODE
R620	3C8	RV4NAXSB1020, TYPE J — ALLEN BRADLEY OR EQUIV

TRANSISTORS

DESIG	LOC	CODE
Q601	3B7	2N3415 GEN ELEC
Q602	3D7	2N697 FAIRCHILD
Q603	3E7	2N699 GEN ELEC
Q604	3B8	2N3415 GEN ELEC
Q605	3B8	2N697 FAIRCHILD

APP FIG. 5

(FS 10)

CORD

DESIG	LOC	CODE
CC1	3E1	KS-16765,L8

COMMON SYSTEMS ANNOUNCEMENT CIRCUIT	DWG SIZE 6S	ISSUE /
BELL LABORATORIES SD-95283-02		C3

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CIRCUIT NOTES:

101.

DESIG	FUSE AMP	POTENTIAL	ONE PER

BATTERY SYMBOL	VOLTAGE RANGE

102.

FEATURE OR OPTION		PROVIDE		
		APP FIG.	APP OR WRG	QUANTITY
KS-16765, ANNOUNCEMENT SET		1,2,4		1 PER SET
KS-16765,L3 RECORDER		2		AS REQD
KS-16765,L6 AMPLIFIER		4		AS REQD
KS-16765,L8 CORD		5		SEE NOTE 106
RECORD-REPRODUCE AMPLIFIER	INTERNAL		*Z	
	EXTERNAL		Y	REMOVE Z
NOMINAL OUTPUT	600Ω		*X	
	20Ω		W	REMOVE X
MUTING OF OUTPUT DURING RECORDING			V	
INTERNAL 48V DC SUPPLY			S	SEE NOTE 110
LEAD MU (MU3) GROUNDED			R	
LEADS T AND R MUTED			N	
USE WITH KS-16754 AMPLIFIER			N,V W,Z	
48V POWER SUPPLY TO CONNECTING CKT			P	
AUTOMATIC CALL DISTRIBUTING SYSTEM NO. 2A AND 2B			H, A	SEE NOTE 108
RECEIVER OFF HOOK TONE CONNECTING CIRCUIT FOR S X S			F	REMOVE R REMOVE P REMOVE G REMOVE Q SEE NOTE 107
STD WIRING WHEN OPTION F IS NOT USED			G	
MINIMUM DELAY "START TIME" FOR SINGLE CYCLE ANNOUNCEMENT			Q	REMOVE F

* SEE NOTE 105

CIRCUIT NOTES:(CONT)

103.

NETWORK VALUES		
NETWORK NO.	RESISTANCE IN OHMS	CAPACITANCE IN UF
1	470	0.11

104.

RECORD OF APP FIGURES, WIRING AND APPARATUS CHANGES							
CHANGED ON ISS	IF JOB RECORDS DO NOT SPECIFY	THIS OPTION WAS FURN	SEE NOTE	USE IN CIRCUIT			
				STD	A&M	MD	

105. OPTIONS Z AND X ARE FURNISHED WITH SETS AS MANUFACTURED AND SHOULD BE LEFT IN PLACE UNLESS OTHERWISE SPECIFIED.

106. KS-16765,L8 CORD ORDERED AS REQUIRED.

107. OPTION F PROVIDES +48V DC POWER TO CONNECTING CIRCUIT ON LEAD B2 AT PUNCHING 31, TB1, WHEN THE BAIL SOLENOID OPERATES.

108. OPTION A PROVIDES SUFFICIENT CURRENT CAPABILITY ON T2 AND R2 LEADS FOR REMOTE RECORDING FROM SUPERVISORS CONSOLE IN 2A AND 2B ACD'S. OPTION H APPLICABLE TO ACD NO. 2B.

109. IN SOME LOCAL SITUATIONS WHERE THE ANNOUNCEMENT SET IS LOCATED SEVERAL HUNDRED FEET FROM THE RECORDING INSTRUMENT, IT MAY BE DESIRABLE TO INSTALL AN ISOLATION TRANSFORMER IN THE TIP AND RING LEADS TO REDUCE NOISE PICKUP DURING THE RECORDING PROCESS. THIS WILL REDUCE THE NOISE LEVEL IN THE REPRODUCED MESSAGE. SUCH ACTION SHOULD BE TAKEN ONLY IN THOSE CASES WHERE IT IS FOUND TO BE WARRANTED. A 120C REPEATING COIL OR EQUIVALENT TRANSFORMER IS RECOMMENDED FOR THIS PURPOSE. IT SHOULD BE LOCATED AS CLOSE TO THE ANNOUNCEMENT SET AS POSSIBLE. THE OUTPUT TERMINALS OF THE TRANSFORMER SHOULD BE CONNECTED TO TERMINALS T2 (10) AND R2 (9). PROVISION FOR DC TALK POWER TO THE TRANSMITTER IN THE RECORDING INSTRUMENT MUST BE MADE LOCALLY.

110. WHEN KS-16765,L12 IS USED WITH H400-197 EQUIPMENT ASSEMBLY, S OPTION MUST BE APPLIED.

INFORMATION NOTES:

301. UNLESS OTHERWISE SPECIFIED:
RESISTANCE VALUES ARE IN OHMS.
CAPACITANCE VALUES ARE IN MICROFARADS
VALUES PRECEDED BY THE SYMBOL + (PLUS) OR - (MINUS) ARE IN VOLTS.

COMMON SYSTEMS ANNOUNCEMENT CIRCUIT	DWG SIZE 6S	ISSUE /
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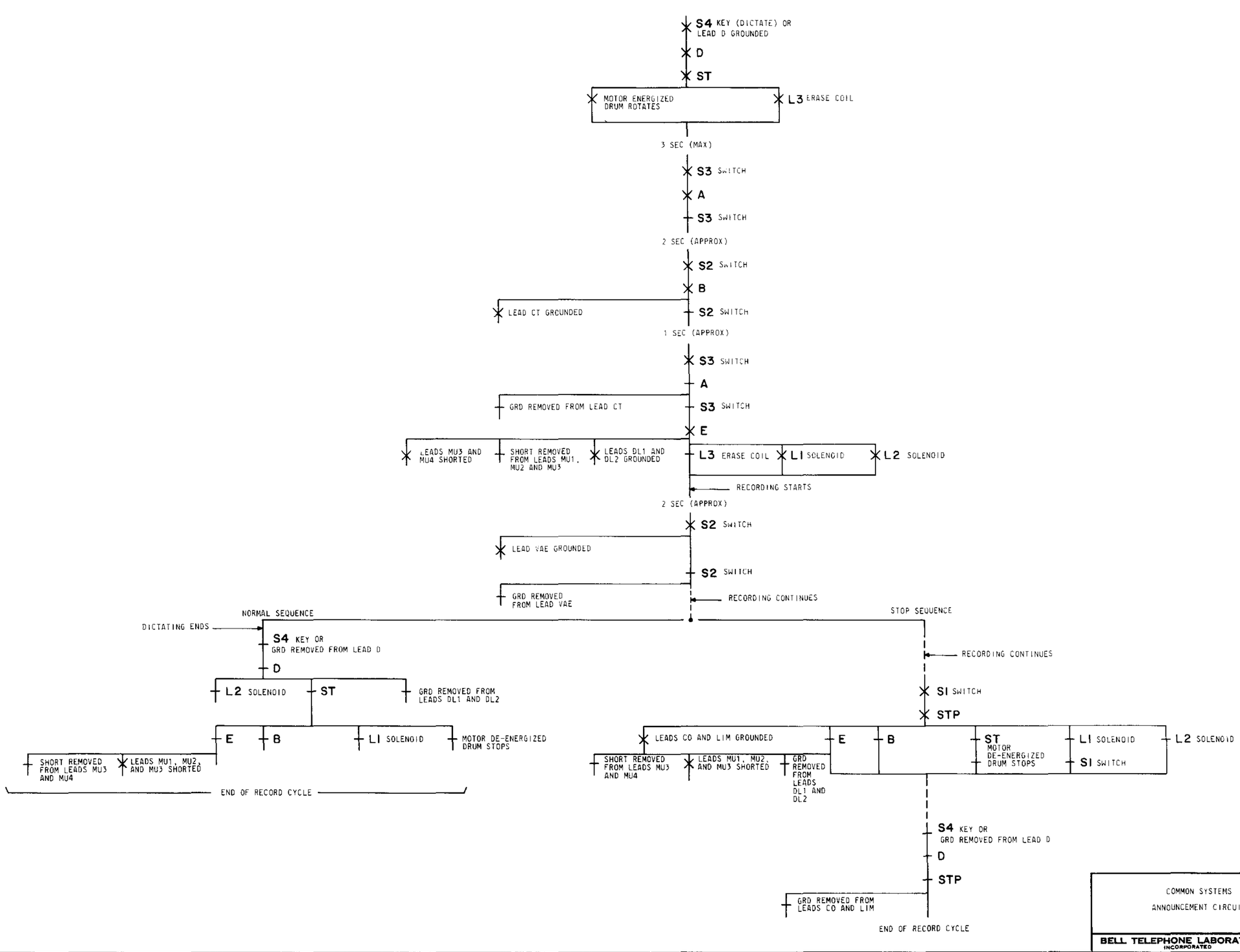

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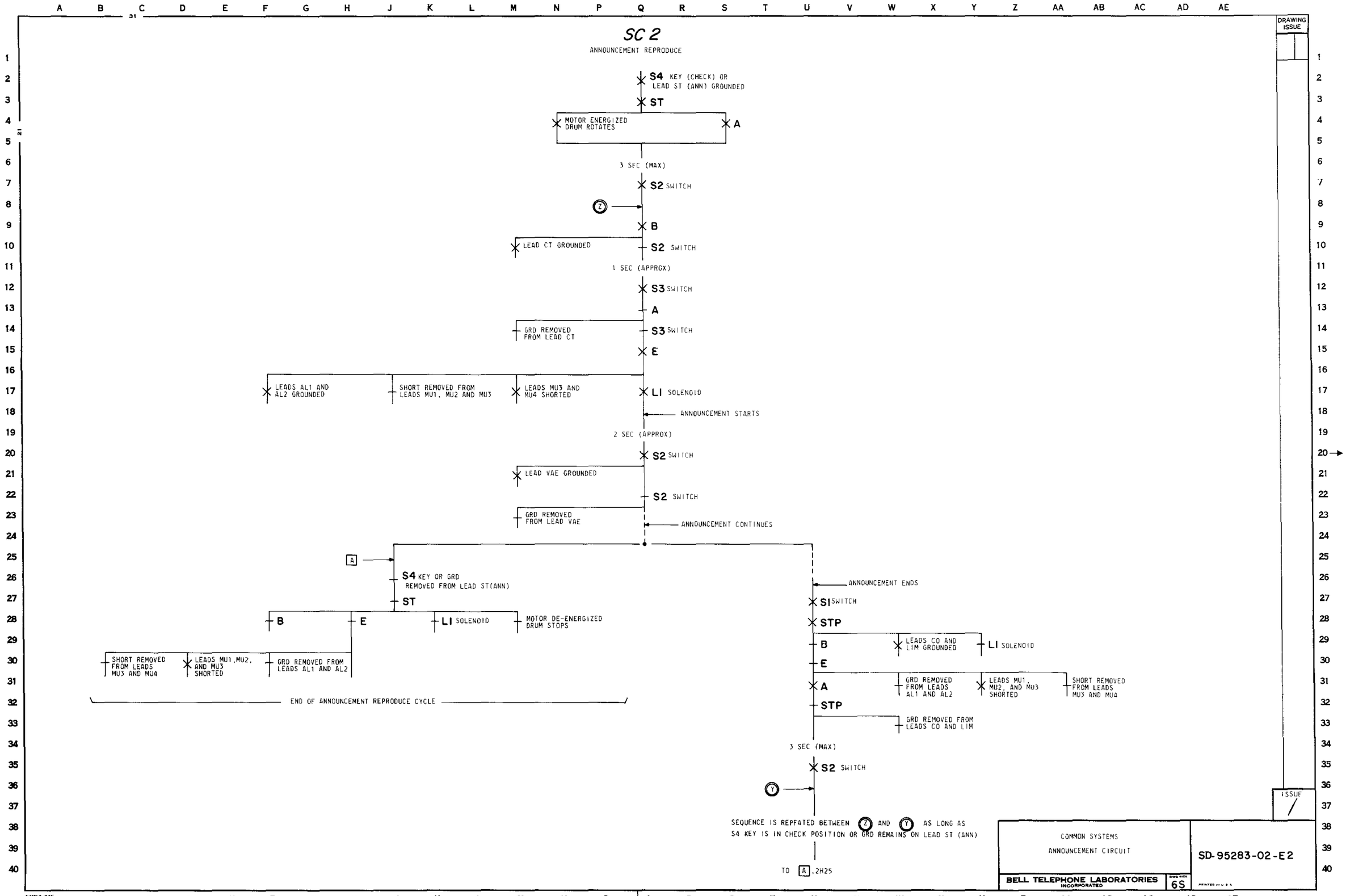

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SC 2

MINIMUM DELAY "START TIME"
SINGLE CYCLE ANNOUNCEMENT
(U OPTION)

- **S4** KEY (CHECK) OR LEAD ST (ANN) GROUNDED MOMENTARILY
- **ST**
- MOTOR ENERGIZED DRUM ROTATES — **A**
- **B**
  - LEAD CT GROUNDED
- 1 SEC (APPROX)
- **S3** SWITCH
- **A**
  - GRD REMOVED FROM LEAD CT — **S3** SWITCH
- **E**
  - LEADS AL1 AND AL2 GROUNDED
  - SHORT REMOVED FROM LEADS MU1, MU2 AND MU3
  - LEADS MU3 AND MU4 SHORTED
- **L1** SOLENOID
- ANNOUNCEMENT STARTS
- 2 SEC (APPROX)
- **S2** SWITCH
  - LEAD VAE GROUNDED
- **S2** SWITCH
  - GRD REMOVED FROM LEAD VAE
- ANNOUNCEMENT ENDS
- **S1** SWITCH
- **STP**
- **S1** SWITCH — LEADS CO AND LIM GROUNDED — **L1** SOLENOID
- **B**
- **E**
- **A** — GRD REMOVED FROM LEADS AL1 AND AL2 — LEADS MU1, MU2, AND MU3 SHORTED — SHORT REMOVED FROM LEADS MU3 AND MU4
- 3 SEC (MAX)
- **S2** SWITCH
- **B**
- **ST**
- **STP**
- **A** — GRD REMOVED FROM LEADS CO AND LIM — MOTOR DEENERGIZED DRUM STOPS
- **B**
- **S2** SWITCH

END OF ANNOUNCEMENT REPRODUCE CYCLE

DRAWING ISSUE

ISSUE /

COMMON SYSTEMS
ANNOUNCEMENT CIRCUIT

SD-95283-02-E3

BELL TELEPHONE LABORATORIES INCORPORATED

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