SHEET INDEX

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SYMBOL
SERIAL PERIPHERAL INTERFACE B
ELEMENT IDENT
A

TERM. MOD	FUNCT	TERM.	LOC	TERM. MOD	FUNCT	TERM.	LOC
101ST0	I	309	2A7	B100	Ø	114	2G2
INF000	I	215	2A7	B110	Ø	103	2G2
INF010	I	314	2A7	B120	Ø	004	2G2
INF020	I	211	2A6	B130	Ø	005	2G1
INF030	I	310	2A6	B140	Ø	018	2G1
INF040	I	116	2A5	B150	Ø	002	2G0
INF050	I	214	2A5	BPH0	Ø	102	2G0
INF060	I	205	2A4	BPL0	Ø	107	2G4
INF070	I	304	2A4	MYSAN	Ø	118	3H0
INF080	I	301	2A4	MYSAP	Ø	218	3H0
INF090	I	003	2A3	MYSBN	Ø	219	3H1
INF100	I	010	2A2	MYSBP	Ø	318	3H1
INF110	I	109	2A2	RSHP0A	Ø	105	2G6
INF120	I	207	2A2	SCB010	Ø	017	2G7
INF130	I	307	2A1	SCB020	Ø	115	2G7
INF140	I	312	2A1	SPE1	Ø	315	3H7
INF150	I	212	2A0	ST@PB0	Ø	005	2G8
INFPH0	I	203	2A0	3VI	Ø	201	3D9
INFPL0	I	206	2A3	+5	P	000,119	3H5
MYRAN	I	311	3A0	GRD	G	200,319	3H7
MYRAP	I	213	3A0				
MYRBN	I	208	3A1				
MYRBP	I	308	3A0				
PLI@B0	I	317	2A0				
RSETD1	I	006	3A3				
STRTR1	I	217	3A7				
B000	Ø	113	2G7				
B010	Ø	014	2G7				
B020	Ø	100	2G6				
B030	Ø	117	2G6				
B040	Ø	016	2G5				
B050	Ø	101	2G5				
B060	Ø	001	2G4				
B070	Ø	104	2G4				
B080	Ø	008	2G3				
B090	Ø	313	2G3				

RECORD OF CHANGES

DWG ISS	PREV FURN	STD	MFR DISC	SEE NOTE

SYSTEM USED ON	DESIGN CONTROL
COMMON SYSTEMS	IH

CURRENT DRAIN: 600mA

NOTES:

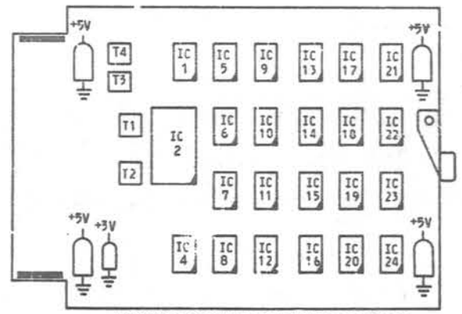
1. ⏚ GROUND RETURN
2. UNLESS OTHERWISE SPECIFIED:
   RESISTANCE VALUES ARE IN OHMS
   CAPACITANCE VALUES ARE IN MICROFARADS
   VALUES PRECEDED BY THE SYMBOL +(PLUS) OR -(MINUS) ARE IN VOLTS
3. BATTERY AND GROUND TERMINALS FOR INTEGRATED CIRCUITS

IC CODE	BAT. TERM.	GRD TERM.
41BP	16	8
41CF	16	7,8
175H	1,32	16,17
KS-21688 L1	14	7
KS-21688 L3	14	7
KS-21688 L4	14	7
KS-21688 L5	14	7
KS-21688 L6	14	7
KS-21687 L1	16	8

4. BATTERY AND GROUND TERMINALS FOR THIS CIRCUIT PACK ARE AS FOLLOWS:

FUNCTION	TERMINAL
+5	006,119
GRD	200,319

5. HORIZONTAL MOUNTING CENTERS AT 0.50 INCH.
6. INTEGRATED CIRCUIT AND TRANSFORMER LOCATION GUIDE: (COMPONENT SIDE SHOWN)



UNMARKED COMPONENTS ARE FILTER CAPACITORS

DWG ISSUE	CE OR CD ISSUED	DATE ISSUE	DSNR	APPD
1	—	10-2-74	LKE LRE	RNF MTS RFG
2B1	—	12-31-75	APPL LRE	CE LEG RFG

SUPPORTING INFORMATION

CATEGORY	NO.
CIRCUIT PACK CODE	CPS-JK6
CONNECTOR ON FRAME	947C OR 947A
SERIES FOR LATEST CLASS A CHANGE. (ANY HIGHER SERIES IS ACCEPTABLE).	
ACCEPTABLE SERIES	1

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 FIRST SHEET.
4. SHEETS THAT ARE NOT CHANGED WILL RETAIN THEIR EXISTING ISSUE NUMBER.
5. THE LAST ISSUE NUMBER OF THE FIRST SHEET INDEX IS RECOGNIZED AS THE LATEST ISSUE NUMBER OF THE DRAWING AS A WHOLE.

ISSUE 2B1

1N98

JK6 CIRCUIT PACK

SERIAL PERIPHERAL INTERFACE B CIRCUIT

(2)

AT&TCO STANDARD

CPS-JK6
4 SHEETS

BELL TELEPHONE LABORATORIES INCORPORATED

6S

PART OF CPS JK6

SERIAL PERIPHERAL INTERFACE B CIRCUIT

SHEET NOTES:

1. KS-21688 L1
2. KS-21698 L3

PLIØB0 317 · INFØH0 203 · INF150 212 · INF140 312 · INF130 307 · INF120 207 · INF110 109 · INF100 010 · INF090 003 · INF080 301 · INFPL0 206 · INF070 304 · INF060 205 · INF050 214 · INF040 116 · INF030 310 · INF020 211 · INF010 314 · INF000 215 · 101ST0 309

PLIØB1 IC14 41BP B · RPH1 IC24 41BP D · R141 IC22 41BP A · R121 IC20 41BP D · R101 IC18 41BP A · R081 IC16 41BP D · R071 IC16 41BP B · R051 IC18 41BP E · R031 IC14 41BP A · R011 IC14 41BP F · RB21 IC9 41BP F

R151 IC22 41BP B · R131 IC24 41BP C · R111 IC20 41BP C · R091 IC20 41BP B · RPL1 IC16 41BP C · R061 IC16 41BP A · RO41 IC14 41BP D · RO21 IC14 41BP G · RO01 IC14 41BP E · RB11 IC14 41BP C

IØBF IC23 41CF A 4-BIT REG · IØB. IC15 41CF A 4-BIT REG · IØBD IC15 41CF A 4-BIT REG · IØBC IC11 41CF A 4-BIT REG · IØBB IC7 41CF A 4-BIT REG

C · CLKP · MODE · CLKS · DS · DA · DB · DC · DD · QA · QB · QC · QD

DTAIH1 3E5 · RSHP1 3G3

3D7 RSETØG · 3C9 EINTO · 3F6 STØPBO · 3B9 HPU1

STPL0 IC12 NOTE 1 A · STPL1 IC12 NOTE 1 D · STØPBO IC4 NOTE 2 B · SHF0 IC12 NOTE 1 B · SHF1 IC4 NOTE 2 C · IØBA IC8 KS-21688 L6 A (D S NC T C) · DTAØT0 3F0

BPH0 IC24 41BP E · B140 IC22 41BP F · B120 IC20 41BP E · B100 IC18 41BP F · B080 IC16 41BP E · B070 IC16 41BP G · B050 IC24 41BP G · B030 IC22 41BP C · RSHPØA IC4 54S04 E · B010 IC18 41BP C · SCB20 IC18 41BP B · CLKE0 IC12 NOTE 1 C

B150 IC24 41BP F · B130 IC22 41BP G · B110 IC20 41BP F · B090 IC18 41BP G · BPL0 IC16 41BP F · B060 IC24 41BP B · B040 IC22 41BP E · B020 IC24 41BP A · B000 IC18 41BP D · SCB10 IC22 41BP D

102 BPH0 · 002 B150 · 018 B140 · 019 B130 · 004 B120 · 103 B110 · 114 B100 · 313 B090 · 008 B080 · 107 BPL0 · 104 B070 · 001 B060 · 101 B050 · 016 B040 · 117 B030 · 100 B020 · 105 RSHPØA · 014 B010 · 113 B000 · 115 SCB020 · 017 SCB010 · 005 STØPBO

ISSUE 2B1

JK6 CIRCUIT PACK (2)	CPS-JK6 SHEET 2
BELL TELEPHONE LABORATORIES INCORPORATED	DWG SIZE 6S

CPS-JK6

PART OF CPS JK6

SERIAL PERIPHERAL INTERFACE B CIRCUIT

SHEET NOTES:

1. KS-21688 L1
2. KS-21688 L3
3. KS-21688 L4
4. KS-21688 L5

MYRAP
MYRAN
MYRBP
MYRBN
RSETO1
STPTR1
T1
T2
R1 100
R2 100
R3 100
R4 100
3VI
CHLS IC2 175H A
137H B
137H A
137H F
137H E
137H C
137H D
NC
R5 511
R6 511
R7 511
R8 511
RSETOA IC4 NOTE 2 D
RSHPOB IC4 NOTE 2 F
STRTO IC9 41BP E
HPU1 IC9 41BP G
HPU1 2C8
R ENR IC8 KS-21688 L6 B
NC
EINTO FO, 2A9
PL1 IC13 NOTE 1 C
PLO IC10 NOTE 3 C
NLO IC10 NOTE 3 B
NL1 IC13 NOTE 1 B
PLBO IC17 NOTE 2 A
NLBO IC17 NOTE 2 C
PLB1 IC17 NOTE 2 B
RSHP1 IC21 NOTE 4 A
NLB1 IC17 NOTE 2 D
SP1 IC5 NOTE 2 A
SP2 IC9 41BP B
SP3 IC9 41BP C
RSETOB IC4 NOTE 2 A
RSETOB 2A8
SP4 IC9 41BP D
SP5 IC20 41BP A
SP6 IC20 41BP G
2E0
DTAIN1
APB1 IC5 NOTE 2 E
ANB1 IC5 NOTE 2 F
BPB1 IC5 NOTE 2 D
BNB1 IC5 NOTE 2 C
NAØB1 IC13 NOTE 1 A
PAØB1 IC13 NOTE 1 D
LRO IC21 NOTE A B
PPH1 IC5 NOTE 2 B
STOPBO 2B8
C9 EINTO
2E9 DTAØTO
RMM IC1 KS-21687 L1 A
R9 39
R10 39
R11 39
R12 39
T3
T4
NPHO IC17 NOTE 2 F
PPHO IC17 NOTE 2 E
2E0 RSHP1
DTR IC6 KS-21688 L6 A
PCHGO IC10 NOTE 3 A
SPCHK IC6 KS-21688 L6 B
SPE1 IC9 41BP A
SPE1
C2 5
C3 5
C4 5
C5 5
C6 0.1
C7 0.1
C8- C26
C27 0.1
+5
GRD
C28 0.1
CR1
C1 1
R13 33
2D1
MYSAP
MYSAN
MYSBP
MYSBN
CPS-JK6

JK6 CIRCUIT PACK	2B1
BELL TELEPHONE LABORATORIES INCORPORATED	CPS-JK6 SHEET 3
DRG SIZE 6S	2

PART OF CPS JK6

SERIAL PERIPHERAL INTERFACE B CIRCUIT

COMPONENT LIST

INTEGRATED CIRCUIT

LOC	IC1	IC2	IC4	IC5	IC6	IC7	IC8	IC9	IC10	IC11	IC12	IC13
CODE	~~545158~~ KS-21687 L1	175H	~~54S04~~ KS-21688 L3	~~54S04~~ KS-21688 L3	~~54S74~~ KS-21688 L6	41CF	~~54S74~~ KS-21688 L6	41BP	~~54S10~~ KS-21688 L4	41CF	~~54S00~~ KS-21688 L1	~~54S00~~ KS-21688 L1
ELEM ID	DESIG SH LOC	DESIG SH LOC	DESIG SH LOC	DESIG SH LOC	DESIG SH LOC	DESIG SH LOC	DESIG SH LOC	DESIG SH LOC	DESIG SH LOC	DESIG SH LOC	DESIG SH LOC	DESIG SH LOC
A	RMM 3F0	CHLS 3C0	RSETOB 3C7	SP1 3C5	DTR 3G5	IØBB 2D7	IØBA 2D8	SPE1 3H7	PCHGO 3G6	IØBC 2D5	STPLO 2B8	NAØB1 3E2
B			STØPBO 2C8	PPH1 3F6	SPCHK 3G6		ENR 3C8	SP2 3G6	NLO 3C4		SHFO 2C9	NL1 3C4
C			SHF1 2D9	BNB1 3E1				SP3 3G6	PLO 3C3		CLKEO 2F9	PL1 3C3
D			RSETOA 3B3	BPB1 3E1				SP4 3E7			STPL1 2B9	PAØB1 3E2
E			RSHPOA 2F5	APB1 3E0				STRTO 3B7				
F			RSHPOA 3B7	ANB1 3E0				RB21 2B7				
G								HPU1 3B8				

LOC	IC14	IC15	IC16	IC17	IC18	IC19	IC20	IC21	IC22	IC23	IC24
CODE	41BP	41CF	41BP	~~54S04~~ KS-21688 L3	41BP	41CF	41BP	~~54S40~~ KS-21688 L5	41BP	41CF	41BP
ELEM ID	DESIG SH LOC	DESIG SH LOC	DESIG SH LOC	DESIG SH LOC	DESIG SH LOC	DESIG SH LOC	DESIG SH LOC	DESIG SH LOC	DESIG SH LOC	DESIG SH LOC	DESIG SH LOC
A	R031 2B6	IØBD 2D4	R061 2C4	PLB0 3D3	R101 2B2	IØBE 2D2	SP5 3E7	RSHP1 3E4	R141 2B1	IØBF 2D1	B020 2F6
B	PLIØB0 2B0		R071 2B4	PLBL 3E3	SCB20 2F7		R091 2C3	LRO 3F4	R151 2C1		B060 2F4
C	RB11 2C7		RPL1 2C4	NLB0 3D4	B010 2F7		R111 2C2		B030 2F6		R131 2C1
D	R041 2C5		R081 2B3	NLB1 3E4	B000 2F7		R121 2B2		SCB10 2F7		RPH1 2B0
E	R001 2C7		B080 2F4	PPH0 3G2	R051 2B5		B120 2F2		B040 2F5		BPH0 2F0
F	R011 2B7		BPL0 2F4	NPH0 3G2	B100 2F2		B110 2F2		B140 2F1		B150 2F1
G	R021 2C6		B070 2F4		B090 2F3		SP6 3E7		B130 2G1		B030 2F5

CAPACITOR

DESIG	CODE
C1	600A,1
[4] C2-C5	601A,5
[23] C6-C28	KS-19774 L5,0.1

DIODE

DESIG	CODE
CR1	~~1N5225B~~ KS-21761 L1

RESISTOR

DESIG	CODE
[4] R1-R4	KS-20616 L1A,100
[4] R5-R8	,511
[4] R9-R12	,39
R13	KS-20616 L1A,33

TRANSFORMER

DESIG	CODE
[4] T1-T4	26646

CIRCUIT DESCRIPTIØN

THIS PACK CØNTAINS A 21-BIT SHIFT REGISTER TØ RECEIVE A SERIAL MESSAGE FRØM THE JACC. BIPØLAR PULSES ARE RECEIVED FRØM EITHER CC VIA THE A ØR B INPUT PØRTS. CHLS CØNVERTS THE RECEIVED PULSES TØ TTL LEVELS. THE CLØCKPULSE (RSHP1) RECØVERED FRØM THE BITSTREAM IS NØMINALLY 75 NSEC WIDE. THE RECØVERED DATA (DTAIN1) IS HELD STABLE ØVER THE TRAILING EDGE ØF THE RSHP1 PULSE BY THE DTR F/F.

THE 21-BIT MESSAGE IS CHECKED FØR SINGLE ERRØRS BY THE PARITY CHECK F/F (SPCHK). A STØP LATCH IS SET WHEN THE FIRST ONE BIT IS CLØCKED INTØ THE IØBA F/F. THE SHIFT REGISTER CØNTENTS ARE FRØZEN BECAUSE THE REGISTER IS SET INTØ THE PARALLEL LØAD MØDE. 20-BITS ØF THE REGISTER ARE AVAILABLE FØR DECØDING PURPØSES. THE STATES ØF THE 19 INPUT LEADS ARE LØADED INTØ THE REGISTER AT THE TRAILING EDGE ØF A PULSE ØN LEAD PLIØDO TØ SEND THE 21-BIT MESSAGE BACK TØ THE CC THE ENR F/F IS RESET BY A HIGH INPUT ØN LEAD STRTR1. THE ENR F/F ENABLES THE REPLY MESSAGE MØDULATØR RMM AND PLACES THE REGISTER INTO THE SERIAL SHIFT MØDE. THE DATA APPEARING AT THE ØUTPUT ØF IØBA (DTAØTO) MØDULATES THE TWØ CLØCKPULSES TØ GENERATE BIPØLAR PULSES AT THE A ØR B ØUTPUT PØRTS.

THE CIRCUIT IS INITIALIZED BY A HIGH INPUT ØN LEAD RSET01. R13 AND CR1 GENERATE THE 3-VØLT SUPPLY REQUIRED BY THE 175H LEVEL SHIFTERS CHLS.

ISSUE 2B1

JK6 CIRCUIT PACK (2)

CPS-JK6 SHEET 4

BELL TELEPHONE LABORATORIES INCORPORATED

6S

CPS-JK6