

HIGH SPEED TEXT SEARCH SYSTEM

HSTS

HARDWARE

DRAWINGS

VOLUME 2 OF 2



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HSTS HARDWARE DRAWINGS

VOLUME 2 OF 2

Prepared for:

Central Intelligence Agency
Washington, DC 20505

OSI: R80-013

March 1980

STAT

Smead®

No. RB118

HASTINGS, MN - LOS ANGELES

STAT

ENGINEERING CHANGE ORDER

ECO Number: 9

Date: 3/24/80

STAT

Originator:

Unit or Program Affected: 120090 - HQR Microprocessors

Documents Affected:

SC120090
(other documents already updated)

Description of Change:

Reflect current NPIC configuration -
insert MRP data memory write capability
in documentation

Release SC120090C

Previous versions are obsolete

SUBORDINATE DOCUMENTS:

SC120090 C
WL120090 C
AP120090 A
PL120090 A
SL120051 A
SL120052 A
CD120200 B
SC120071 A
AD120072

REVISION HISTORY:

ORIGINAL ISSUE 2/21/80

CONTENTS:

IC SOCKET POSITIONS
CONNECTOR & BLOCK POSITIONS

SHEETS

2-7
8

STAT

STAT

[Redacted]

175041

EECO DOC NO. 413104-D

DATE 08-14-79 I C L O C A T I O N L I S T

PAGE 1

IC	TYPE	B/D	BLK	SKT
	74LS11	0	1	3
	74LS04	0	1	4
	74LS164	0	1	5
	74LS109	0	1	9
	74LS08	0	1	10
	74LS109	0	1	11
	74LS109	0	1	12
	74LS00	0	1	15
	74LS148	0	1	16
	74LS04	0	1	17
	74LS109	0	1	18
	74LS1	0	1	20
	74LS	0	2	1
	74LS157	0	2	2
	74S00	0	2	3
	74LS157	0	2	4
	74LS04	0	2	5
	74LS02	0	2	6
	74LS02	0	2	8
	74LS02	0	2	9
	74S74	0	2	10
	8985R180/390	0	2	11
	8138	0	2	12
	74LS04	0	2	13
	74LS109	0	2	14
	74LS00	0	2	15
	8138	0	2	16
	8138	0	2	17
	8138	0	2	18
	74LS174	0	3	1
	74LS174	0	3	2
	74LS174	0	3	3
	74LS174	0	3	4
	74LS	0	3	5
	8138	0	3	7
	8138	0	3	8
	8138	0	3	9
	8138	0	3	10
	74LS174	0	3	11
	74S00	0	3	12
	74S226	0	3	13
	74S226	0	3	14
	74S226	0	3	15
	74S226	0	3	16
	74LS00	0	3	18

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STAT

[Redacted]

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EECO DOC NO. 413104-D

DATE 08-14-79

I C L O C A T I O N L I S T

PAGE 2

IC TYPE	B/D	FLK	SKT
JX25	0	5	25
JX28	0	5	26
8138	0	4	7
8138	0	4	8
8138	0	4	9
8138	0	4	10
8138	0	4	11
74LS04	0	4	12
74LS133	0	4	13
74LS04	0	4	14
74LS154	0	4	15
74LS10	0	4	16
74LS155	0	4	17
74LS00	0	4	18
74LS74	0	5	1
74LS139	0	5	2
74LS74	0	5	3
74LS157	0	5	4
74LS00	0	5	5
74LS10	0	5	7
74S00	0	5	8
74S10	0	5	9
74S04	0	5	10
74LS161	0	5	11
74LS161	0	5	12
74LS04	0	5	13
74LS08	0	5	14
74LS157	0	5	15
74LS161	0	5	17
74LS161	0	5	18
8197	0	6	25
JX25	0	6	26
8196	0	6	7
8196	0	6	8
8196	0	6	9
8197	0	6	10
8197	0	6	11
8197	0	6	12
74LS04	0	6	13
74LS74	0	6	14
8281K4.7	0	6	15
74LS151	0	6	16
74LS02	0	6	17
74LS04	0	6	18
74LS109	0	7	3

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AD120090
3 OF 8

STAT



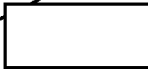
175041

EECO DOC NO. 413104-D

DATE 08-14-79 I C L O C A T I O N L I S T

PAGE 3

IC	TYPE	B/D	BLK	SKT
74S260		0	7	4
74S138		0	7	5
74LS138		0	7	6
74S04		0	7	10
74S158		0	7	11
74S158		0	7	12
74LS02		0	7	18
74S37		0	7	25
74S85		0	7	26
74LS157		0	8	1
74S37		0	8	2
74LS32		0	8	3
K1100A		0	7	15
74S109		0	8	5
74S00		0	8	6
74LS109		0	8	7
74LS109		0	8	8
74S226		0	8	9
74S226		0	8	10
74S161		0	8	11
74S86		0	8	12
74S226		0	8	13
74S226		0	8	14
74LS04		0	8	16
74S00		0	8	17
74S140		0	8	18
74S241		0	9	1
74S374		0	9	2
74S374		0	9	3
74S241		0	9	4
74LS272		0	9	5
74S241		0	9	6
74LS272		0	9	7
74S241		0	9	8
74LS272		0	9	9
74S241		0	9	10
74LS245		0	9	11
74LS245		0	9	12
74S241		0	9	13
74LS273		0	9	14
74LS273		0	9	15
74LS244		0	9	16
74LS244		0	9	17
74LS377		0	9	18
74LS245		0	10	1



o/c.

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I C L O C A T I O N L I S T

PAGE 4

IC TYPE	B/D	BLK	SKT
74LS245	0	10	2
74S241	0	10	3
74S241	0	10	4
74LS244	0	10	5
74LS244	0	10	6
74LS244	0	10	10
74LS244	0	10	11
74LS244	0	10	12
74LS244	0	10	13
74LS374	0	10	14
74LS374	0	10	15
74LS244	0	10	16
74LS244	0	10	17
74LS244	0	10	18
2147	0	11	3
2147	0	11	4
2147	0	11	5
2147	0	11	6
2147	0	11	7
2147	0	11	8
2147	0	11	9
2147	0	11	10
2147	0	11	11
2147	0	11	12
2147	0	11	13
2147	0	11	14
2147	0	11	15
2147	0	11	16
2147	0	11	17
2147	0	11	18
2147	0	12	1
2147	0	12	2
2147	0	12	3
2147	0	12	4
2147	0	12	5
2147	0	12	6
2147	0	12	7
2147	0	12	8
2147	0	12	9
2147	0	12	10
2147	0	12	11
2147	0	12	12
2147	0	12	13
2147	0	12	14
2147	0	12	15

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STAT

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I C L O C A T I O N L I S T

PAGE 5

IC TYPE	B/D	BLK	SKT
2147	0	12	16
8197	0	12	17
8197	0	12	18
JX13	0	13	25
JX14	0	13	26
74LS157	0	14	1
74LS157	0	14	2
74LS04	0	14	3
74LS74	0	14	4
74LS00	0	14	5
74LS74	0	14	6
74S02	0	14	7
74LS151	0	14	9
74LS151	0	14	10
8781R4.7	0	14	11
74LS04	0	14	12
74S02	0	14	13
74LS04	0	14	15
74LS04	0	14	16
74LS138	0	14	17
74LS138	0	14	18
74LS10	0	15	1
74LS139	0	15	2
74LS161	0	15	3
74LS161	0	15	4
74LS161	0	15	5
74LS161	0	15	6
74LS109	0	15	8
74S10	0	15	9
74S00	0	15	10
74S04	0	15	11
74LS04	0	15	12
74LS74	0	15	14
74LS08	0	15	16
7402	0	15	17
74LS04	0	15	18
74LS244	0	16	1
74LS244	0	16	2
74S241	0	16	3
74S241	0	16	4
74LS374	0	16	5
74LS374	0	16	6
74LS244	0	16	7
74LS244	0	16	8
74LS244	0	16	9

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STAT



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DATE UR-14-79 I C L O C A T I O N L I S T

PAGE 6

IC TYPE B/D BLK SKT

74LS244	0	16	10
74LS244	0	16	11
74LS244	0	16	12
74LS244	0	16	13
74LS244	0	16	14
74LS244	0	16	15
74LS244	0	16	16
74LS244	0	16	17

~~TESTCONN 0 17 2~~

~~TESTCONN 0 17 3~~

~~TESTCONN 0 17 4~~

21S27 0 17 5

21S27 0 17 6

27S27 0 17 7

21S27 0 17 8

21S27 0 17 9

27S27 0 17 10

21S27 0 17 11

21S27 0 17 12

21S27 0 17 13

21S27 0 17 14

21S27 0 17 15

27S27 0 17 16

21S27 0 17 17

21S27 0 17 18

27S27 0 17 19

21S27 0 17 20

21S27 0 17 21

27S27 0 17 22

21S27 0 17 23

21S27 0 17 24

~~USE TIES 0 17 27~~

~~USE TIES 0 17 28~~

2901 0 23 1

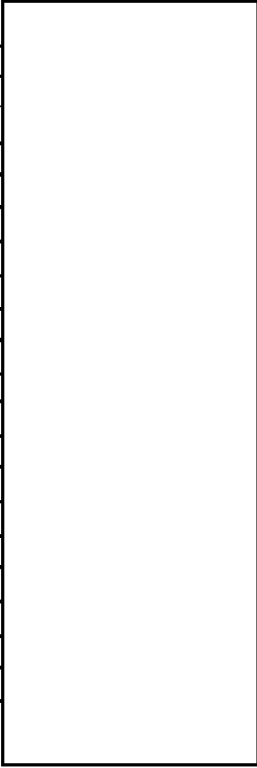
2901 0 23 2

2901 0 23 3

2901 0 24 1

2910 0 24 2

2910 0 24 3

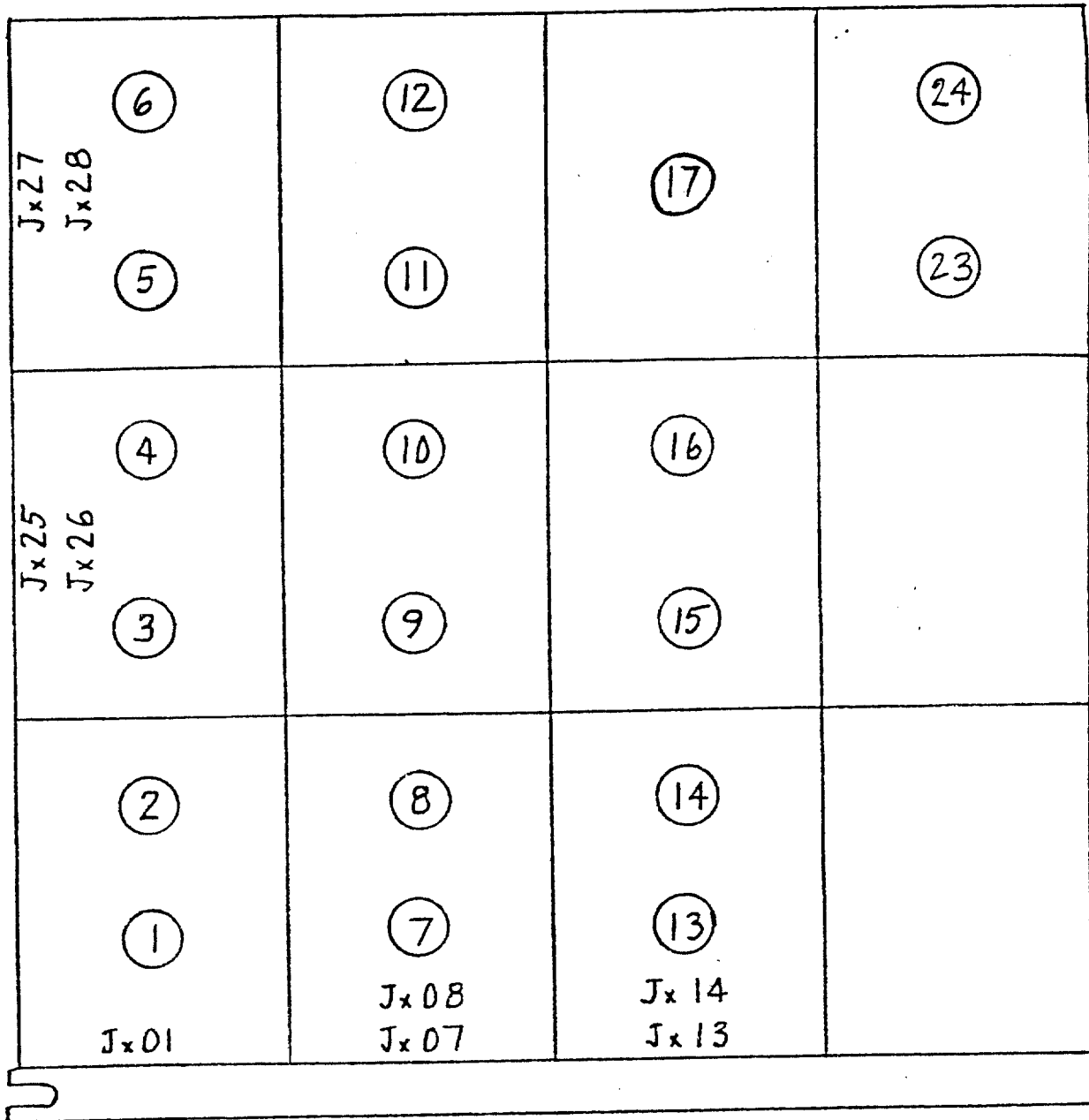


SPECIAL, OBSERVE PROGRAM NUMBERS ON IC'S.

STAT

AD120090
7 OF 8

CONNECTOR AND BLOCK POSITIONS



PIN 1 OF ALL IC SOCKETS AND CONNECTORS IS TOWARD PIVOT (LOWER LEFT) CORNER, EXCEPT CONNECTORS Jx25 THROUGH Jx28, FOR Jx25-28, PIN 1 IS TOWARD UPPER LEFT.

VIEW IS OF COMPONENT SIDE.

x = BOARD POSITION IN CHASSIS.

AD120090
8 OF 8

1. EECO P/N 413100-01, REV. B

2 IC'S AND OSCILLATOR PER SHEETS 2 & 3

STAT

STAT

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175041

EECO DOC NO. 413104-D

'I C' I T Y P E L I S T

DATE 08-14-79

ID TYPE ECU NO. QTY

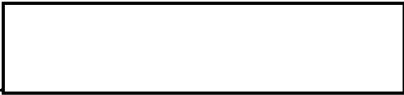
0A01	NONE	1
0A03	NONE	1
0A07	NONE	1
0A08	NONE	1
0A10	NONE	1
0A14	NONE	1
0A25	NONE	1
0A26	NONE	1
0A27	NONE	1
0A28	NONE	1
K1100A	NONE	1
TESTCONN	NONE	3
ULK	NONE	1
VCC PIES	NONE	2
2147	NONE	32
27S27	NONE	20 *
2901	NONE	4
2902	NONE	1
2910	NONE	2
74LS00	NONE	6
74LS02	NONE	4
74LS04	NONE	16
74LS08	NONE	5
74LS10	NONE	3
74LS109	NONE	9
74LS11	NONE	1
74LS138	NONE	3
74LS139	NONE	2
74LS148	NONE	1
74LS151	NONE	3
74LS155	NONE	1
74LS157	NONE	6
74LS161	NONE	8
74LS164	NONE	2
74LS174	NONE	4
74LS244	NONE	24
74LS245	NONE	4
74LS273	NONE	5
74LS32	NONE	1
74LS374	NONE	4
74LS377	NONE	1
74LS74	NONE	6
74S00	NONE	6
74S02	NONE	1
74S04	NONE	3

[Redacted] K1100A STAT
[Redacted] 30 STAT

PL120090A
2 OF 3

* PROGRAMMED PER LATEST REVISION OF TAPES SHOWN IN CD120200 "RR PROGRAMMING EQUIPMENT"

STAT



175041

EECO DOC NO. 413104-D

'I C' T Y P E L I S T

DATE 08-14-79

IC TYPE	SCD NO.	QTY
74S10	NONE	2
74S109	NONE	1
74S133	NONE	1
74S138	NONE	1
74S140	NONE	1
74S157	NONE	1
74S158	NONE	2
74S161	NONE	1
74S226	NONE	8
74S241	NONE	10
74S260	NONE	1
74S374	NONE	2
74S74	NONE	1
74S86	NONE	1
7437	326020-03	1
8T38	NONE	13
8T96	NONE	3
8T97	NONE	3
8T97	NONE	2
8981R4.7K	NONE	2
8985R180/390	NONE	1

PL 120090A
3 OF 3

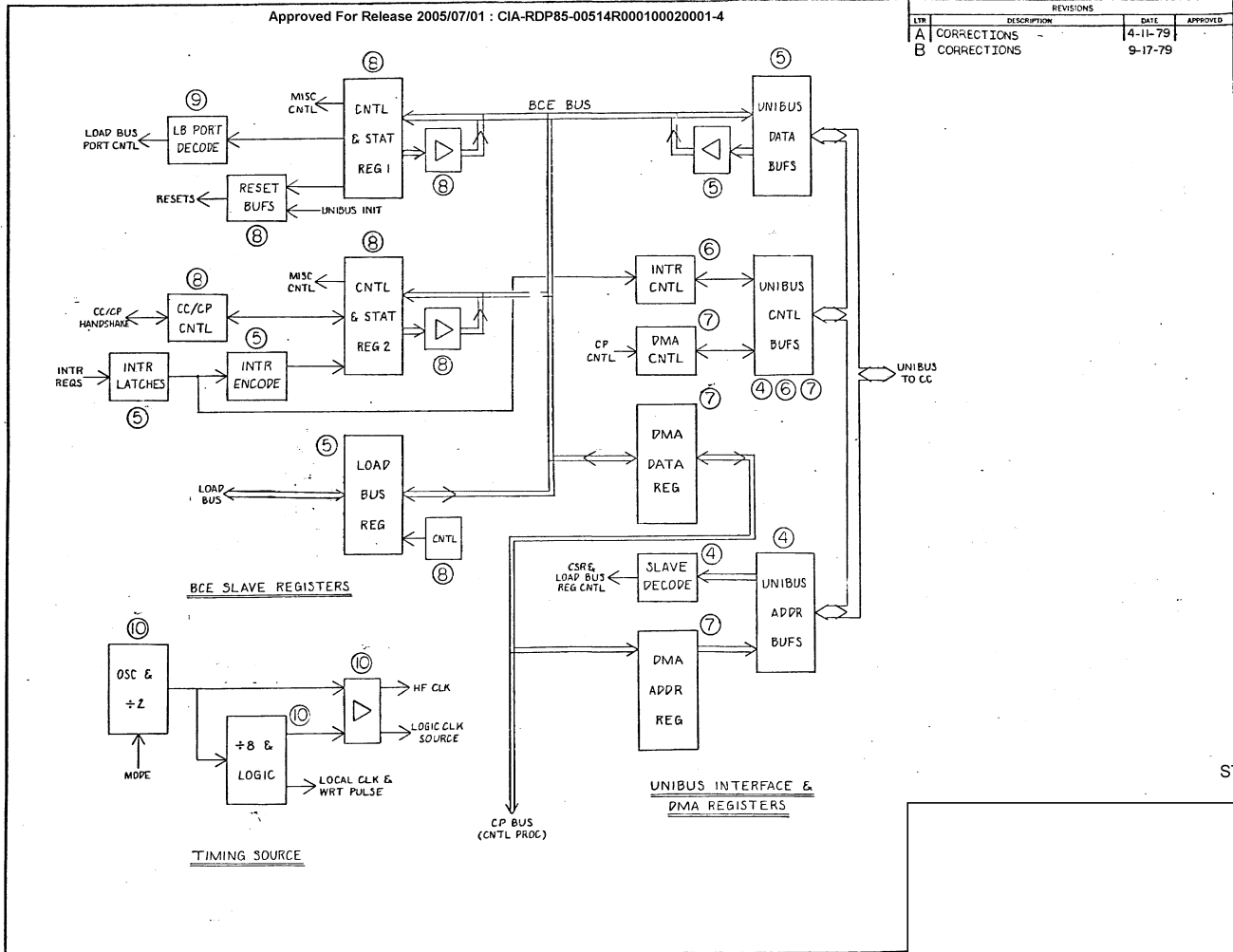
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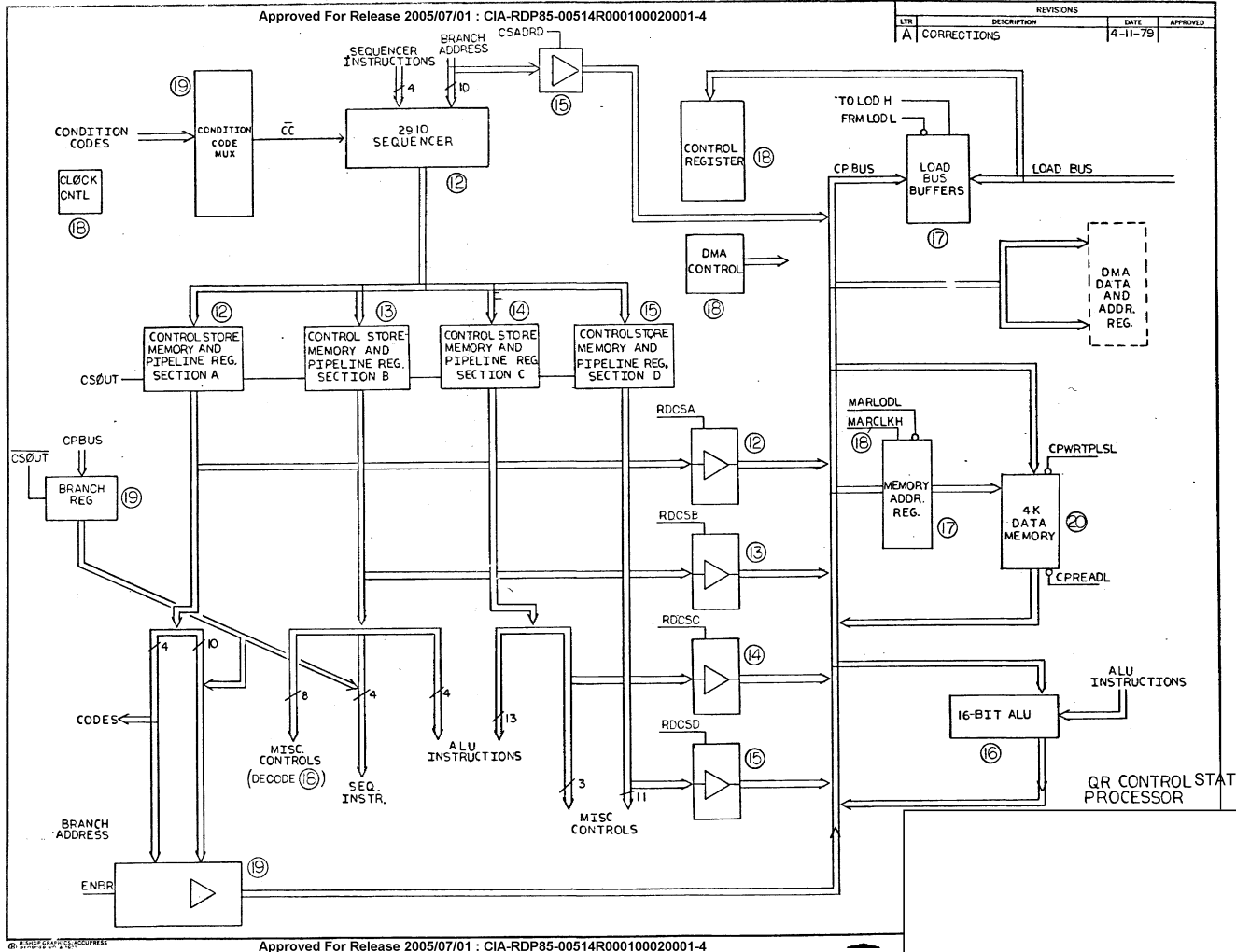
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EECO DOC NO. 413104-D

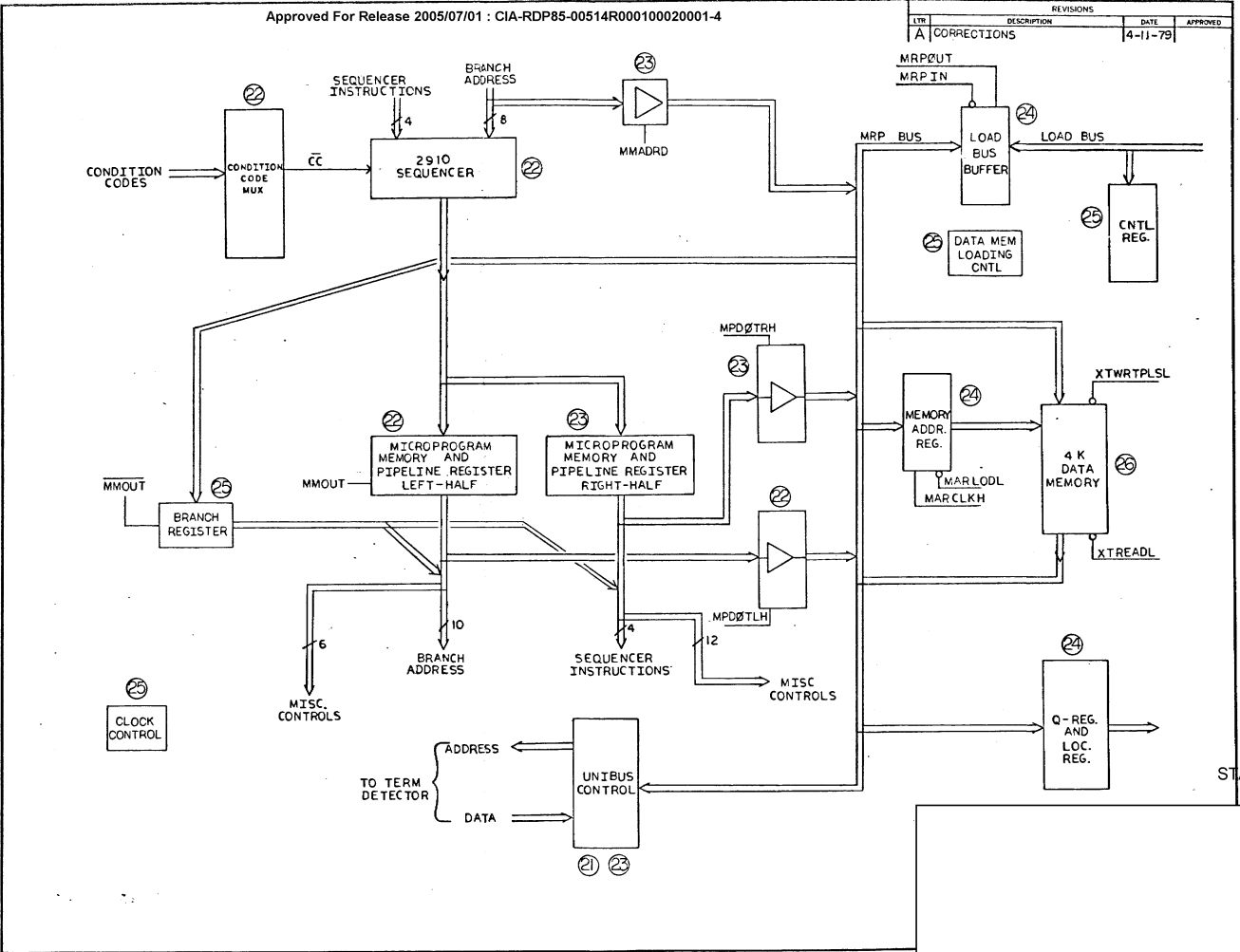
REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED
A	CORRECTIONS	4-11-79	
B	CORRECTIONS	9-17-79	



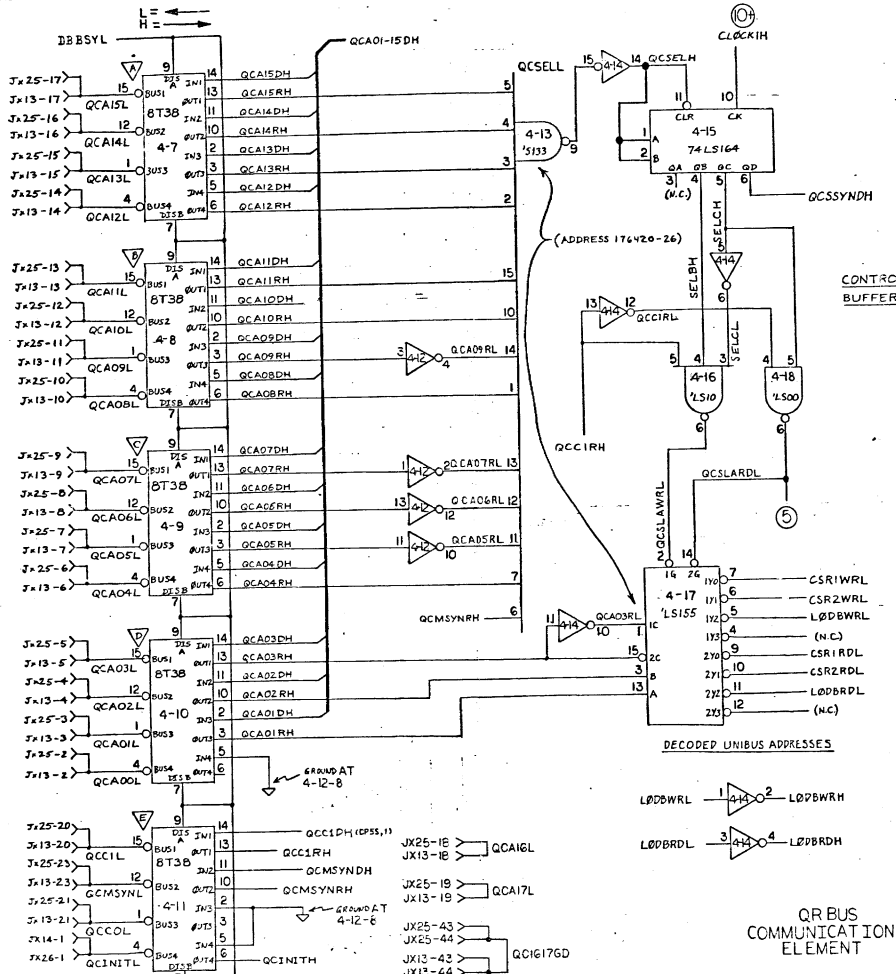
REVISIONS			
LTW	DESCRIPTION	DATE	APPROVED
A	CORRECTIONS	4-11-79	



REVISIONS			
LTN	DESCRIPTION	DATE	APPROVED
A	CORRECTIONS	4-11-79	



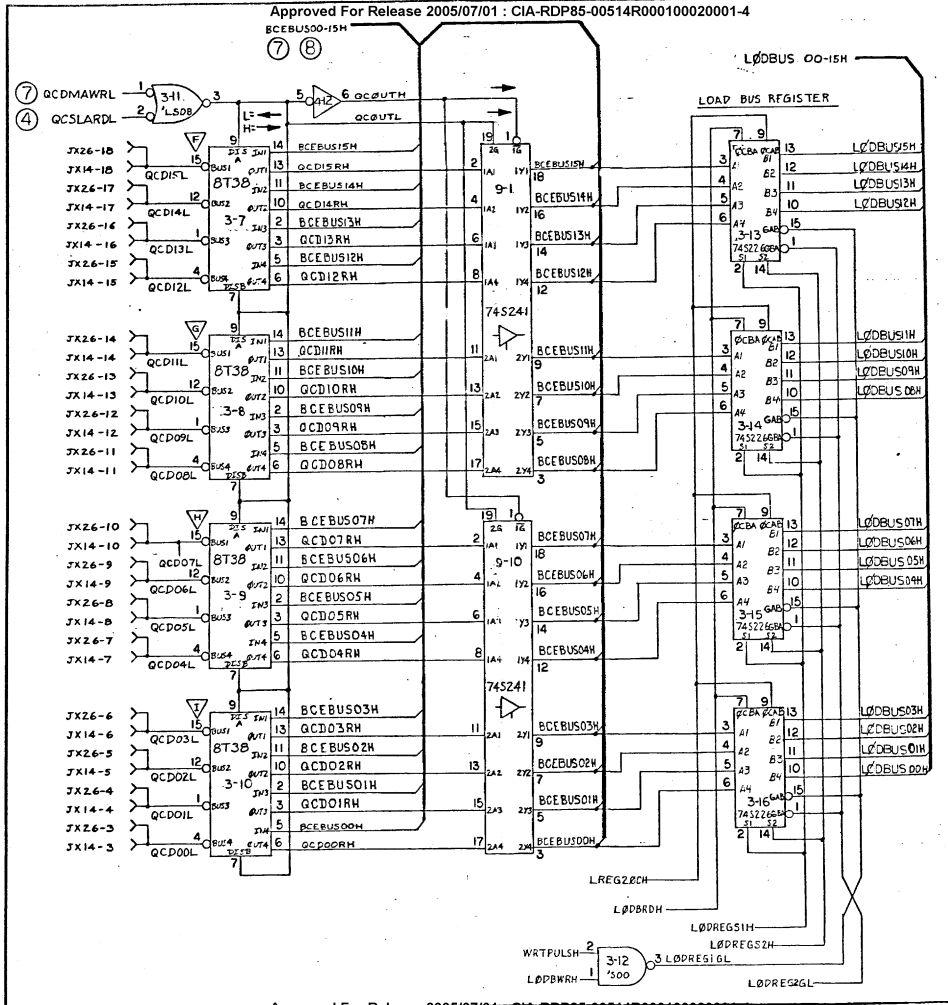
REV	DESCRIPTION	DATE	APPROVED
A	CORRECTIONS	4-11-79	



CONTRC COMP. UNIBUS ADDRESS
BUFFERS & SLAVE SELECTION

- NOTES -**
- APOSTROPHE = 74 (e.g., 'LS10 = 74LS10)
 - UNLABELLED INVERTER = 74LS04
 - SOCKETS ∇ THROUGH ∇ , SPECIAL WIRING. EACH OF THESE HAS 2 WIRES TO ITS GROUND PIN FROM I/O CONNECTORS, 4 I/O PINS PER WIRE. WIRE 4 PINS TOGETHER AT CONNECTOR, THEN RUN ONE WIRE FROM EACH GROUP TO GROUND PIN OF RELATED SOCKET, AS FOLLOWS:
- | | | | |
|--------|---------|--------|---------|
| GDO407 | Jx13-39 | 4-7-B | Jx25-39 |
| 4-7-B | Jx13-40 | | Jx25-40 |
| | Jx13-41 | GDO407 | Jx25-41 |
| | Jx13-42 | | Jx25-42 |
| GDO408 | Jx13-35 | 4-8-B | Jx25-35 |
| 4-8-B | Jx13-36 | | Jx25-36 |
| | Jx13-37 | GDO408 | Jx25-37 |
| | Jx13-38 | | Jx25-38 |
| GDO409 | Jx13-31 | 4-9-B | Jx25-31 |
| 4-9-B | Jx13-32 | | Jx25-32 |
| | Jx13-33 | GDO409 | Jx25-33 |
| | Jx13-34 | | Jx25-34 |
| GDO410 | Jx13-27 | 4-10-B | Jx25-27 |
| 4-10-B | Jx13-28 | | Jx25-28 |
| | Jx13-29 | GDO410 | Jx25-29 |
| | Jx13-30 | | Jx25-30 |
| GDO411 | Jx13-45 | 4-11-B | Jx25-45 |
| 4-11-B | Jx13-46 | | Jx25-46 |
| | Jx13-48 | GDO411 | Jx25-48 |
| | Jx14-26 | | Jx25-49 |
- X = FRAME NUMBER IN CHASSIS ASSY.

OR BUS COMMUNICATION ELEMENT



LTN	DESCRIPTION	DATE	APPROVAL
A	CORRECTIONS	4-11-79	

74S226	7	S	2	14	1	15
	OC	CC	AB	SI	SZ	GAB
LOAD MCDE	H	L	L	L	L	H
CTL COMP RD	L	L	H	H	H	H
CTL COMPWR	L	L	H	H	H	H
STORE REG	L	L	H	H	H	H
DRIVE BUS	L	L	H	H	H	H
SEARCH MODE	H	L	H	L	L	H
CC MASTER RD	L	L	H	H	H	H
CC MASTER WR	L	L	H	H	H	H
CP SLV RD REG	L	L	H	H	H	H
CP SLVWR REG	L	L	H	H	H	H

A = BCEBUS
B = LOOBUS
CONTROL COMP. UNIBUS DATA INTERFACE,
LOAD BUS REGISTER

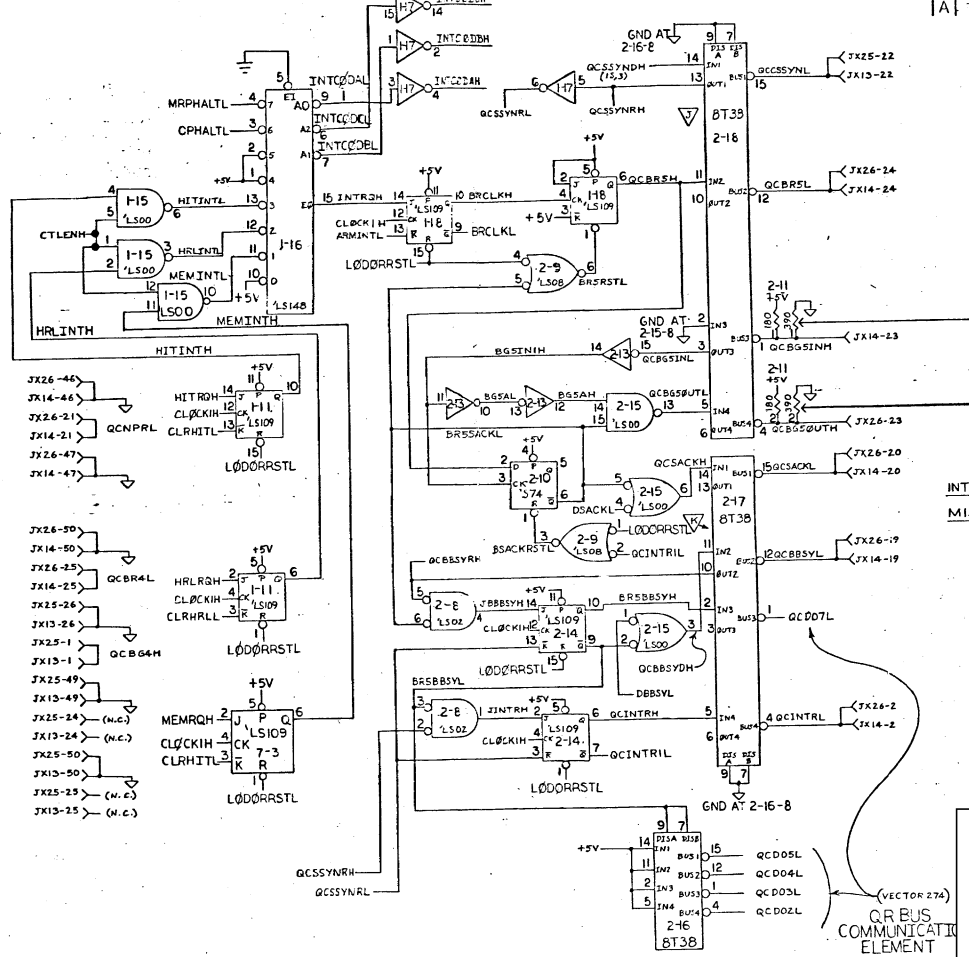
UNLABELLED INVERTERS = 74LS04
LS08 = 74LS08

SOCKETS 7 THROUGH 10, SPECIAL WIRING:
EACH OF THESE HAS 2 WIRES TO ITS GROUND
PIN FROM I/O CONNECTORS, 4 I/O PINS PER WIRE.
WIRE 4 PINS TOGETHER AT CONNECTOR,
THEN RUN ONE WIRE FROM EACH GROUP TO
GROUND PIN OF RELATED SOCKETS AS FOLLOWS:

GDC0307	JX14-40	GDC0307	JX26-40
3-7-8	JX14-41		JX26-41
	JX14-42		JX26-42
	JX14-43		JX26-43
GDC0308	JX14-36	GDC0308	JX26-36
3-8-8	JX14-37		JX26-37
	JX14-38		JX26-38
	JX14-39		JX26-39
GDC0309	JX14-32	GDC0309	JX26-32
3-9-8	JX14-33		JX26-33
	JX14-34		JX26-34
	JX14-35		JX26-35
GDC0310	JX14-28	GDC0310	JX26-28
3-10-8	JX14-29		JX26-29
	JX14-30		JX26-30
	JX14-31		JX26-31

X = FRAME NUMBER IN CHASSIS ASSEMBLY

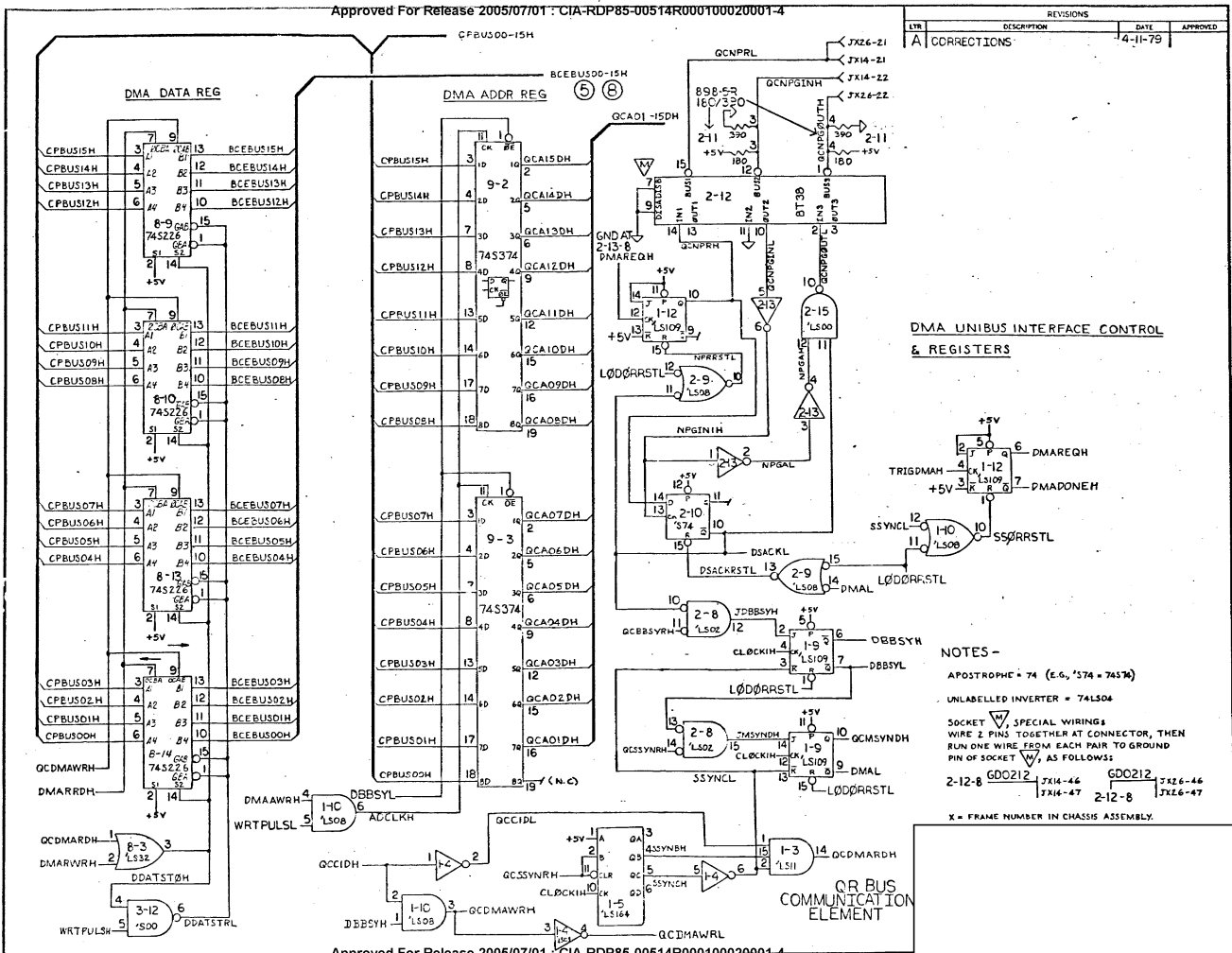
REV	DESCRIPTION	DATE	APPROVED
A	CORRECTIONS	4-11-79	



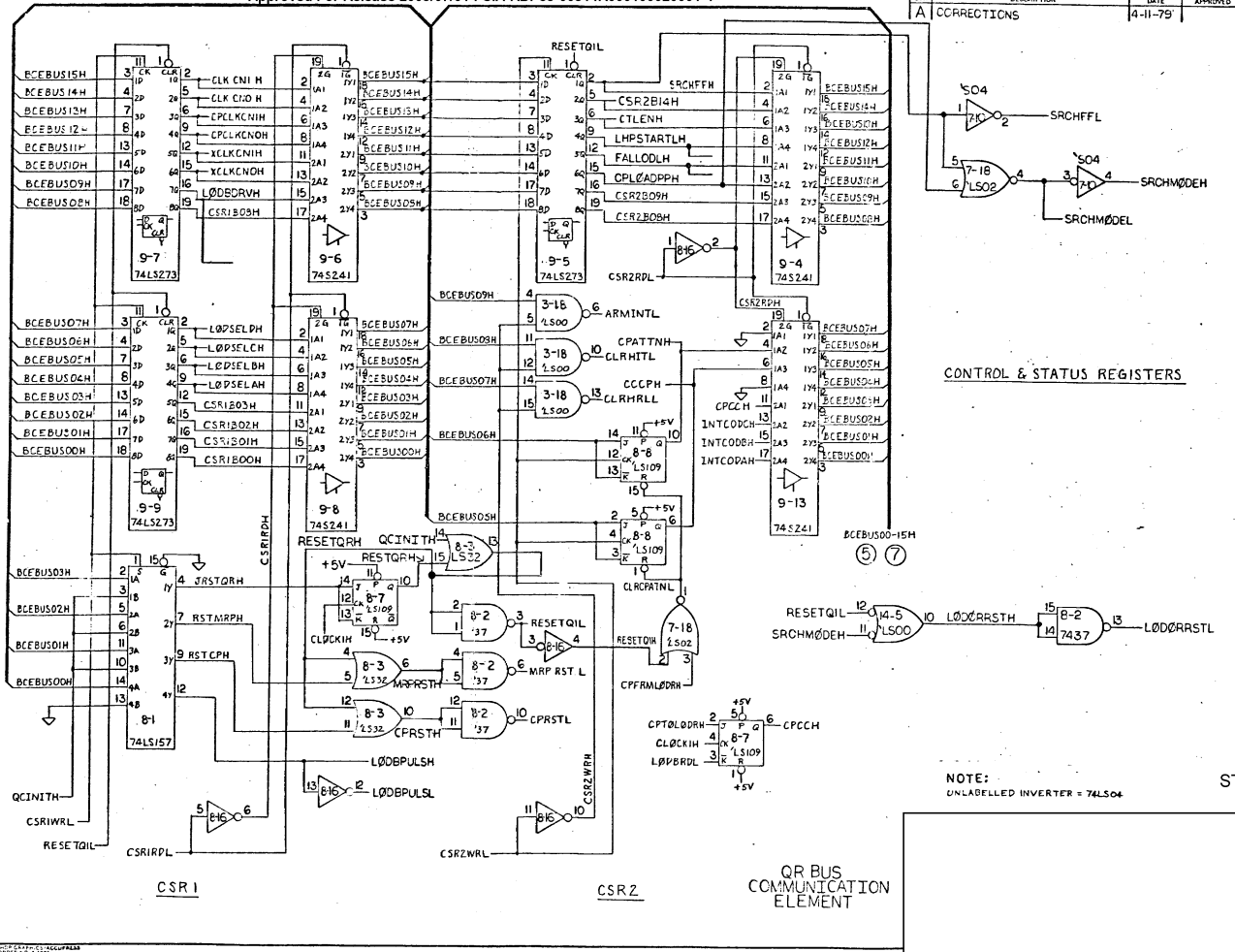
**INTERRUPT CNTL & INTERFACE,
MISC UNIBUS SIGNALS**

- NOTES -**
- APOSTROPHE = 74 (E.G., '574 = 74LS74)
 - UNLABELLED INVERTER = 74LS04
 - SOCKETS ▽ AND ▿, SPECIAL WIRING:
 - EACH OF THESE HAS 2 WIRES TO ITS GROUND
 - PIN FROM I/O CONNECTORS, 3 I/O PINS PER WIRE.
 - WIRE 3 PINS TOGETHER AT CONNECTORS, THEN
 - RUN ONE WIRE FROM EACH GROUP TO GROUND
 - PIN OF RELATED SOCKET, AS FOLLOWS:
- | | | | |
|--------|---------|--------|---------|
| GDO218 | JX13-47 | 2-18-B | JX25-47 |
| | JX14-49 | | JX26-49 |
| | JX14-48 | 2-17-B | JX26-48 |
| | JX14-45 | | JX26-45 |
| | JX14-44 | | JX26-44 |
| | JX14-27 | | JX26-27 |

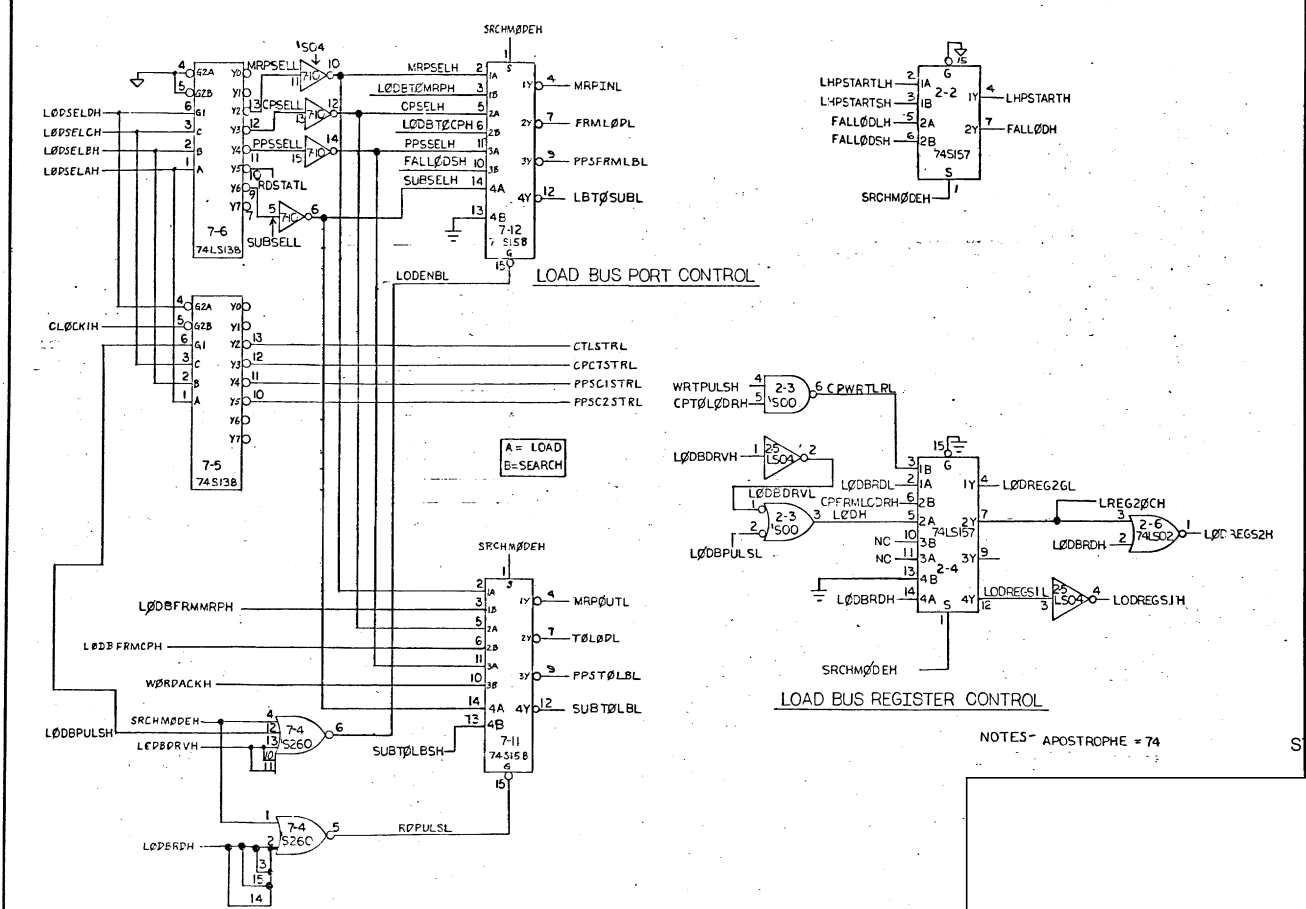
GR BUS COMMUNICATION ELEMENT



REV	DESCRIPTION	DATE	APPROVED
A	CCRECTIONS	4-11-79	

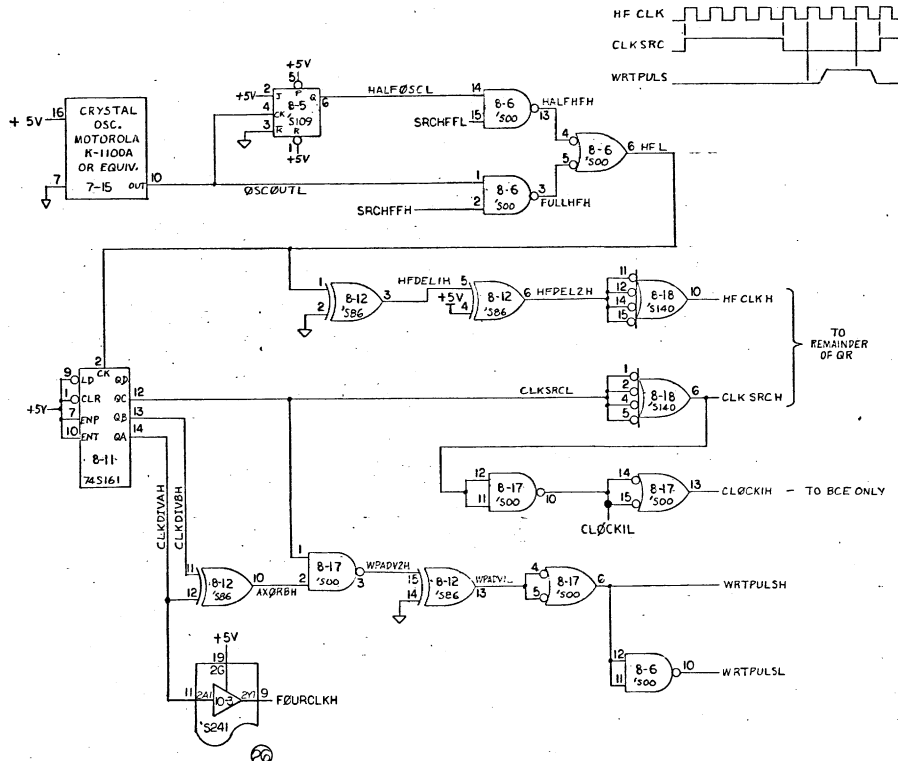


REVISIONS			
LTN	DESCRIPTION	DATE	APPROVED
A	CORRECTIONS	4-11-79	



Approved For Release 2005/07/01 : CIA-RDP85-00514R000100020001-4

REVISIONS			
LYR	DESCRIPTION	DATE	APPROVED
A	CORRECTIONS	4-11-79	



TIMING SOURCE

NOTES-

APOSTROPHE = 74

QR BUS COMMUNICATION ELEMENT

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED
A	CORRECTIONS	4-11-79	

JX08	
1	LB0BUS15H 3-13-13
2	LB0BUS14H 3-13-12
3	LB0BUS13H 3-13-11
4	LB0BUS12H 3-13-10
5	LB0BUS11H 3-14-13
6	LB0BUS10H 3-14-12
7	LB0BUS09H 3-14-11
8	LB0BUS08H 3-14-10
9	LB0BUS07H 3-15-13
10	LB0BUS06H 3-15-12
11	LB0BUS05H 3-15-11
12	LB0BUS04H 3-15-10
13	LB0BUS03H 3-16-13
14	LB0BUS02H 3-16-12
15	LB0BUS01H 3-16-11
16	LB0BUS00H 3-16-10
17	RESETOIL 8-2-3
18	KLKCKNH 9-7-12
19	KLKCKNH 9-7-15
20	SACNFFH 7-4B-5
21	
22	
23	CLKSRCH 8-18-6
24	
25	HFLKXH 8-18-10
26	GROUND AT 3-13-8
27	GROUND AT 3-13-8
28	GROUND AT 3-14-8
29	GROUND AT 3-14-8
30	GROUND AT 3-15-8
31	GROUND AT 3-15-8
32	GROUND AT 3-16-8
33	GROUND AT 3-16-8
34	GROUND AT 3-16-8
35	GROUND AT 3-16-8
36	GROUND AT 3-16-8
37	GROUND AT 3-16-8
38	GROUND AT 3-16-8
39	GROUND AT 3-16-8
40	GROUND AT 3-16-8
41	GROUND AT 3-16-8
42	TWIST WITH 17, GROUND AT 8-2-8
43	GROUND AT 9-7-10
44	GROUND AT 7-10-8
45	GROUND AT 7-10-8
46	GROUND AT 8-17-8
47	GROUND AT 8-17-8
48	TWIST WITH 23, GROUND AT 8-18-8
49	GROUND AT 8-17-8
50	TWIST WITH 25, GROUND AT 8-18-8

JX07	
1	QAD15H 3-1-15
2	QAD14H 3-1-2
3	QAD13H 3-1-5
4	QAD12H 3-1-7
5	QAD11H 3-1-10
6	QAD10H 3-1-12
7	QAD09H 3-2-15
8	QAD08H 3-2-2
9	QAD07H 3-2-5
10	QAD06H 3-2-7
11	QAD05H 3-2-10
12	QAD04H 3-2-12
13	QAD03H 3-3-15
14	QAD02H 3-3-2
15	QAD01H 3-3-5
16	QAD00H 3-3-7
17	QADVALH 3-3-12
18	LRCAH 3-4-2
19	LRCAH 3-4-5
20	LRCAH 3-5-10
21	RESERVED FOR SUBBAR 47
22	RESERVED FOR SUBBAR 47
23	MRWELH 6-13-11
24	
25	
26	GROUND AT 3-1-8
27	GROUND AT 3-1-8
28	GROUND AT 3-1-8
29	GROUND AT 3-1-8
30	GROUND AT 3-2-8
31	GROUND AT 3-2-8
32	GROUND AT 3-2-8
33	GROUND AT 3-2-8
34	GROUND AT 3-2-8
35	GROUND AT 3-2-8
36	GROUND AT 3-2-8
37	GROUND AT 3-2-8
38	GROUND AT 3-4-8
39	GROUND AT 3-4-8
40	GROUND AT 3-4-8
41	GROUND AT 3-4-8
42	TWIST WITH 17, GROUND AT 3-3-8
43	GROUND AT 3-5-8
44	
45	TWIST WITH 20, GROUND AT 3-3-8
46	
47	
48	TWIST WITH 23, GROUND AT 6-13-8
49	
50	

JX01	
1	PPSFRMLB 7-12-9
2	PPSFRMLB 7-11-9
3	PPSCTRSL 7-5-11
4	PPSCTRSL 7-5-10
5	LMPSTATH 2-2-4
6	WDRACCH 14-16-10
7	LMPBPH 14-9-12
8	WDRDWH 14-9-3
9	FALDYTH 14-9-2
10	FALDYTH No Connection
11	FALDWH 2-2-7
12	
13	DISPAGEH 17-13-15
14	PAGESON 14-12-2
15	PAGESIH 14-12-4
16	
17	SUBTBL 7-11-12
18	LETBSUBL 7-12-12
19	SIDBYL 14-12-15
20	SUBSYL 14-12-13
21	
22	FAURCKH 10-3-9
23	
24	PHRADL 14-3-4
25	PPWATL 14-3-4
26	TWIST WITH 3, GROUND AT 7-12-8
27	TWIST WITH 3, GROUND AT 7-11-8
28	TWIST WITH 3, GROUND AT 7-5-8
29	TWIST WITH 4, GROUND AT 7-5-8
30	TWIST WITH 5, GROUND AT 2-2-8
31	TWIST WITH 6, GROUND AT 14-16-8
32	GROUND AT 14-9-8
33	GROUND AT 14-9-8
34	GROUND AT 14-9-8
35	GROUND AT 14-9-8
36	TWIST WITH 11, GROUND AT 2-1-8
37	
38	TWIST WITH 13, GROUND AT 17-13-11
39	TWIST WITH 14, GROUND AT 14-12-8
40	TWIST WITH 15, GROUND AT 14-12-8
41	
42	TWIST WITH 17, GROUND AT 7-11-8
43	TWIST WITH 18, GROUND AT 7-12-8
44	TWIST WITH 19, GROUND AT 14-12-8
45	TWIST WITH 20, GROUND AT 14-11-8
46	GROUND AT 10-3-10
47	GROUND AT 10-3-10
48	GROUND AT 14-3-8
49	GROUND AT 14-3-8
50	TWIST WITH 25, GROUND AT 14-4-8

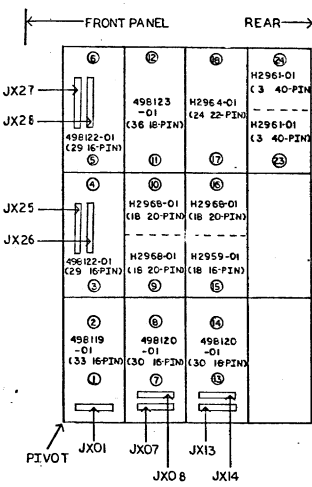
SPECIAL WIRING INSTRUCTIONS:

- OBSERVE CONNECTOR WIRING INSTRUCTIONS ON THIS PAGE.
 - CONNECTOR PIN SHOULD BE ONE END OF STRING. NEXT PIN SHOULD BE AS SHOWN IN LIST.
 - OBSERVE TWISTING AND GROUND-ROUTING INSTRUCTIONS SHOWN. DO NOT GROUND ANYWHERE EXCEPT TO PINS SHOWN.
 - WHEN CONNECTOR PINS ARE SHOWN JOINED, CONNECT THEM TOGETHER AT THE CONNECTOR, THEN RUN ONE WIRE FROM THE RESULTING GROUP TO THE GROUND POINT SHOWN.
 - TWISTING SHOULD BE CARRIED ONLY TO THE POINT SHOWN ON THIS SHEET. OTHER POINTS ON THE STRINGS SHOULD NOT BE TWISTED. ONLY ONE TWISTED-PAIR LINK PER SIGNAL IS USED.
 - A GROUND SYMBOL WITHOUT A NOTE INDICATES ANY NEARBY GROUND IS PERMITTED.
- SIGNALS CPESARL AND CPESLH (SHEETS 12, 13, 14, AND 15) -- 11 SIGNALS TOTAL -- MUST BE WIRED WITH SOURCE IN MIDDLE OF STRING, THUS:

LOADS ON SHEETS 12 AND 13	SOURCE (SHEET 12)	LOADS ON SHEETS 14 AND 15
---------------------------	-------------------	---------------------------
- SIGNALS CPRLCKH & CSUTLH (SHEETS 12, 13, 14, 15, 16*, 18, AND 19*) MUST BE WIRED WITH SOURCE IN APPROXIMATE MIDDLE OF STRING, THUS:

LOADS ON SHEETS 12 AND 13	SOURCE (SHEET 18)	LOADS ON SHEETS 14 AND 15	LOADS ON SHEET 16*
---------------------------	-------------------	---------------------------	--------------------

TEST CONNECTORS	
17-2	17-4
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10
11 (GROUND)	11 (GROUND)
12	12
13	13
14	14
15	15
16	16
17	17
18	18
19	19
20	20
21	21
22 (+5V)	22 (+5V)



COMPONENT SIDE VIEW

JX01, JX07, JX08 WIRING. WIRING NOTES FOR ALL SHEETS CONNECTOR AND BLOCK POSITIONS

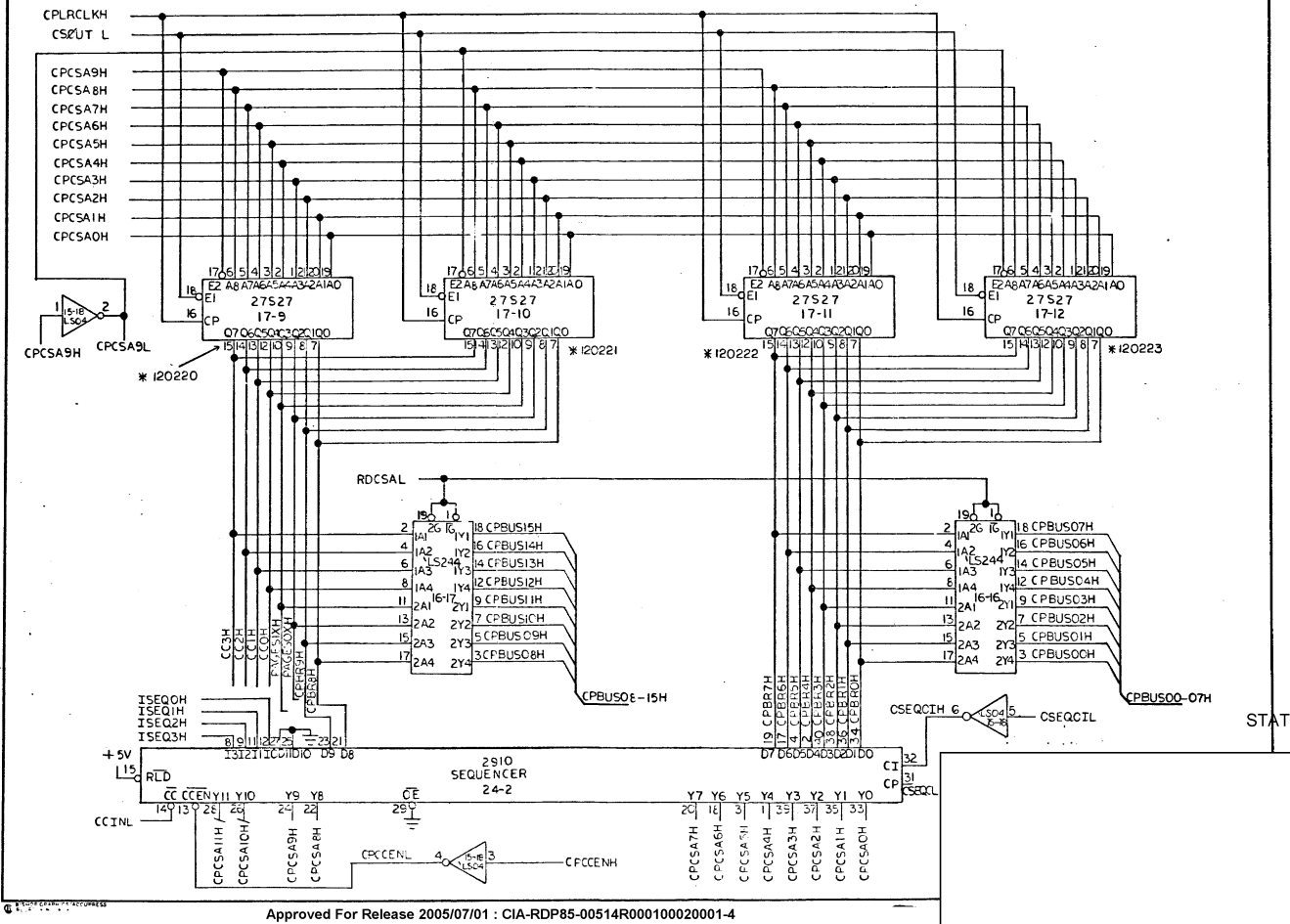
GROUND CLIPS:
ALL 22-PIN SOCKETS - PIN 11
ALL 40-PIN SOCKETS - PIN 30

VCC CLIPS:
ALL 22-PIN SOCKETS - PIN 22
ALL 40-PIN SOCKETS - PIN 10

Approved For Release 2005/07/01 : CIA-RDP85-00514R000100020001-4

* PROM PATTERN - SEE CD120200, CURRENT VERSION

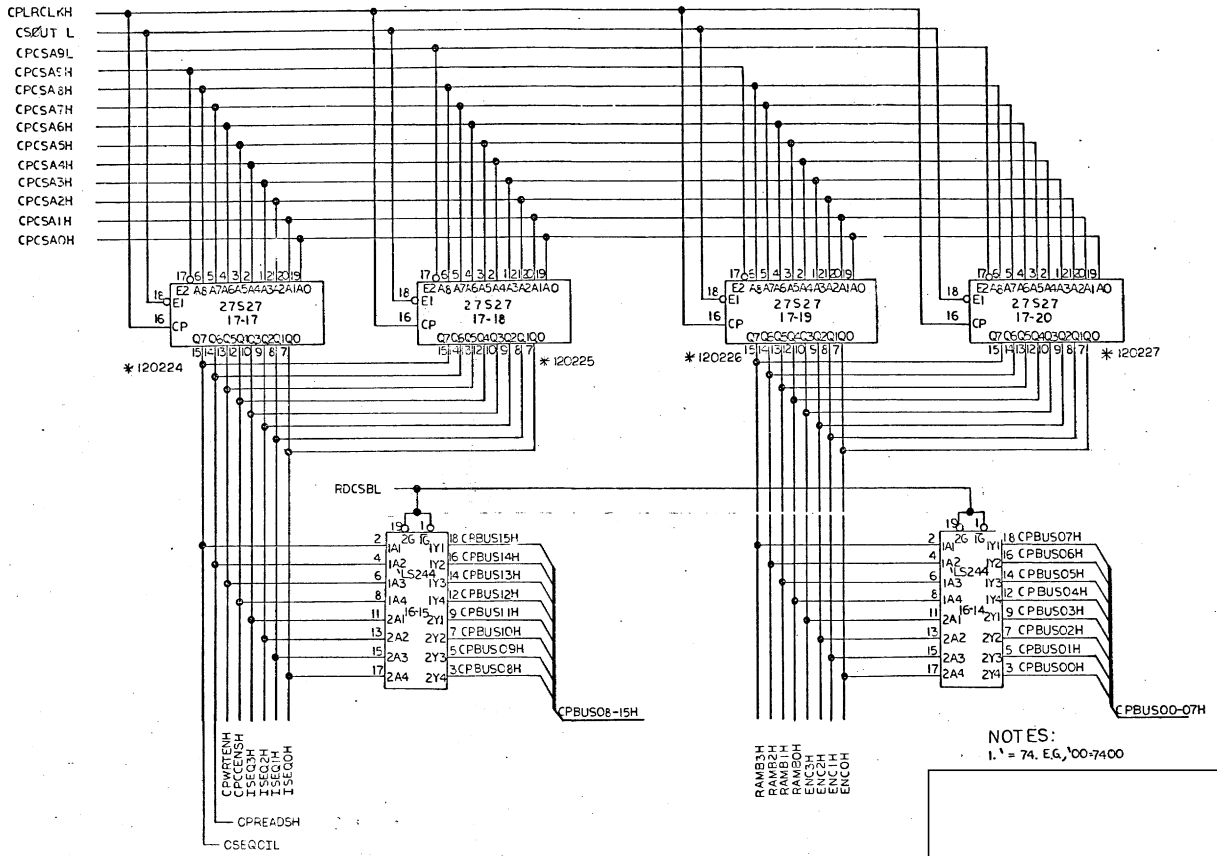
REVISIONS		
LET	DESCRIPTION	DATE
A	CORRECTIONS	4-11-75



Approved For Release 2005/07/01 : CIA-RDP85-00514R000100020001-4

* PROM PATTERN - SEE CD20200, CURRENT VERSION

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED
A	CORRECTIONS	4-11-75	

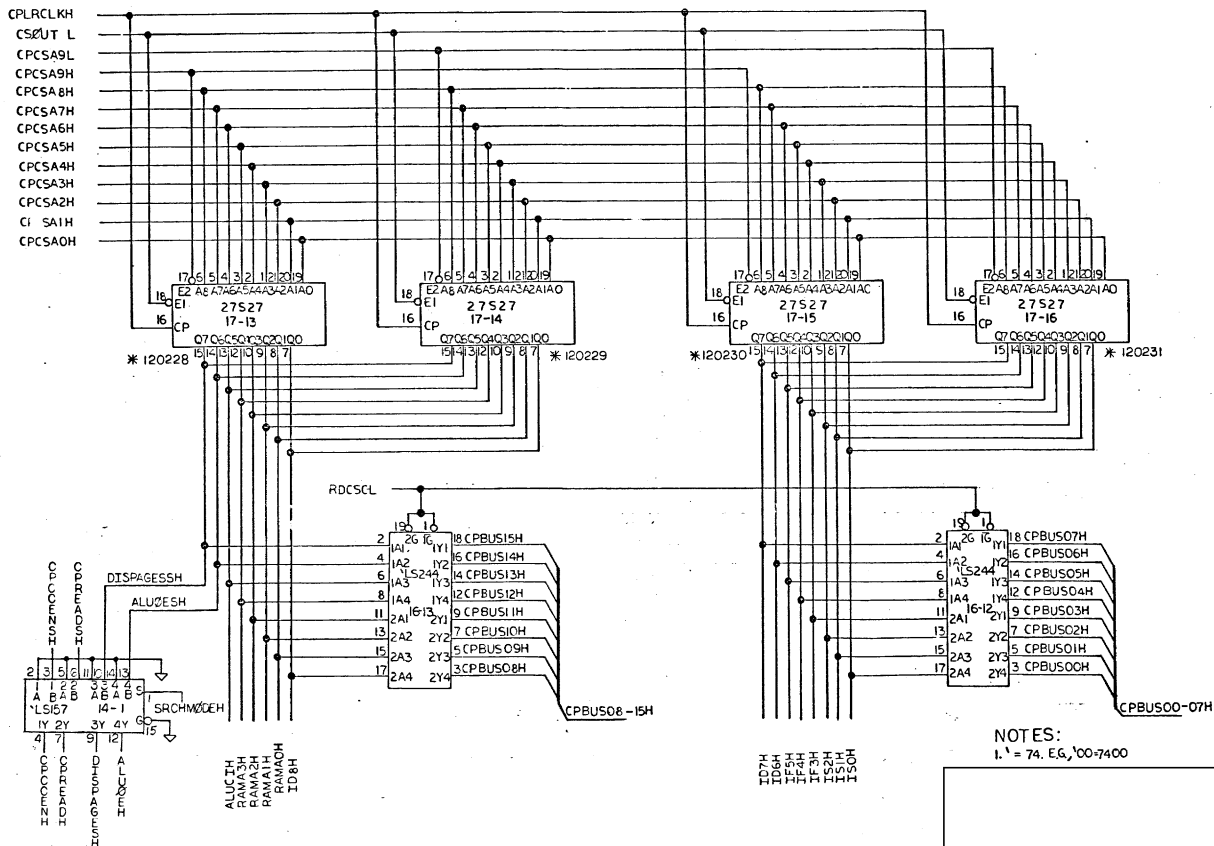


NOTES:
1. = 74. E.G., '00-7400

STAT

REVISIONS		DATE	APPROVED
LET	DESCRIPTION		
A	CORRECTIONS	4-11-79	

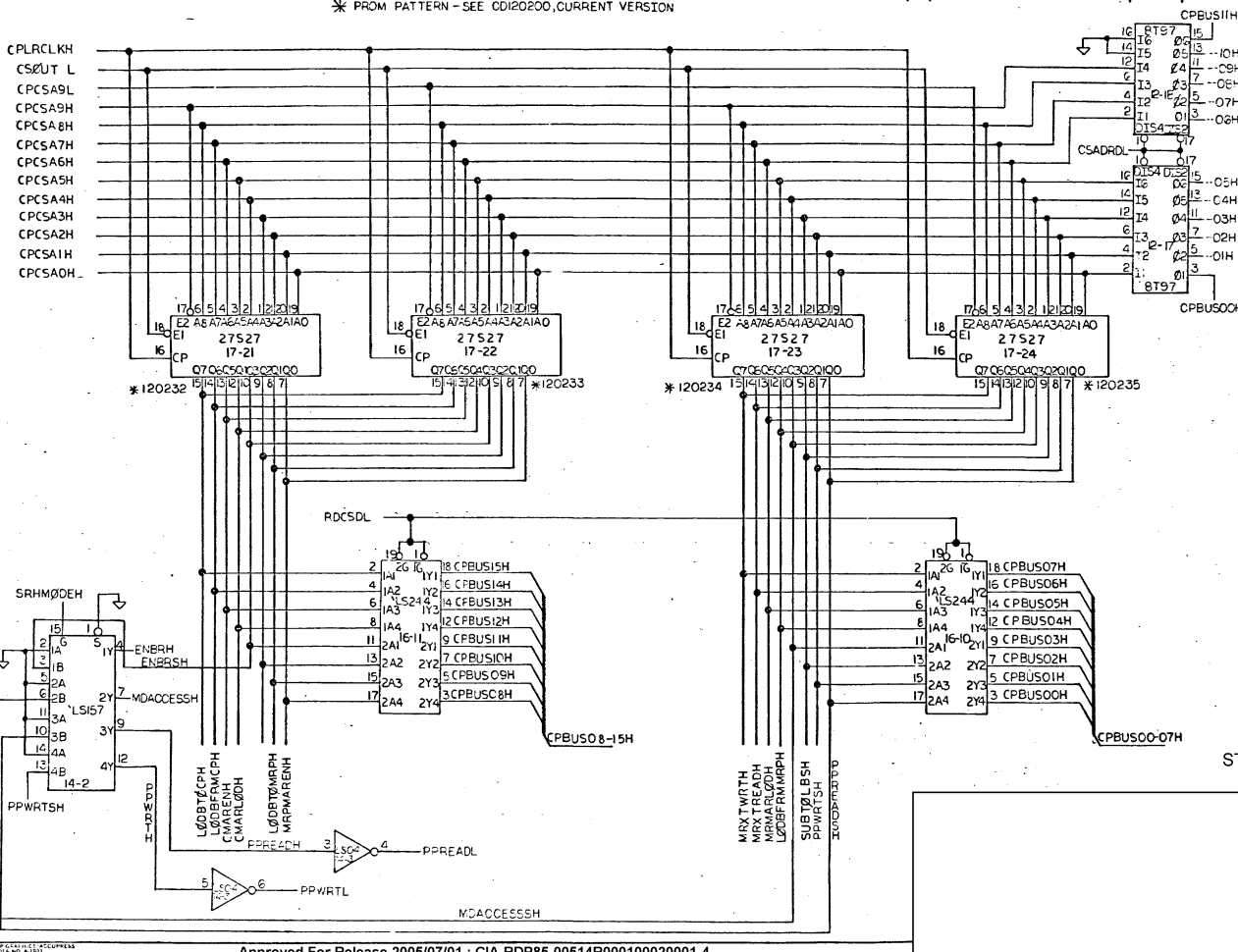
* PROM PATTERN - SEE CD120200, CURRENT VERSION



NOTES:
1. = 74. E.G., '00-7400

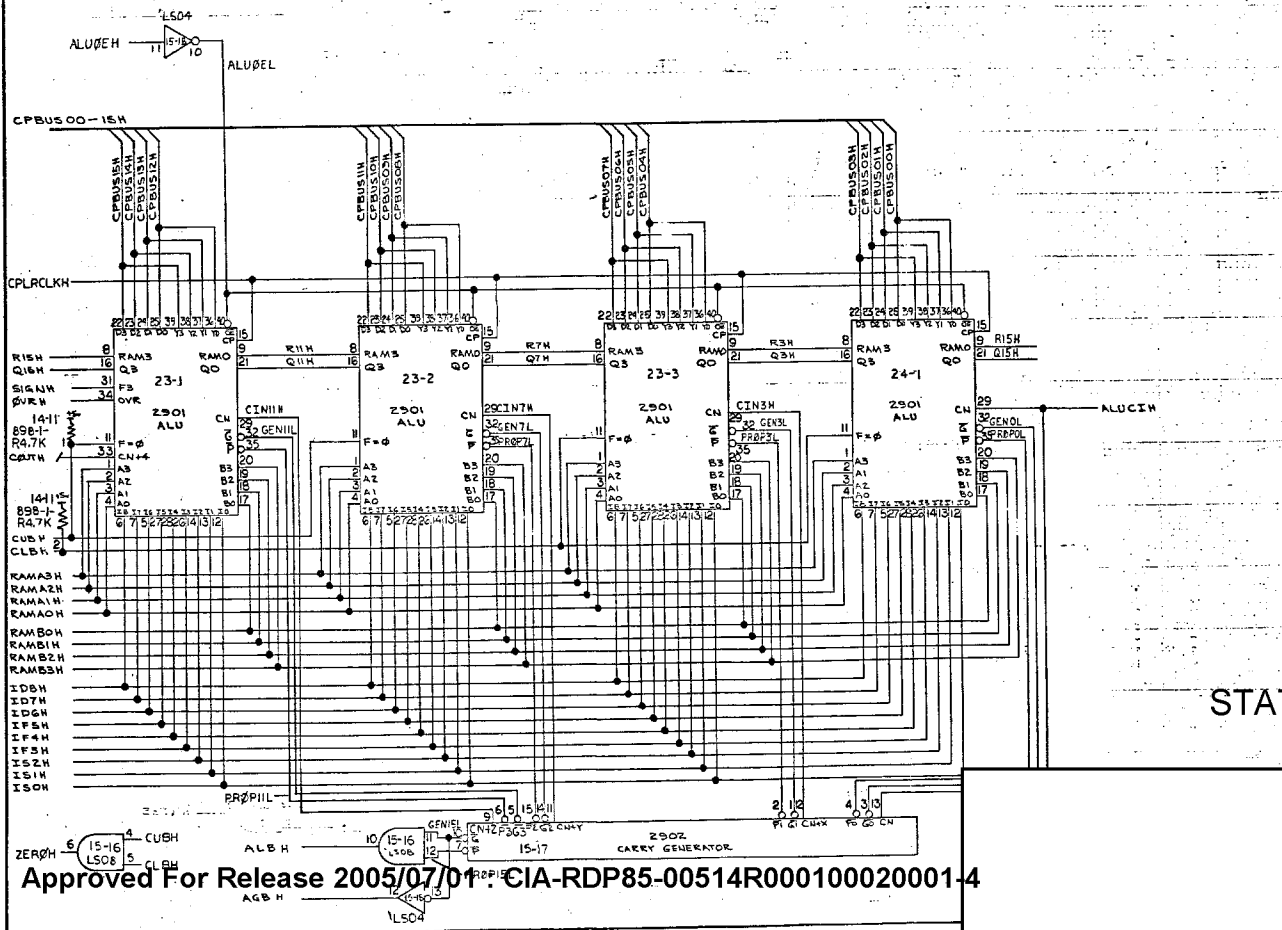
* PROM PATTERN - SEE CD120200,CURRENT VERSION

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED
A	CORRECTIONS	4-11-79	



Approved For Release 2005/07/01 : CIA-RDP85-00514R000100020001-4

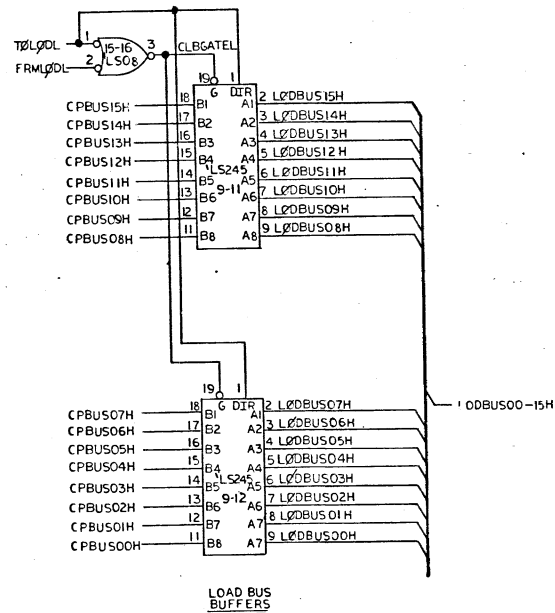
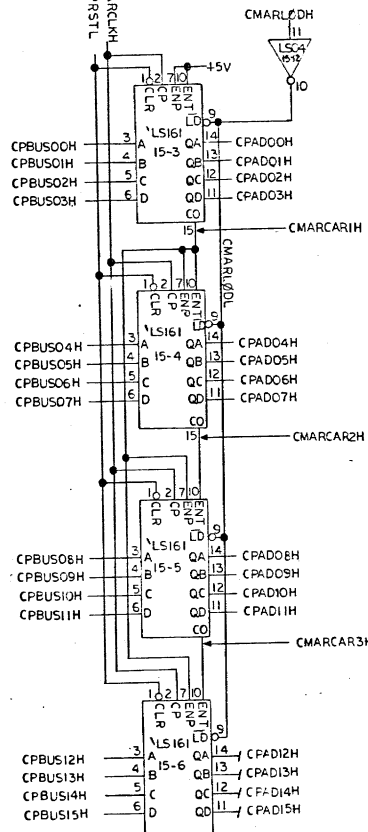
REVISIONS			
LIN	DESCRIPTION	DATE	APPROVED
14	CORRECTIONS	4-11-79	



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STAT

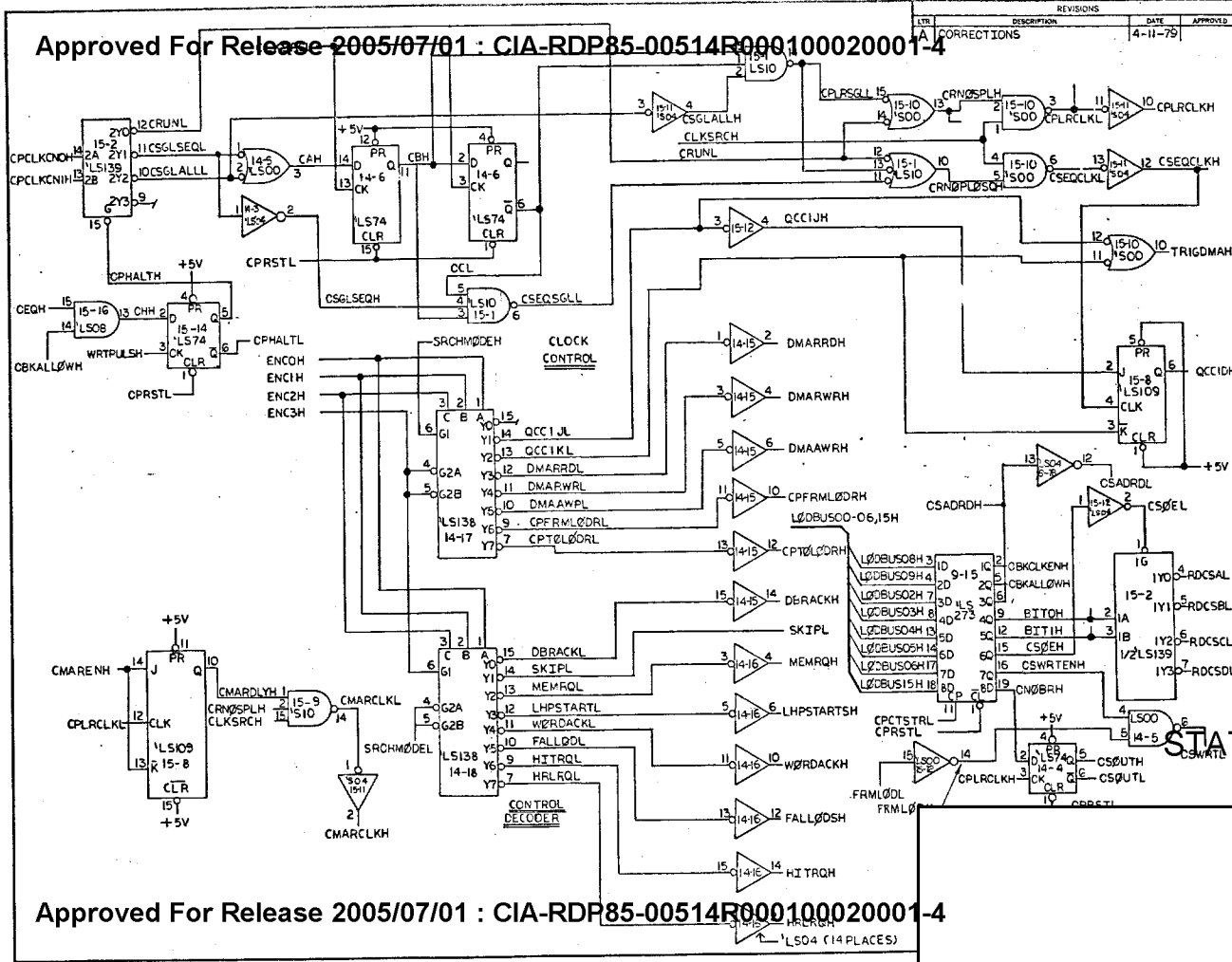
REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED
A	CORRECTIONS	4-11-79	



STAT

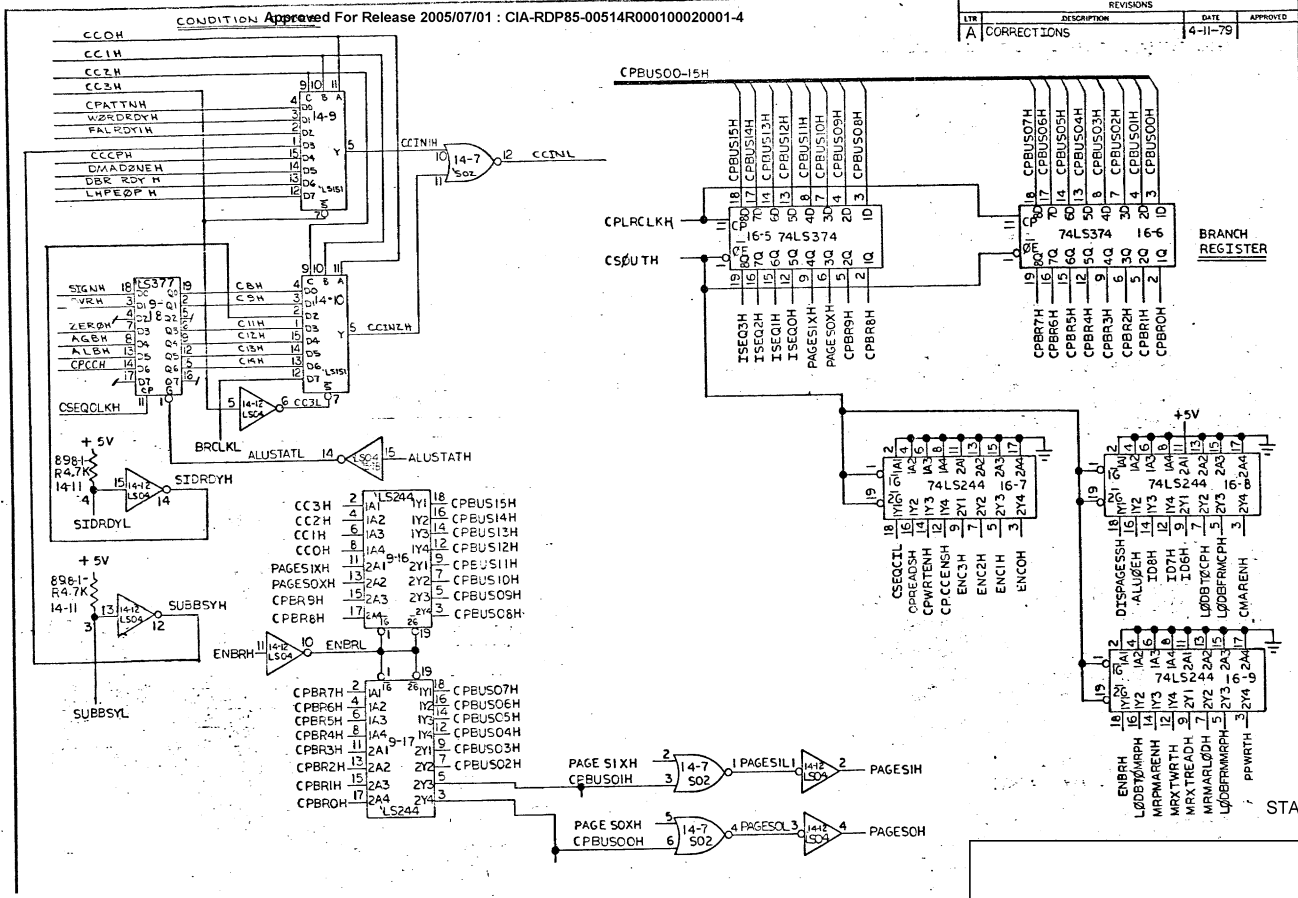
Approved For Release 2005/07/01 : CIA-RDP85-00514R000100020001-4

REV	DESCRIPTION	DATE	APPROVED
1	CORRECTIONS	4-11-79	



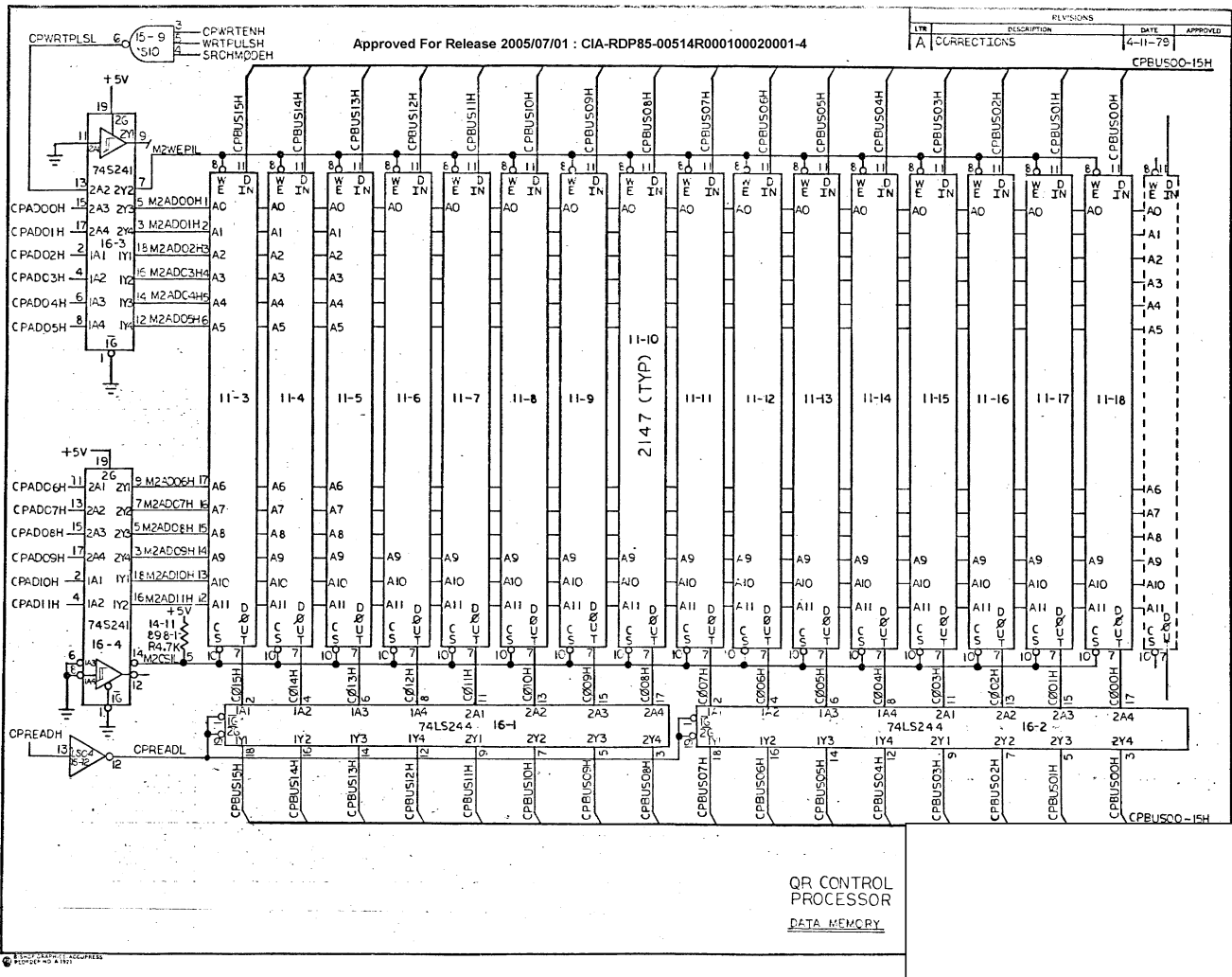
Approved For Release 2005/07/01 : CIA-RDP85-00514R000100020001-4

LS04 (14 PLACES)

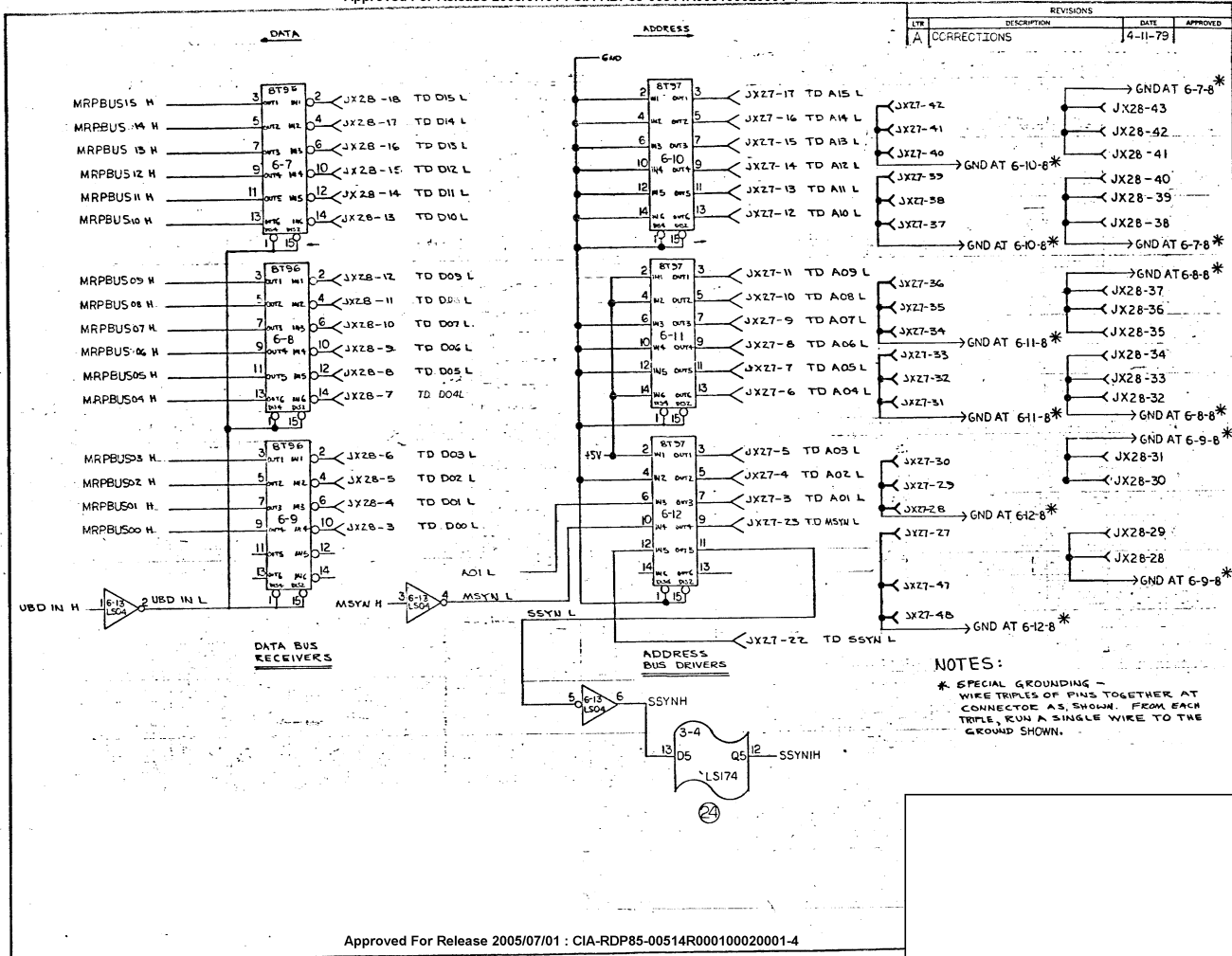


Approved For Release 2005/07/01 : CIA-RDP85-00514R000100020001-4

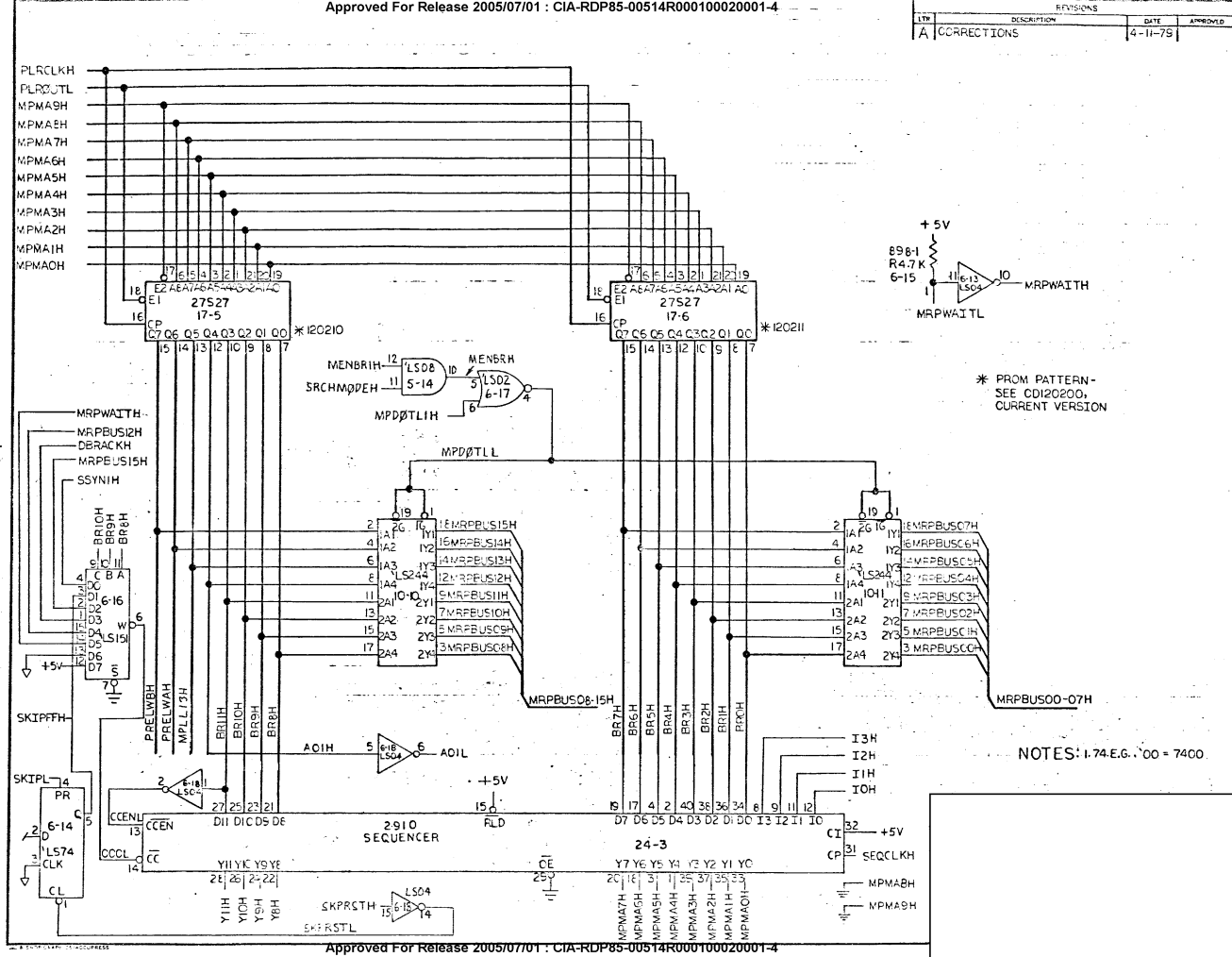
REV	DESCRIPTION	REVISIONS	DATE	APPROVED
A	CORRECTIONS		4-11-79	



Approved For Release 2005/07/01 : CIA-RDP85-00514R000100020001-4



REV	DESCRIPTION	DATE	APPROVED
1	CORRECTIONS	4-11-79	

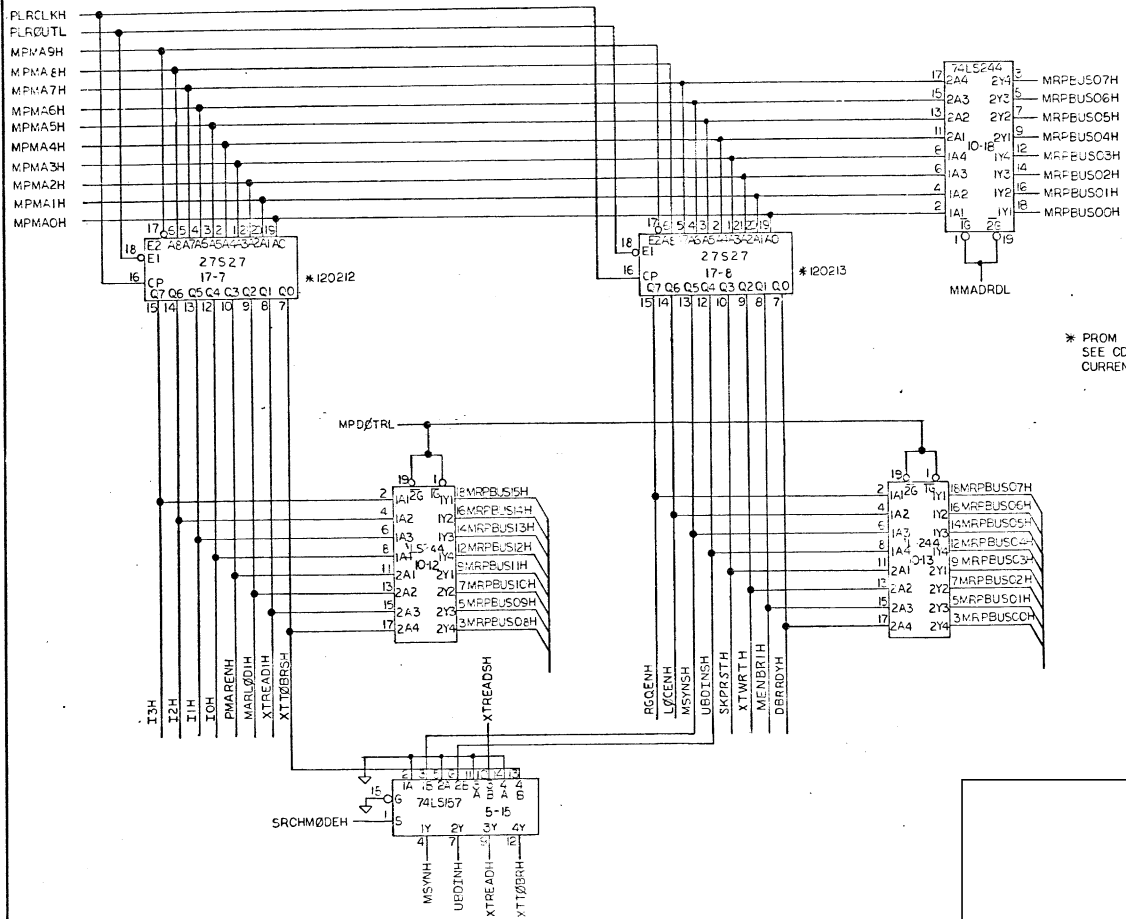


* PROM PATTERN -
SEE CD120200.
CURRENT VERSION

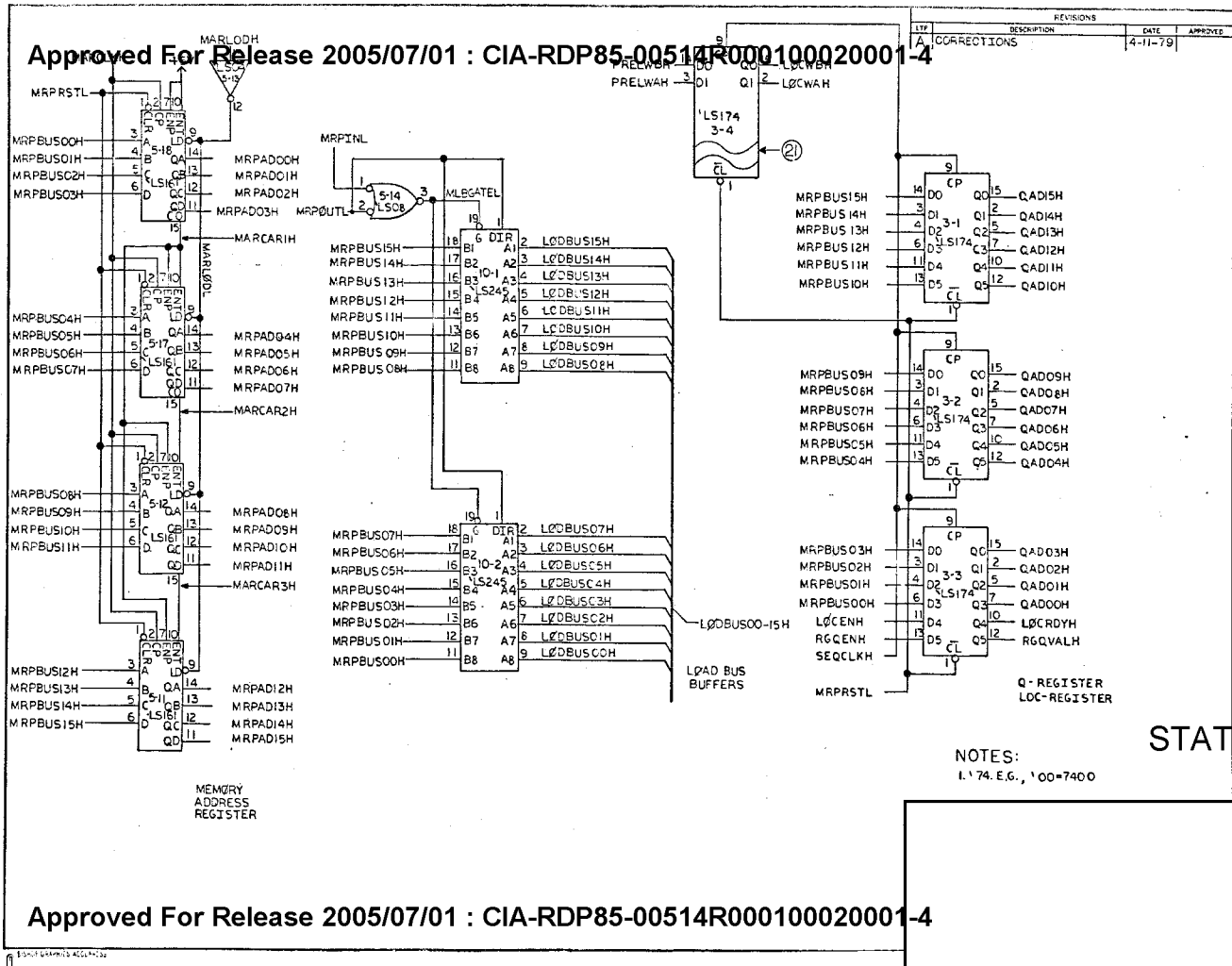
NOTES: 1.74.E.G. '00 = 7400

STAT

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED
A	CORRECTIONS	4-11-79	

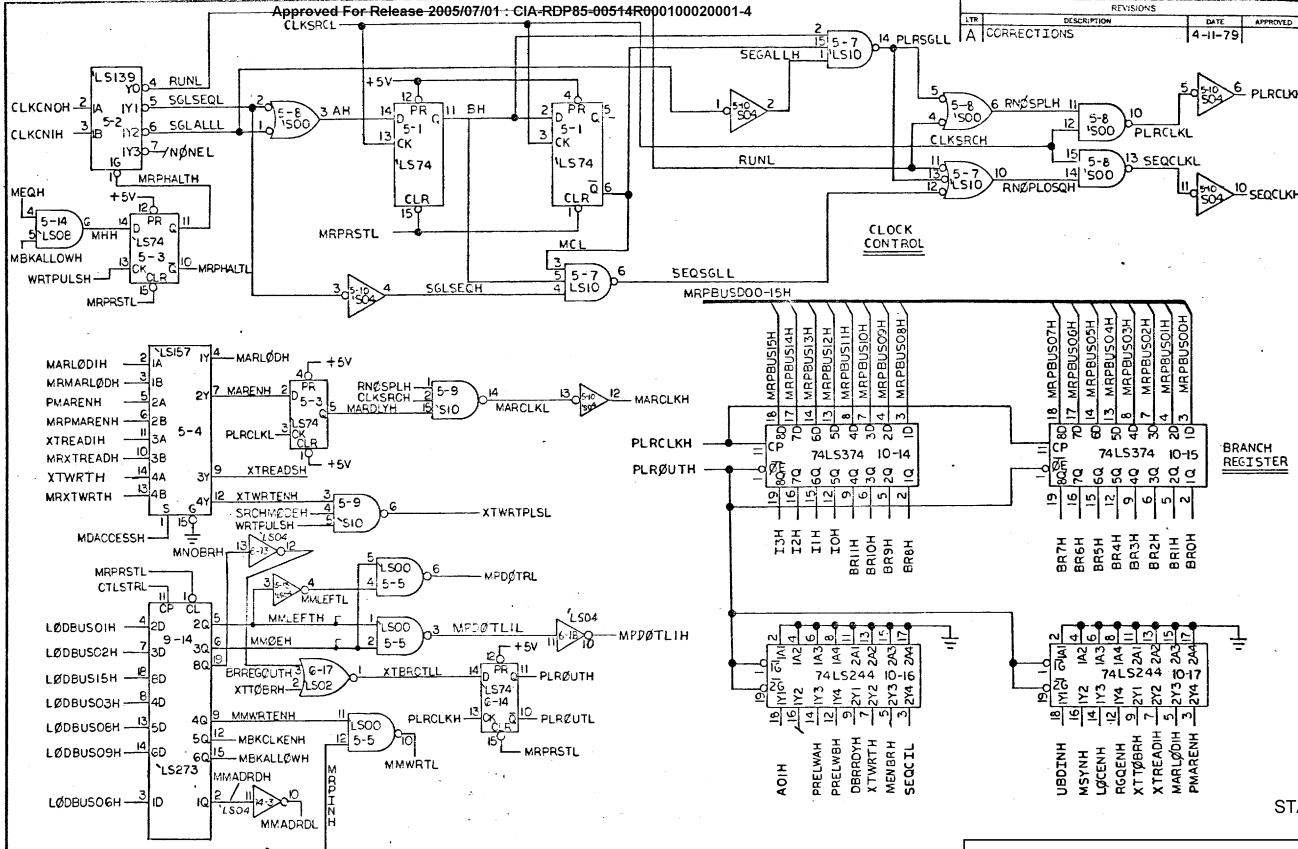


Approved For Release 2005/07/01 : CIA-RDP85-00514R000100020001-4



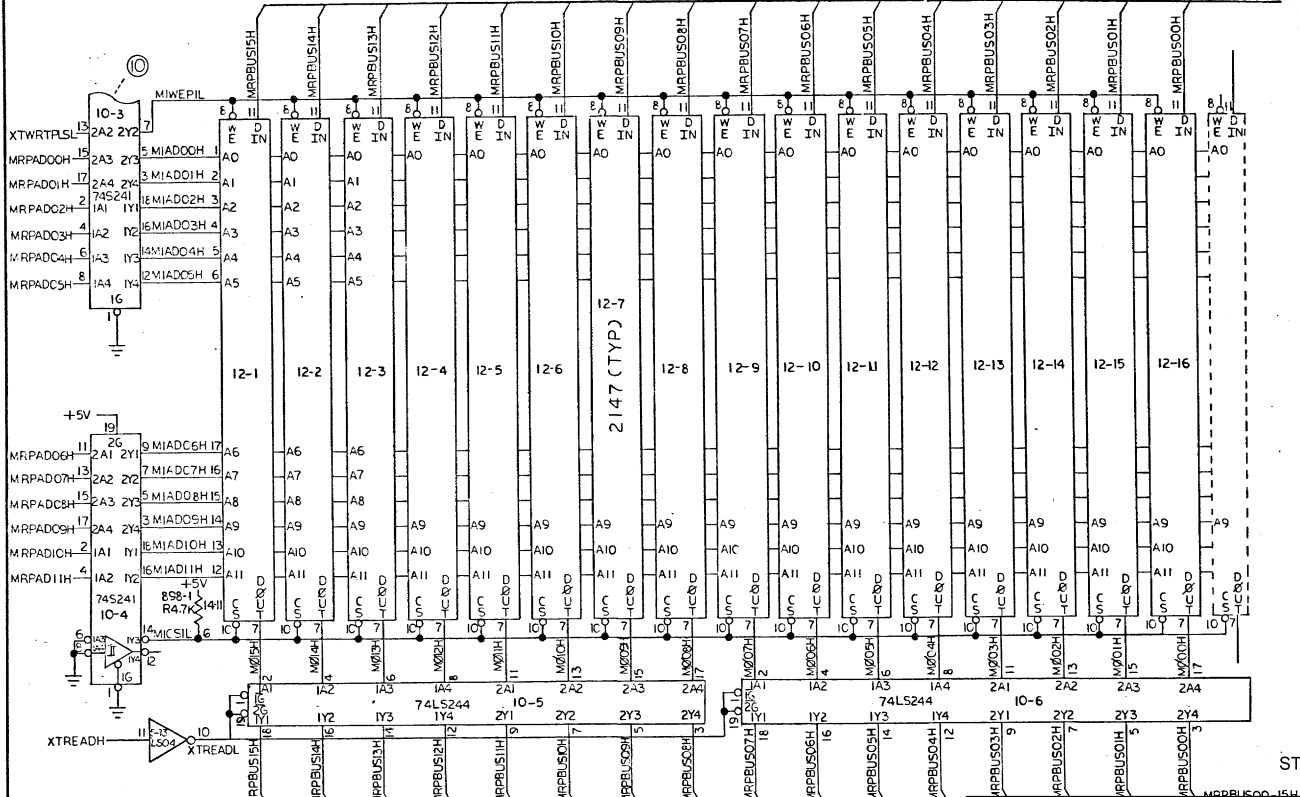
Approved For Release 2005/07/01 : CIA-RDP85-00514R000100020001-4

REV	DESCRIPTION	DATE	APPROVED
1	CORRECTIONS	4-11-79	



NOTES:
 1' = 74.EG., 'LS00 = 74LS

REVISIONS		
LTN	DESCRIPTION	DATE
A	CORRECTIONS	4-11-79



QR MATCH REPORT
PROCESSOR
DATA MEMORY

HQR PIPELINE
PROCESSOR

OSI ENGINEERING CHANGE ORDER

ECO Number: 10

Date: 3/24/80

Originator:

Unit or Program Affected: 120091 HQR Pipelined Processors

Documents Affected:

SC120091
(others already upgraded)

Description of Change:

Upgrade to current NPIC version -
Jumper header for sub-doc mode + QLB length (Sheet 16)
Minor corrections

Release SC120091 B

Previous versions become obsolete.

SUBORDINATE DOCUMENTS:

SCI20091B
WL120091B
AP120091A
PL120091A

REVISION HISTORY:

ORIGINAL ISSUE 2/21/80

CONTENTS:

IC SOCKET POSITIONS
CONNECTOR & BLOCK POSITIONS
DISCRETE HEADERS

SHEETS

2-9
10
11

STAT

STAT

[Redacted]

175041

EECO DOC NO. 413114-D

DATE 08-13-79

I C L O C A T I O N L I S T

PAGE 1

IC TYPE B/D BLK SKT

74S174	0	1	2
74S174	0	1	3
74S174	0	1	4
74S10	0	1	5
74S139	0	1	6
74S00	0	1	8
74S00	0	1	9
74LS02	0	1	10
74S174	0	1	11
74S182	0	1	12
74LS670	0	1	14
74LS670	0	1	15
74LS670	0	1	16
74LS670	0	1	17
74S85	0	1	18
74S1	0	1	25
74S85	0	2	1
74S85	0	2	2
74S85	0	2	3
74S85	0	2	4
74LS670	0	2	5
74LS670	0	2	6
74LS670	0	2	7
74LS670	0	2	8
898-1-74.7K	0	2	9
93L425	0	2	10
93L425	0	2	11
93L425	0	2	12
93L425	0	2	13
93L425	0	2	14
93L425	0	2	15
93L425	0	2	16
93L425	0	2	17
93L425	0	2	18
93L425	0	3	1
93L425	0	3	2
93L425	0	3	3
93L425	0	3	4
93L425	0	3	5
93L425	0	3	6
93L425	0	3	7
93L425	0	3	8
93L425	0	3	9
93L425	0	3	10
93L425	0	3	11

AD120091
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STAT

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175041

EECO DOC NO. 413114-D

DATE UB-13-79

I C L O C A T I O N L I S T

PAGE 2

IC TYPE	B/D	BLK	SKT
93L425	0	3	12
93L425	0	3	13
93L425	0	3	14
93L425	0	5	15
93L425	0	5	16
93L425	0	6	17
93L425	0	3	18
93L425	0	4	1
93L425	0	4	2
93L425	0	4	3
93L425	0	4	4
93L425	0	4	5
93L425	0	4	6
93L425	0	4	7
74S04	0	4	8
74S02	0	4	9
74S10	0	4	10
74S00	0	4	11
74S161	0	4	12
74S161	0	4	13
74S161	0	4	14
74S161	0	4	15
74S136	0	4	16
74S00	0	4	17
74S74	0	4	18
74S30	0	5	1
74S182	0	5	2
74S182	0	5	3
74S163	0	5	4
74S163	0	5	5
74S163	0	5	6
74S00	0	5	7
74S08	0	5	8
74LS02	0	5	9
74S20	0	5	10
74S151	0	5	11
74LS74	0	5	12
74LS86	0	5	14
74LS86	0	5	15
74LS86	0	5	16
74LS86	0	5	17
74S64	0	5	18
74S64	0	6	1
74S64	0	6	2
74S64	0	6	3

AD120091
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STAT

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175041

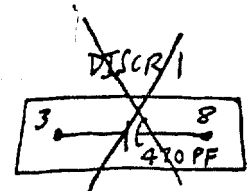
EEOC DOC NO. 413114-0

DATE 08-13-79 I C L O C A T I O N L I S T

PAGE 3

	IC	TYPE	B/D	BLN	SKT
		74LS378	0	6	4
		74LS163	0	6	7
		74LS163	0	6	8
		74LS163	0	6	9
898-1-		R4.7K	0	6	12
		93L425	0	6	13
		93L425	0	6	14
		93L425	0	6	15
		93L425	0	6	16
		93L425	0	6	17
		93L425	0	6	18
898-1-		R4.7K	0	7	3
		74LS74	0	7	4
		74S10	0	7	5
		74LS74	0	7	6
		74S20	0	7	9
		74S30	0	7	10
898-5-		R220/330	0	7	11
		74S02	0	7	12
		74S260	0	7	15
		74S174	0	7	16
		74S174	0	7	17
		74S112	0	7	18
		74S7	0	7	25
		74S8	0	7	26
		74S112	0	8	1
		74S112	0	8	2
		74S112	0	8	3
		74S112	0	8	4
		74S08	0	8	5
		74LS03	0	8	6
		93L425	0	8	7
		93L425	0	8	8
		93L425	0	8	9
		93L425	0	8	10
		93L425	0	8	11
		93L425	0	8	12
		93L425	0	8	13
		93L425	0	8	14
		93L425	0	8	15
		93L425	0	8	16
		93L425	0	8	17
		74S139	0	8	18
		74S240	0	9	1
		74S241	0	9	2

DISCR 1 6-10



SEE SHEET 11

AD120091
4 OF 11

STAT

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175041

EECO DOC NO. 413114-D

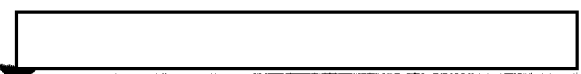
DATE 08-13-79 I C L O C A T I O N L I S T

PAGE 4

IC TYPE	B/D	BLK	SKT
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74S240	0	9	4
74S381	0	9	5
74S381	0	9	6
74S241	0	9	7
74S241	0	9	8
74S241	0	9	9
74S241	0	9	10
74LS241	0	9	11
74LS241	0	9	12
74LS241	0	9	13
74LS241	0	9	14
74LS244	0	9	15
74LS244	0	9	16
74S241	0	9	17
74S241	0	9	18
74S241	0	10	1
74S241	0	10	2
74LS244	0	10	3
74LS244	0	10	4
74LS244	0	10	5
74S373	0	10	6
74S373	0	10	7
74S373	0	10	8
74S381	0	10	9
74S381	0	10	10
74S381	0	10	11
74S381	0	10	12
74S381	0	10	13
74S373	0	10	14
74S373	0	10	15
74LS244	0	10	16
74LS244	0	10	17
74LS244	0	10	18
74LS244	0	11	1
74LS244	0	11	2
74LS244	0	11	3
74LS244	0	11	4
74LS244	0	11	5
74LS377	0	11	6
74LS377	0	11	7
74LS377	0	11	8
74S241	0	11	9
74LS377	0	11	10
74S241	0	11	11

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EECO DOC NO. 413114-D

DATE 08-13-79

I C L O C A T I O N L I S T

PAGE 5

IC TYPE	B/D	BLK	SKT
74S241	0	11	12
74S241	0	11	13
74LS244	0	11	14
74LS244	0	11	15
74LS244	0	11	16
74LS244	0	11	17
20LS2538	0	11	18
20LS2538	0	12	1
74S373	0	12	2
74S373	0	12	3
20LS2538	0	12	4
20LS2538	0	12	5
74S373	0	12	6
74S373	0	12	7
20LS2538	0	12	8
20LS2538	0	12	9
74S373	0	12	10
74S373	0	12	11
74S381	0	12	12
74S381	0	12	13
74LS377	0	12	14
74LS377	0	12	15
74LS244	0	12	16
74S299	0	12	17
74S04	0	13	1
74S04	0	13	2
AM25S10	0	13	3
AM25S10	0	13	4
AM25S10	0	13	5
AM25S10	0	13	6
AM25S10	0	13	7
AM25S10	0	13	8
AM25S10	0	13	9
AM25S10	0	13	10
AM25S10	0	13	11
AM25S10	0	13	12
AM25S10	0	13	13
AM25S10	0	13	14
AM25S10	0	13	15
AM25S10	0	13	16
AM25S10	0	13	17
AM25S10	0	13	18
AM25S10	0	14	1
74S00	0	14	2
74S151	0	14	3

AD120091
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STAT

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175041

EECO DOC NO. 413114-D

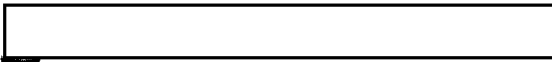
JATE 08-13-79 I C L O C A T I O N L I S T

PAGE 6

IC TYPE	B/D	BLK	SKT
74S151	0	14	4
74LS157	0	14	5
74LS157	0	14	6
74LS157	0	14	7
74LS157	0	14	8
93L425	0	14	9
93L425	0	14	10
93L425	0	14	11
93L425	0	14	12
93L425	0	14	13
93L425	0	14	14
93L425	0	14	15
93L425	0	14	16
93L425	0	14	17
93L425	0	14	18
2147	0	15	1
2147	0	15	2
2147	0	15	3
2147	0	15	4
2147	0	15	5
2147	0	15	6
2147	0	15	7
2147	0	15	8
2147	0	15	9
2147	0	15	10
2147	0	15	11
2147	0	15	12
2147	0	15	13
2147	0	15	14
2147	0	15	15
2147	0	15	16
2147	0	15	17
2147	0	15	18
2147	0	16	1
2147	0	16	2
2147	0	16	3
2147	0	16	4
2147	0	16	5
2147	0	16	6
2147	0	16	7
2147	0	16	8
2147	0	16	9
2147	0	16	10
2147	0	16	11
2147	0	16	12

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STAT



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EECO DOC NO. 413114-D

DATE 08-13-79

I C L O C A T I O N L I S T

PAGE 7

IC TYPE	B/D	BLK	SKT
2147	0	16	13
2147	0	16	14
2147	0	16	15
2147	0	16	16
93L425	0	17	1
93L425	0	17	2
93L425	0	17	3
93L425	0	17	4
93L425	0	17	5
93L425	0	17	6
74S00	0	17	7
74S151	0	17	8
74S151	0	17	9
74LS157	0	17	10
74LS157	0	17	11
74LS157	0	17	12
74LS157	0	17	13
93L425	0	17	14
93L425	0	17	15
93L425	0	17	16
93L425	0	17	17
93L425	0	17	18
93L425	0	16	1
93L425	0	16	2
93L425	0	16	3
93L425	0	16	4
93L425	0	16	5
93L425	0	16	6
93L425	0	16	7
93L425	0	16	8
93L425	0	16	9
93L425	0	16	10
93L425	0	16	11
74S00	0	16	12
74S151	0	16	13
74S151	0	16	14
74LS157	0	16	15
74LS157	0	16	16
74LS157	0	16	17
74LS157	0	16	18
93L425	0	19	1
93L425	0	19	2
93L425	0	19	3
93L425	0	19	4
93L425	0	19	5

AD120091
8 DF 11

STAT

[Redacted Box]

175041

EECO DOC NO. 413114-0

DATE 08-13-79

I C L O C A T I O N L I S T

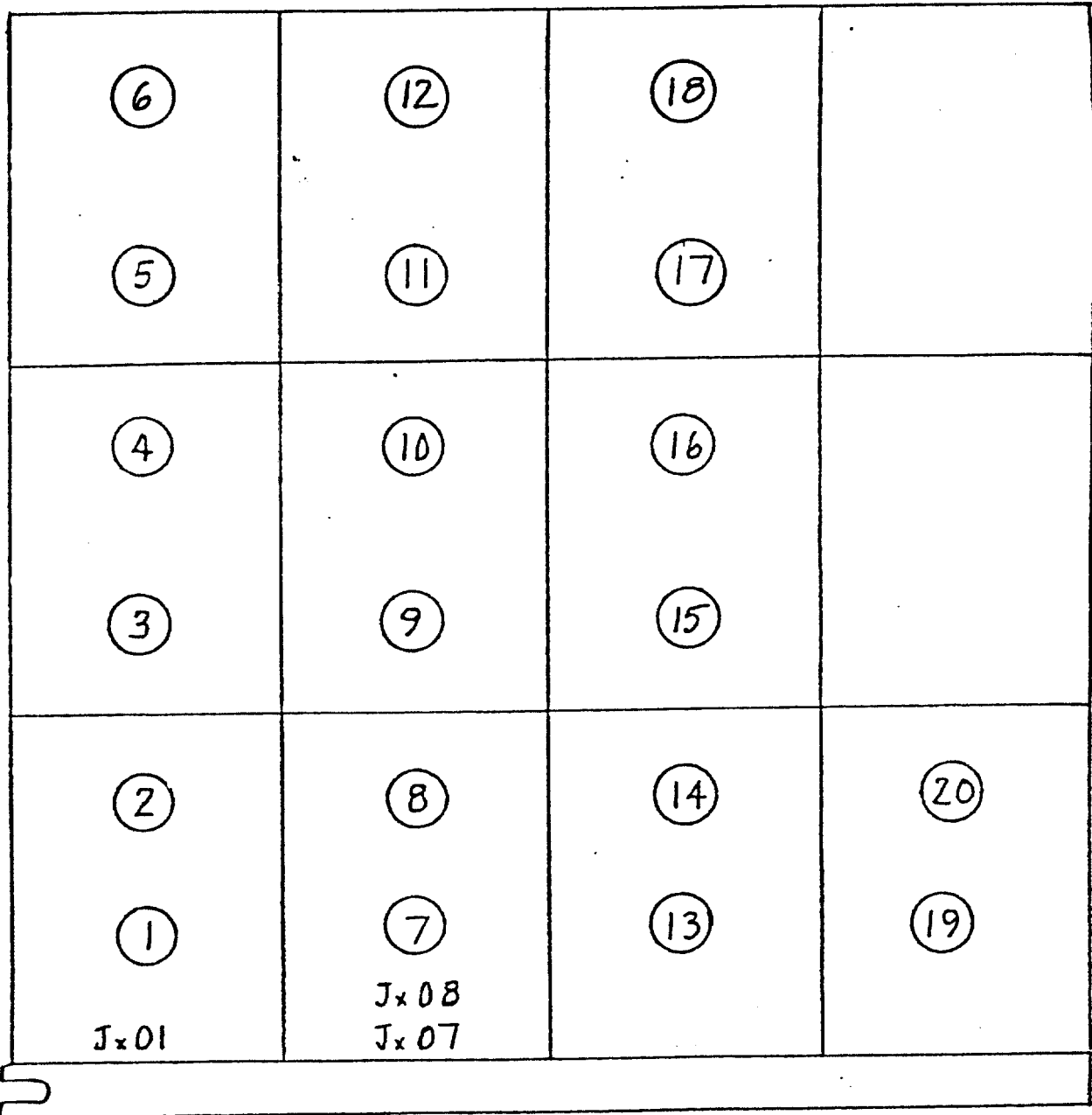
PAGE 8

IC TYPE	B/D	BLK	SKT
95L425	0	19	6
95L425	0	19	7
95L425	0	19	8
95L425	0	19	9
95L425	0	19	10
95L425	0	19	11
95L425	0	19	12
95L425	0	19	13
95L425	0	19	14
95L425	0	19	15
95L425	0	19	16
74S174	0	19	17
74S174	0	19	18
74S138	0	20	1
74S138	0	20	2
74S08	0	20	3
74S08	0	20	4
74S00	U	20	5
74S138	0	20	6
89-1- R4.7K	0	20	7
74S138	0	20	8
898-1 R4.7K	0	20	9
74LS378	0	20	10
74S260	0	20	11
74S139	0	20	12
74LS175 DISCR2	0	20	13
74LS02	0	20	14
74LS00	0	20	15
74LS00	0	20	16
74LS00	0	20	17
74LS10	0	20	18

DISCR2 → DISCR2 IS
 - HEADER WITH SEE SHEET II
 JUMPER WIRES:
 (VCC) 16-2
 (GND) 3-7-8-10-15

AD120091
 9 OF 11

CONNECTOR AND BLOCK POSITIONS



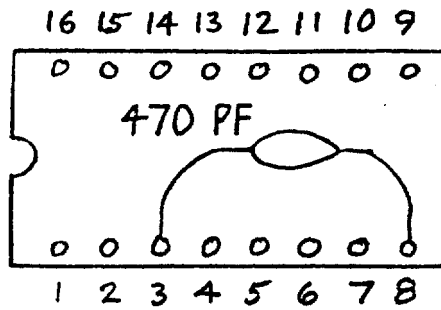
PIN 1 OF ALL IC SOCKETS AND CONNECTORS IS TOWARD PIVOT (LOWER LEFT) CORNER.

VIEW IS OF COMPONENT SIDE.

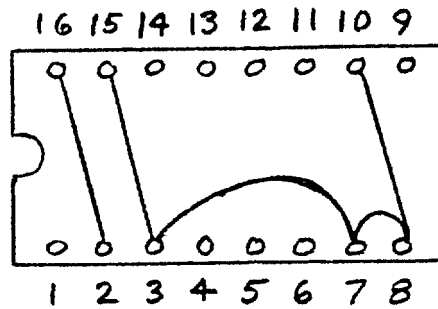
x = BOARD POSITION IN CHASSIS.

AD120091
10 OF 11

DISCRI (6-10)



DISCR2 (20-13)



DISCRETE HEADERS

AD120091
11 OF 11

1. EECO P/N 413110-01, REV. B
2. IC'S AND DISCRETE-COMPONENT HEADERS
PER SHEETS 2 & 3

STAT

STAT

175041

EECO DOC NO. 413114-D

'I C' T Y P E L I S T

DATE 08-13-79

IC TYPE	SEQ NO.	QTY
AM25S10	NONE	17
JX01	NONE	1
JX07	NONE	1
JX08	NONE	1
898-5-R220/330	NONE	1
898-1-R4.7K	NONE	5
2147	NONE	34
25LS2535	NONE	6
74LS00	NONE	3
74LS02	NONE	3
74LS03	NONE	1
74LS10	NONE	1
74LS157	NONE	12
74LS163	NONE	3
74LS175	NONE	1
74LS241	NONE	4
74LS244	NONE	18
74LS377	NONE	6
74LS378	NONE	2
74LS670	NONE	8
74LS74	NONE	3
74LS86	NONE	4
74S00	NONE	9
74S02	NONE	2
74S04	NONE	3
74S08	NONE	4
74S10	NONE	3
74S112	NONE	5
74S138	NONE	5
74S139	NONE	3
74S151	NONE	7
74S151	NONE	4
74S163	NONE	3
74S174	NONE	8
74S182	NONE	3
74S20	NONE	2
74S240	NONE	3
74S241	NONE	13
74S260	NONE	2
74S299	NONE	1
74S30	NONE	2
74S373	NONE	11
74S381	NONE	9
74S64	NONE	4
74S74	NONE	1

DISCR 1 *

PL120091A
2 of 3

* SEE SHEET 3

STAT

175041

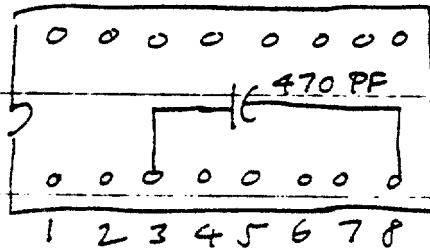
EECO DOC NO. 413114-0

'I C' TYPE LIST

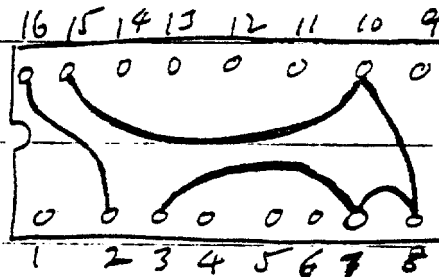
DATE 08-13-79

IC TYPE	SCU NO.	QTY
74S85	NONE	5
93L425	NONE	99

DISCR1: (CONNECTOR)



DISCR2: (JUMPER)

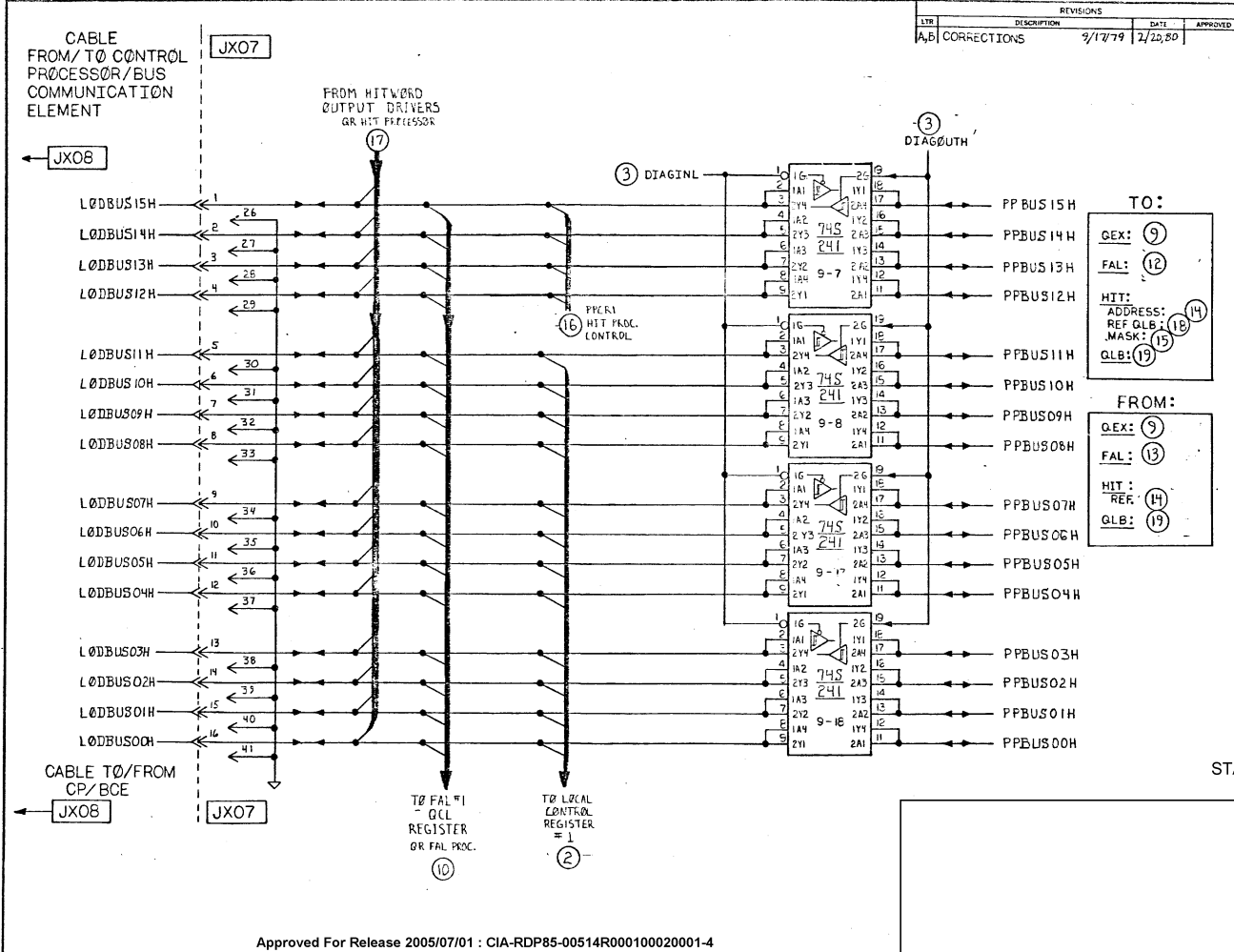


TOP VIEW

PL 120091A

3 OF 3

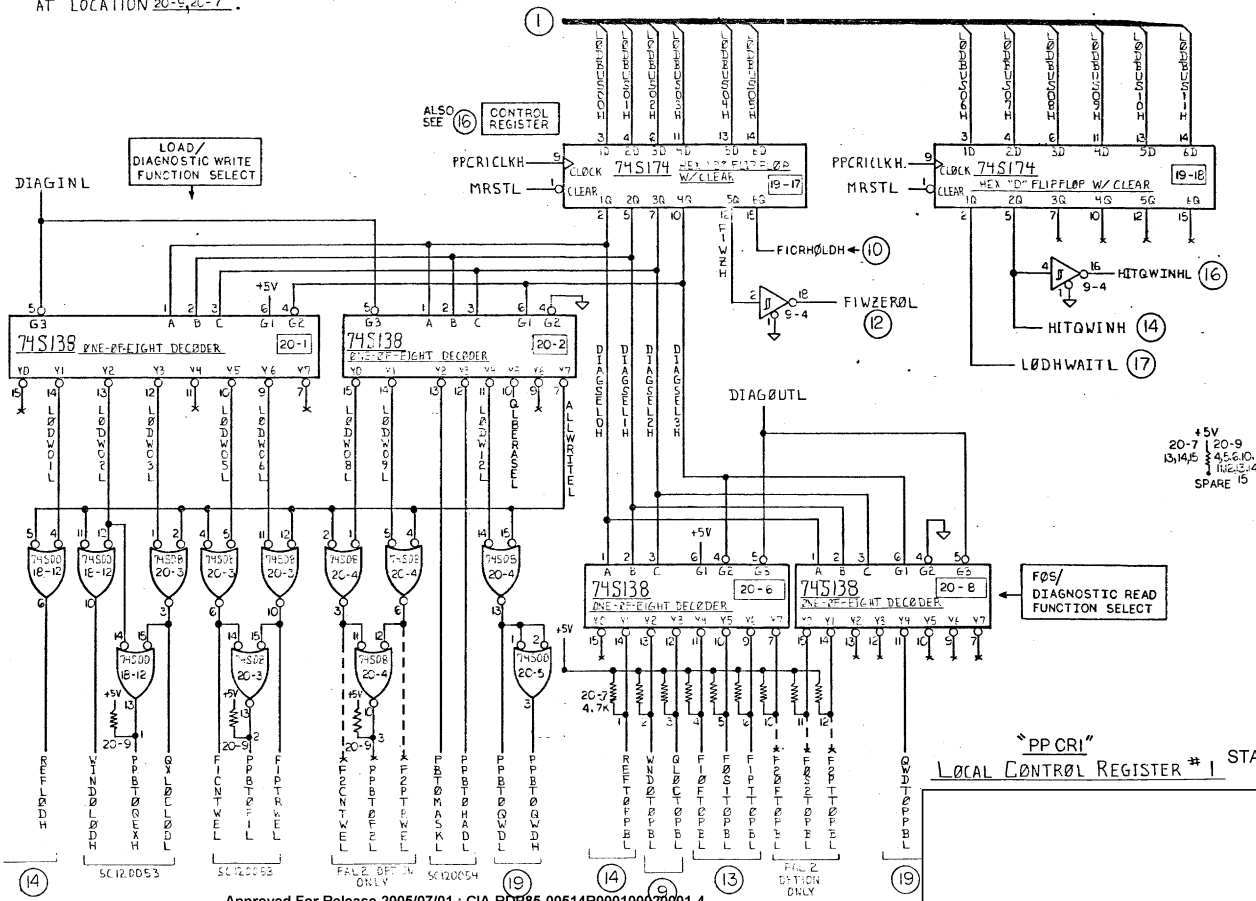
REV	DESCRIPTION	DATE	APPROVED
A,B	CORRECTIONS	9/17/79	2/20/80



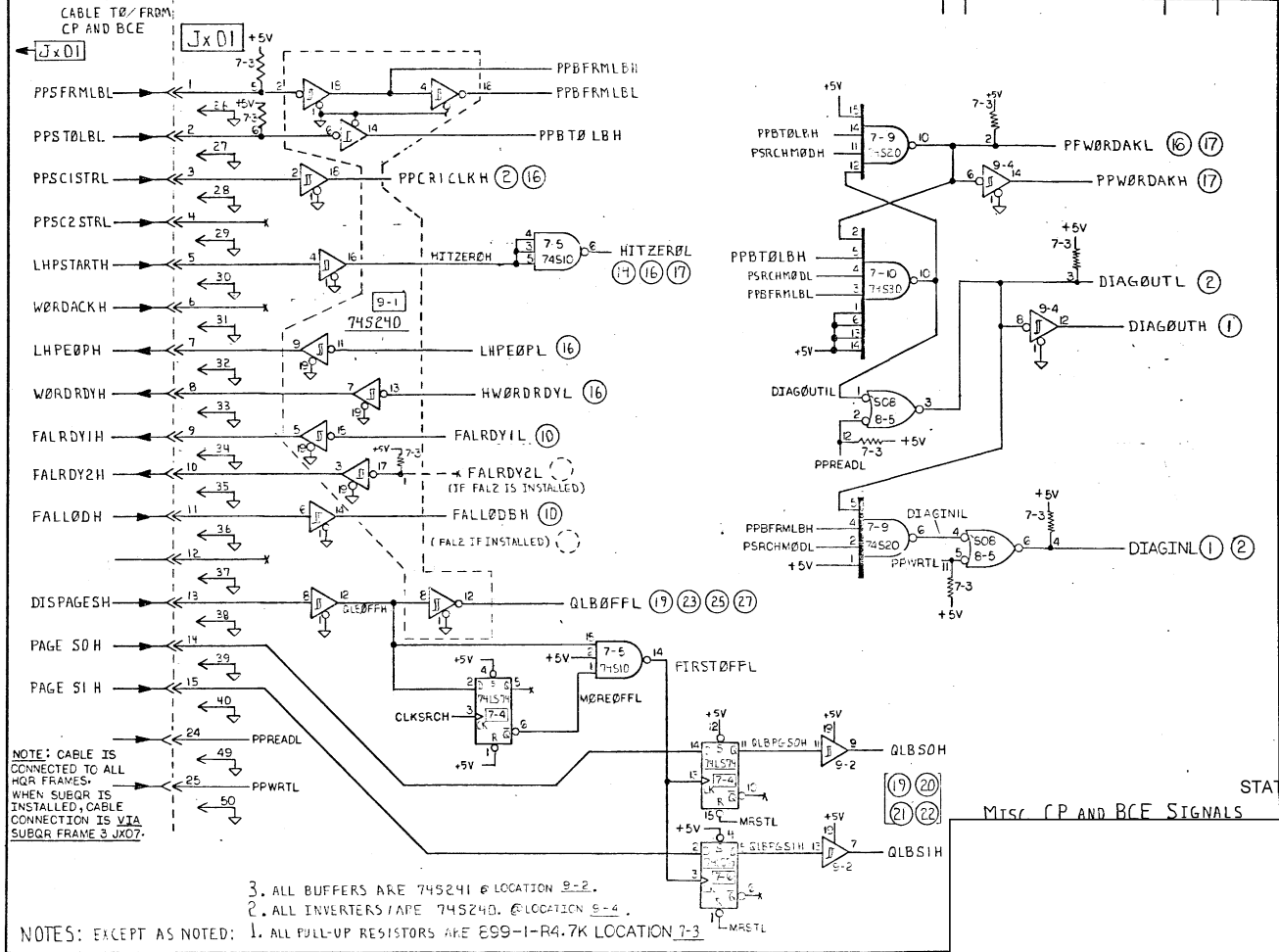
NOTES: EXCEPT AS NOTED

1. ALL INVERTERS ARE 74S240
2. ALL PULL-UP RESISTORS ARE 899-1-R4.7K AT LOCATION 20-5, 20-7.

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED



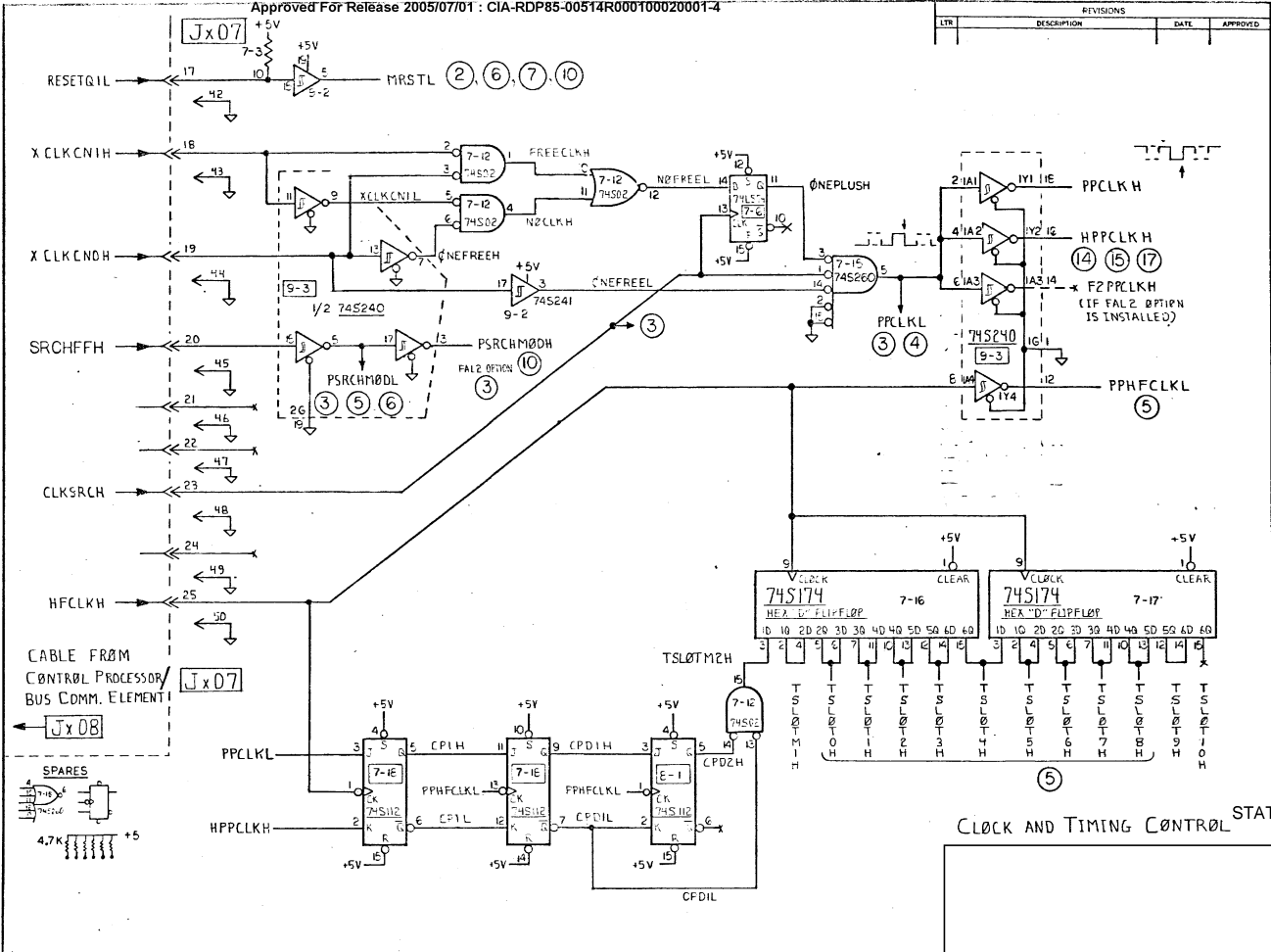
REV	DESCRIPTION	DATE	APPROVED



STAT

Misc CP AND BCE SIGNALS

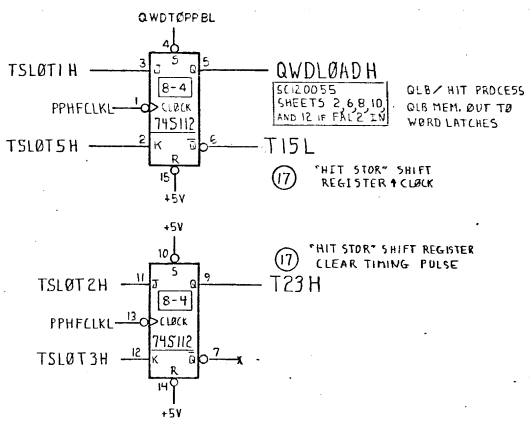
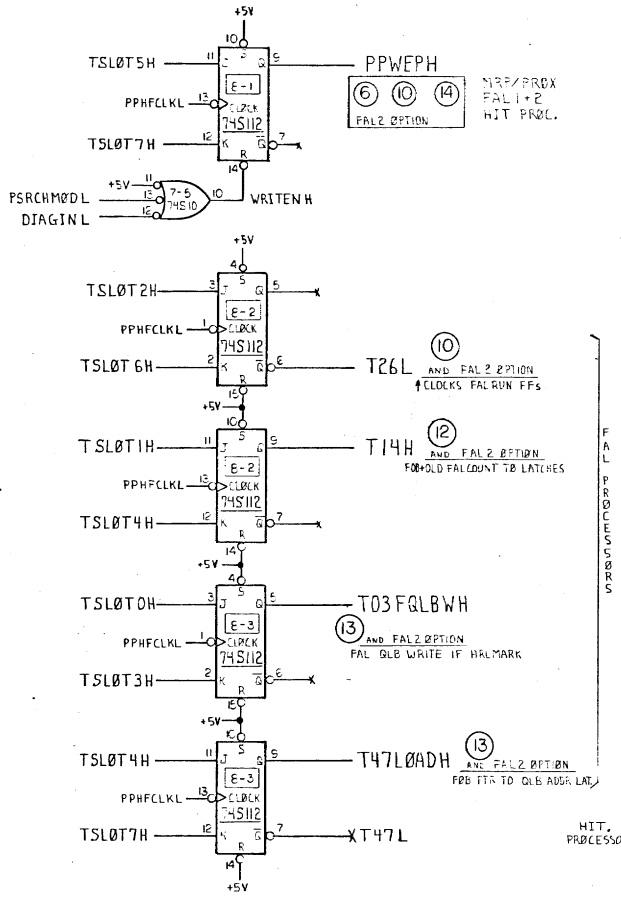
REV	DESCRIPTION	DATE	APPROVED



NOTES: 1. EXCEPT AS NOTED ALL INVERTERS ARE 74S02, BUFFERS ARE 74S241 @ LOCATION 9-2

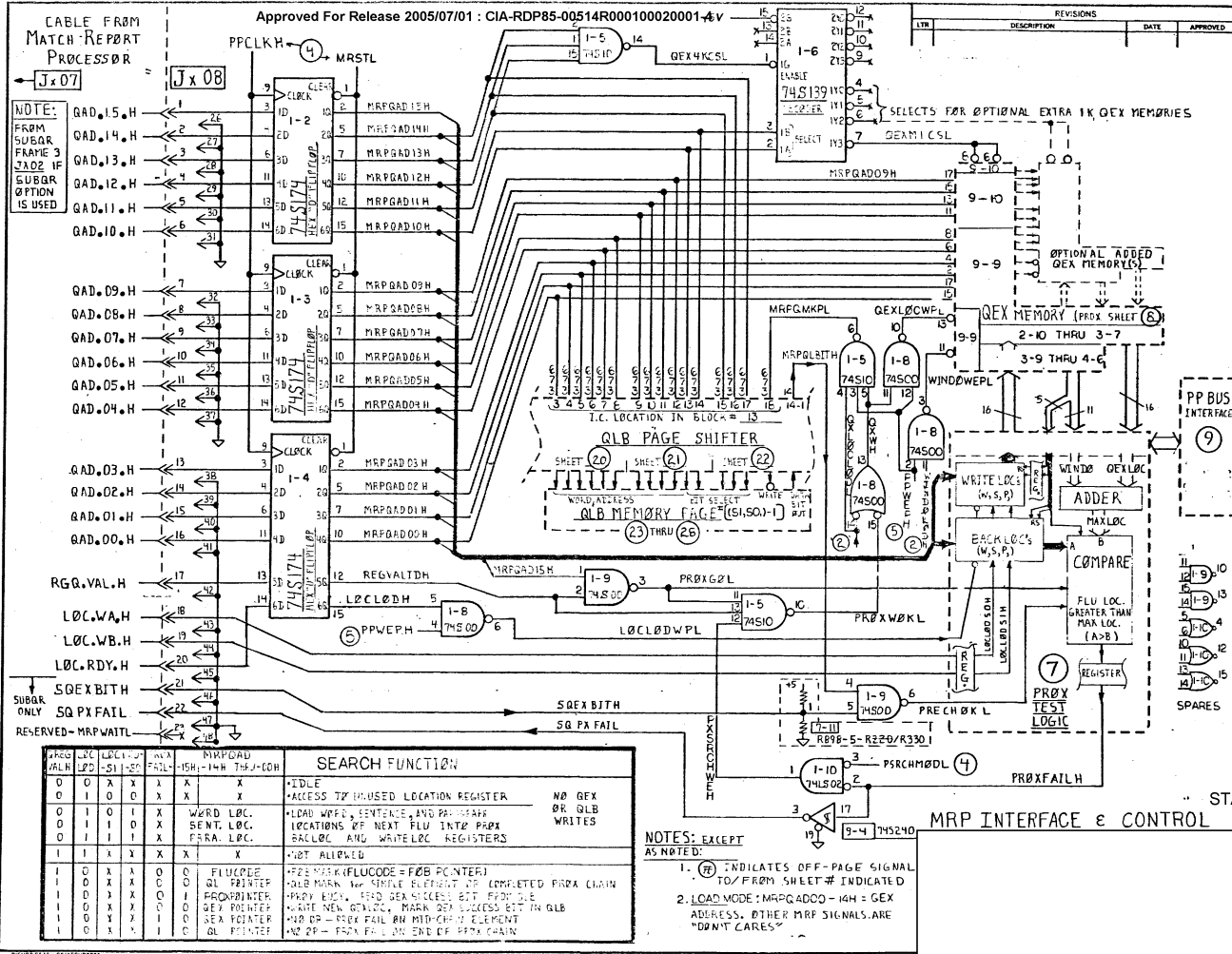
CLOCK AND TIMING CONTROL STAT

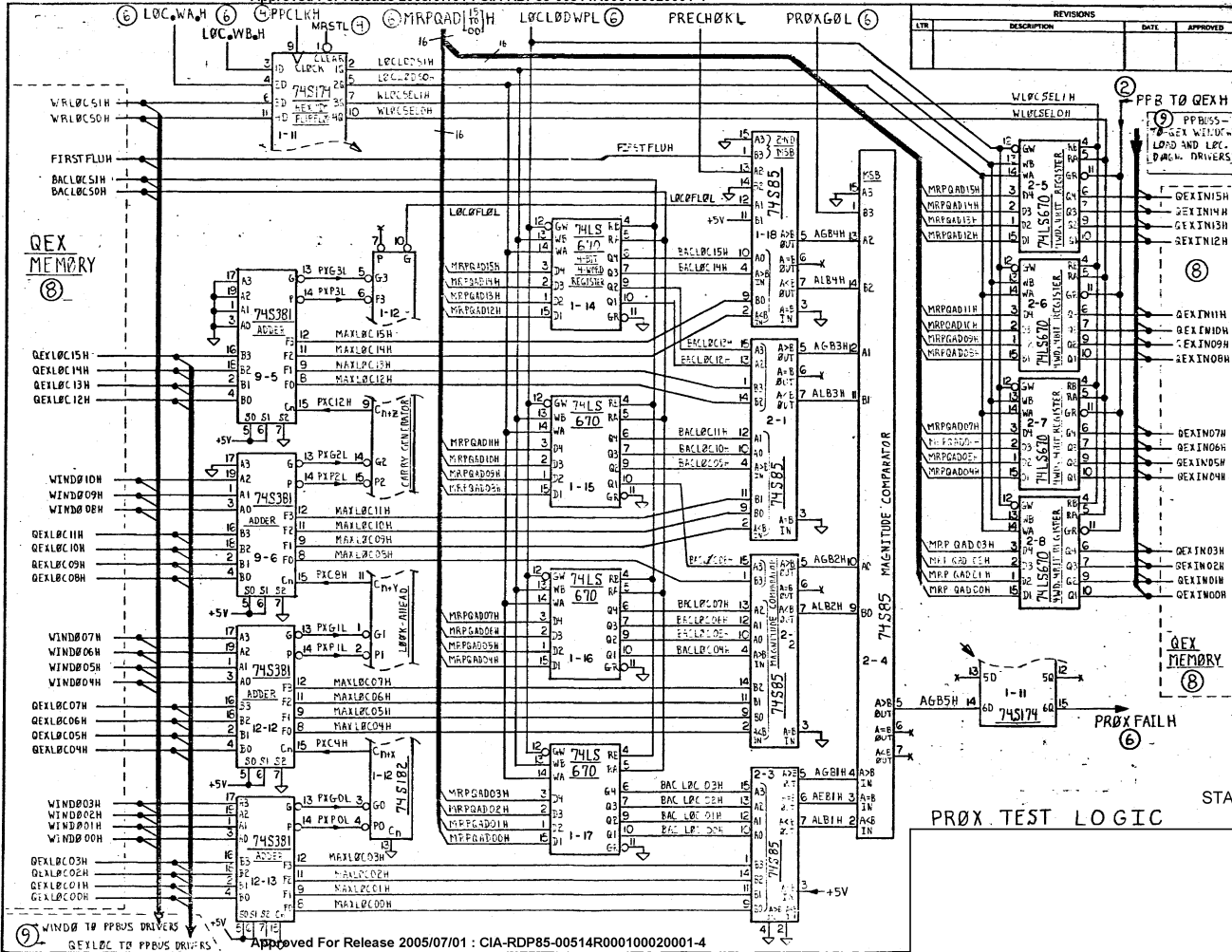
REV. NO.	DESCRIPTION	DATE	APPROVED

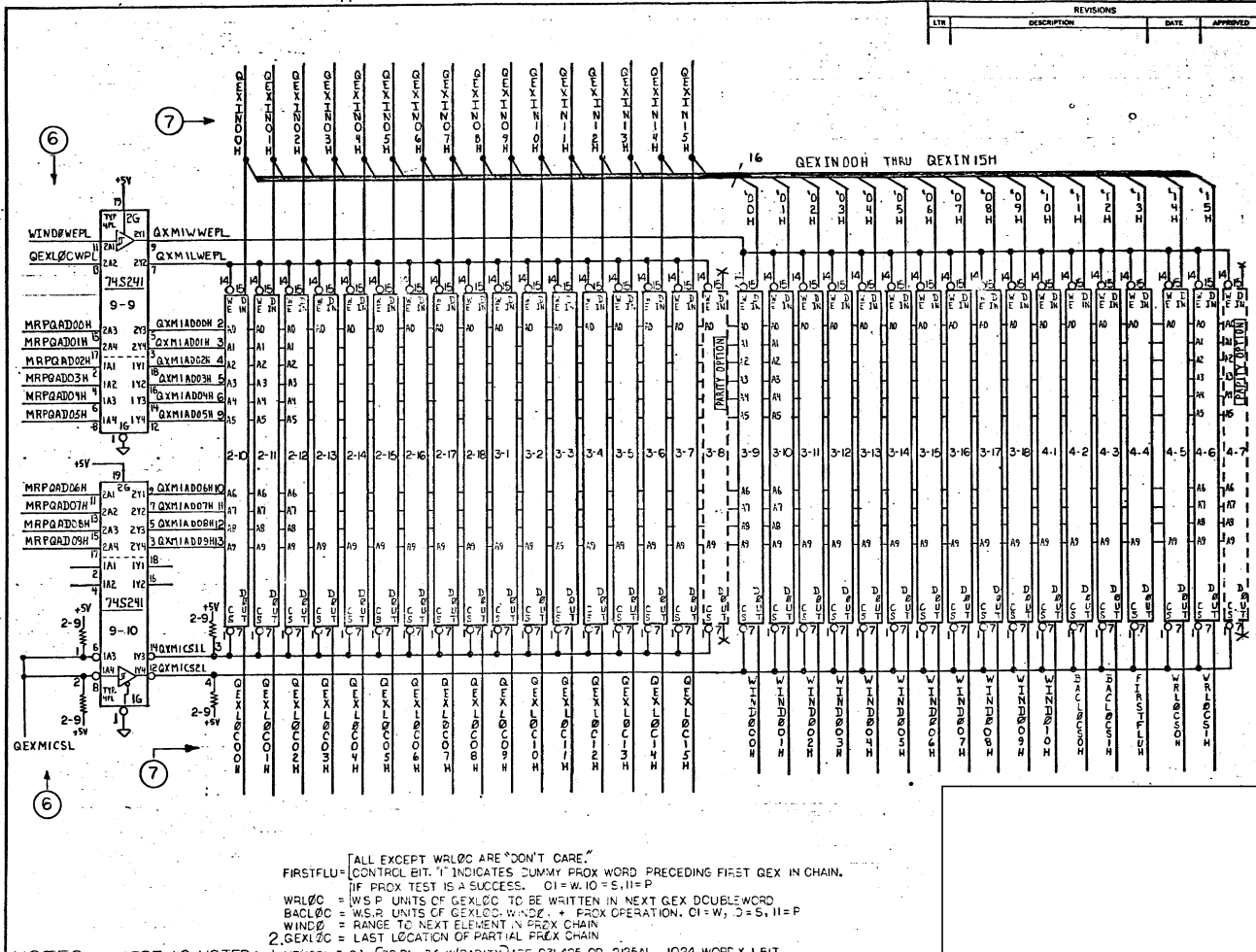


PROCESS CONTROL PULSE GENERATORS STAT

LTN	DESCRIPTION	REVISIONS	
		DATE	APPROVED





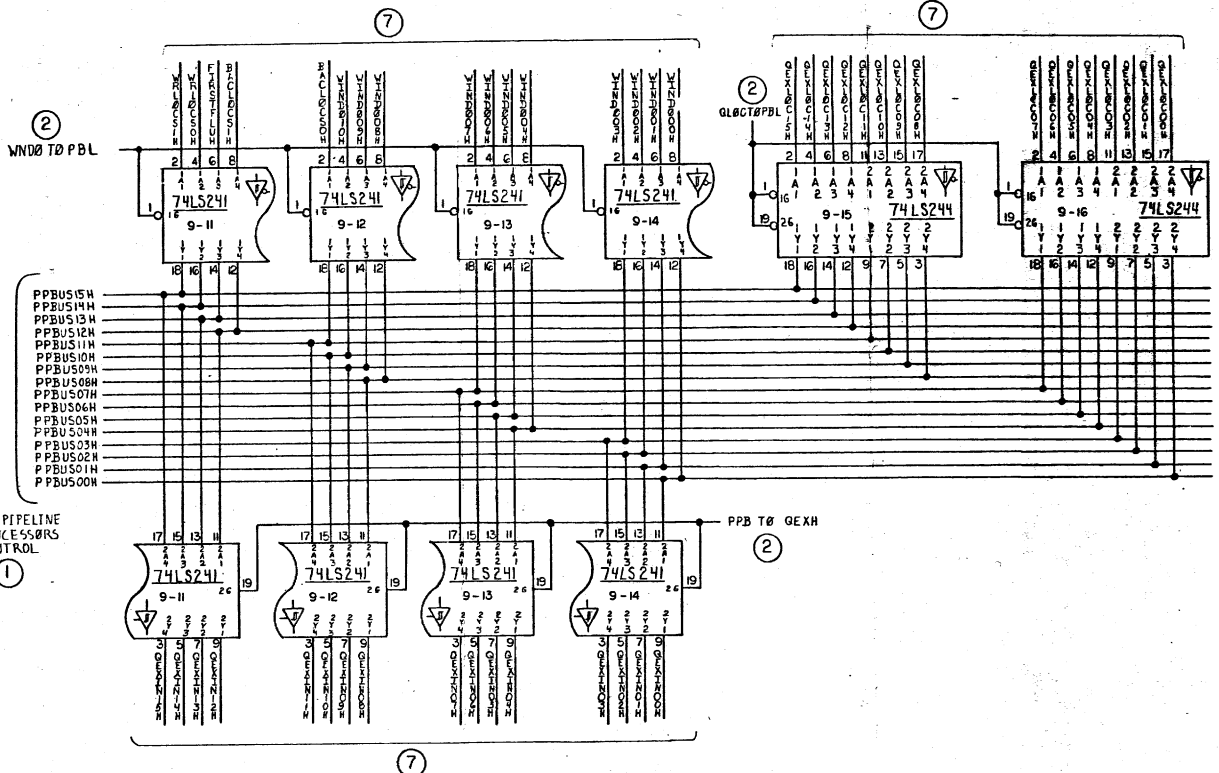


LTH	REVISIONS		DATE	APPROVED
	DESCRIPTION			

NOTES: EXCEPT AS NOTED: ALL EXCEPT WRLO are "DON'T CARE."
 FIRSTFLU = CONTROL BIT. "1" INDICATES DUMMY PROX WORD PRECEDING FIRST QEX IN CHAIN.
 IF PROX TEST IS A SUCCESS. 01 = W, 10 = S, 11 = P
 WRLO = WS P UNITS OF GEXLCC TO BE WRITTEN IN NEXT QEX DCUPLE WORD
 BACLCC = WS P UNITS OF GEXLCC WIND. + PROX OPERATION. 01 = W, 10 = S, 11 = P
 WIND = RANGE TO NEXT ELEMENT IN PROX CHAIN
 2.GEXLCC = LAST LOCATION OF PARTIAL PROX CHAIN

STAT

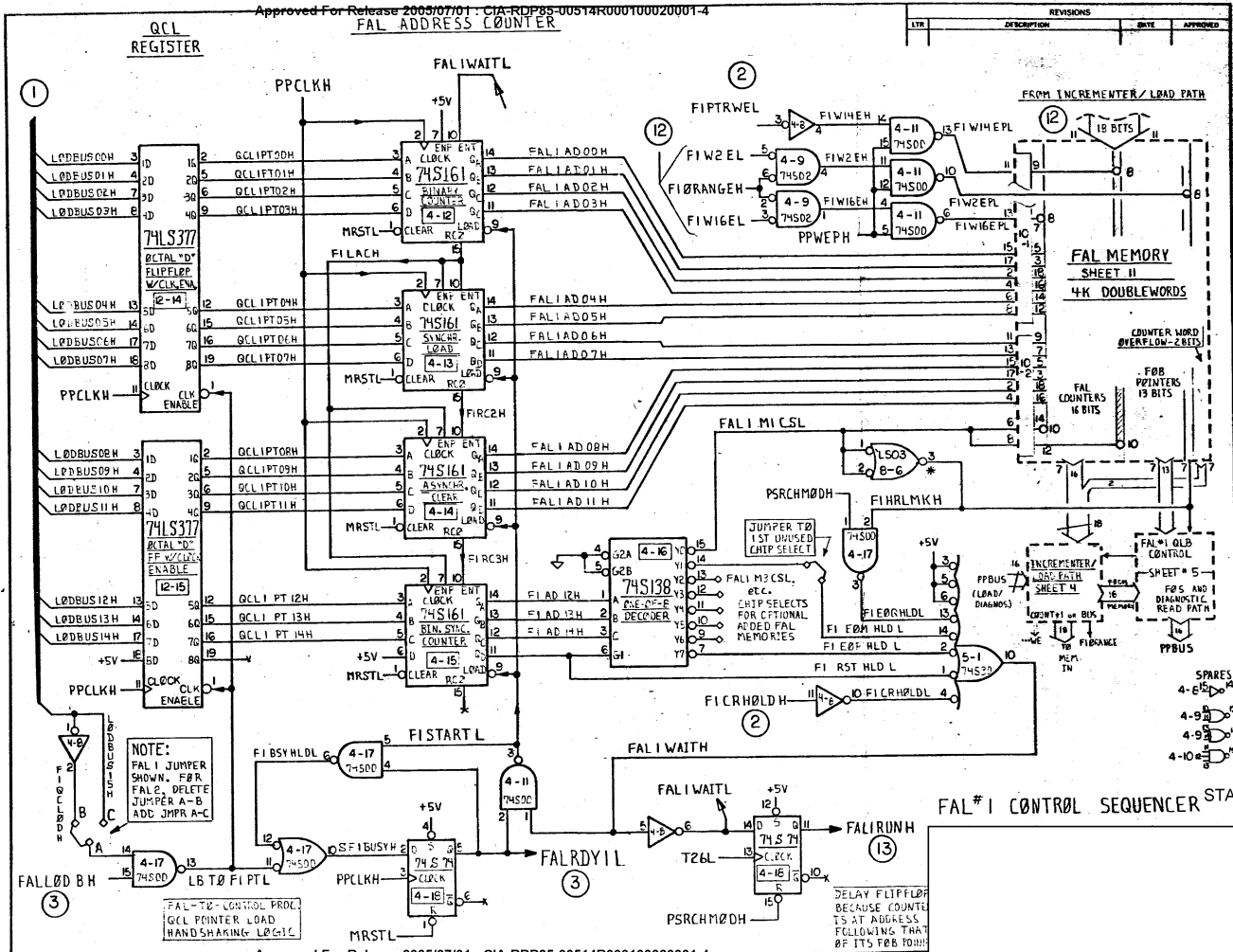
REVISIONS			
LTN	DESCRIPTION	DATE	APPROVED



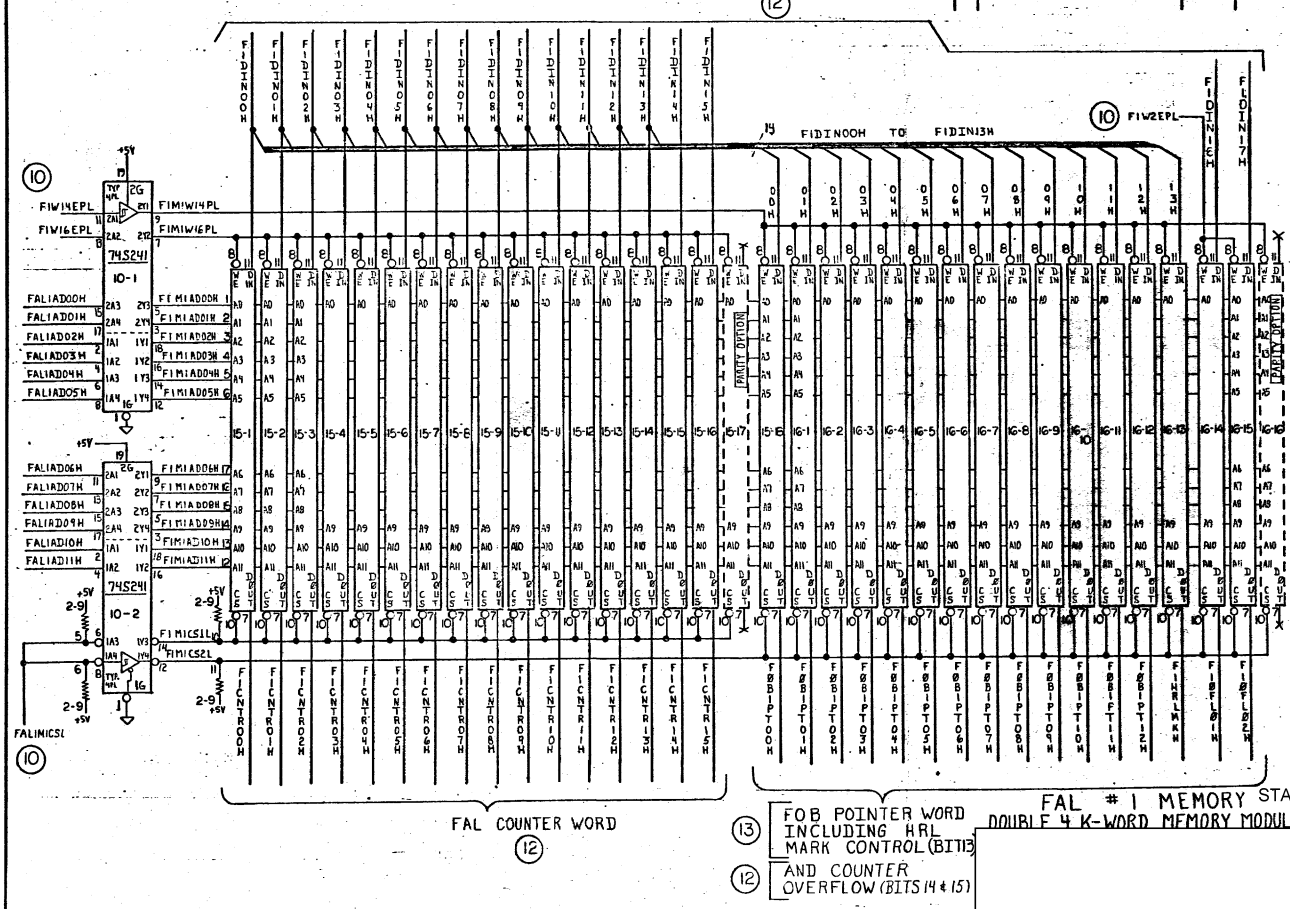
LOAD & DIAGNOSTIC INTERFACE

QCL REGISTER

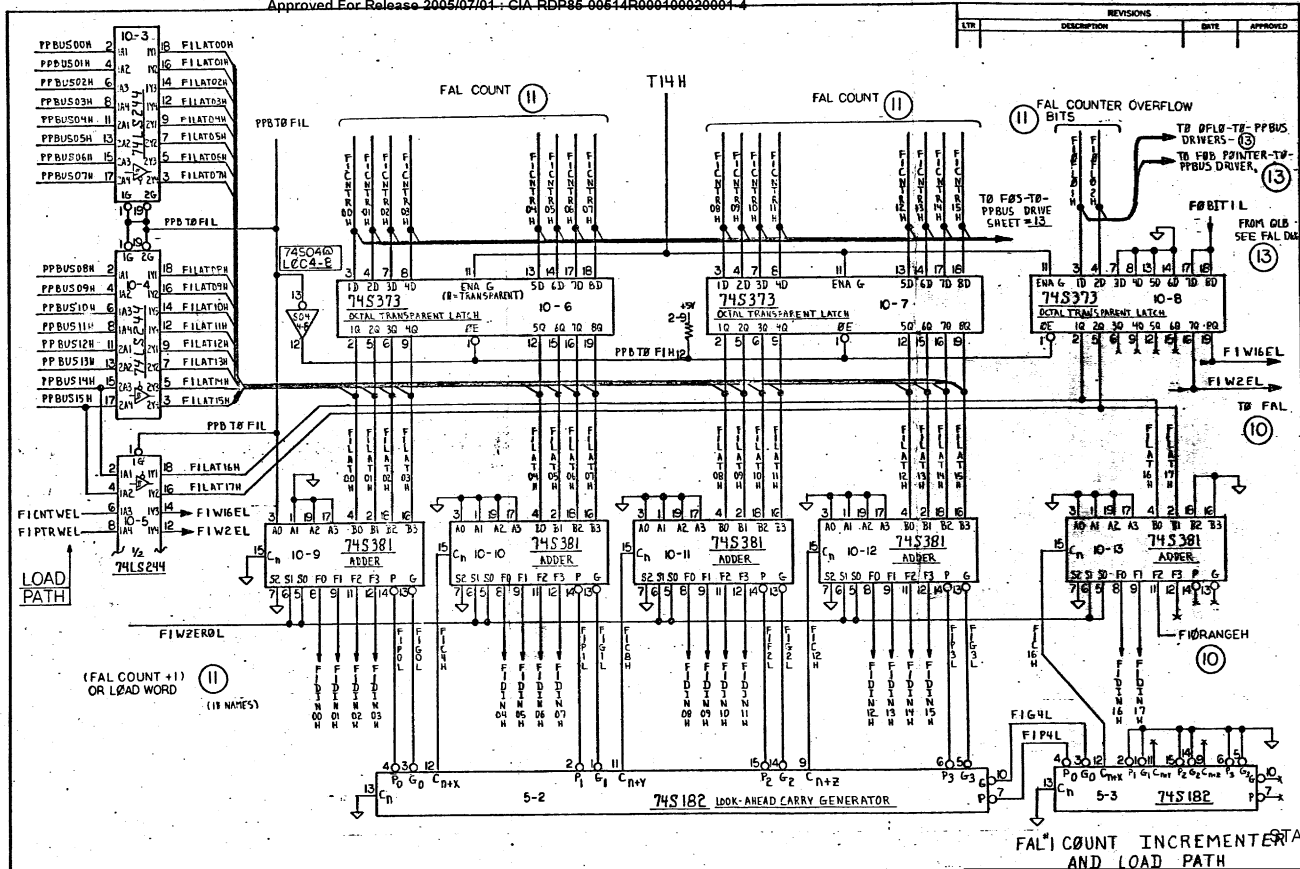
FAL ADDRESS COUNTER



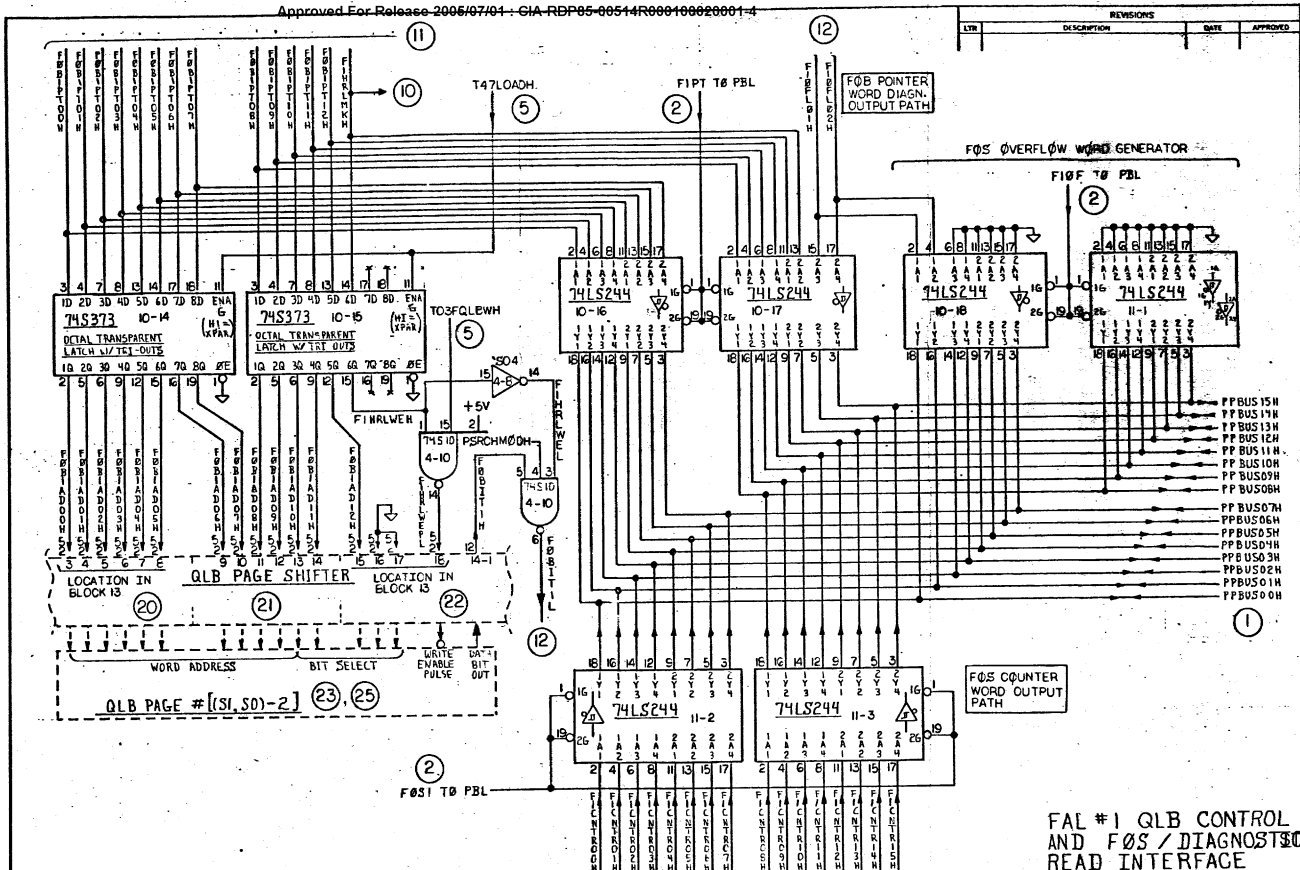
REV	DESCRIPTION	DATE	APPROVED



NOTES: EXCEPT AS NOTED: 1. ALL MEMORY I.C.'s (32 PL., 34 w/PARITY) ARE 2147, 4K X 16 BIT

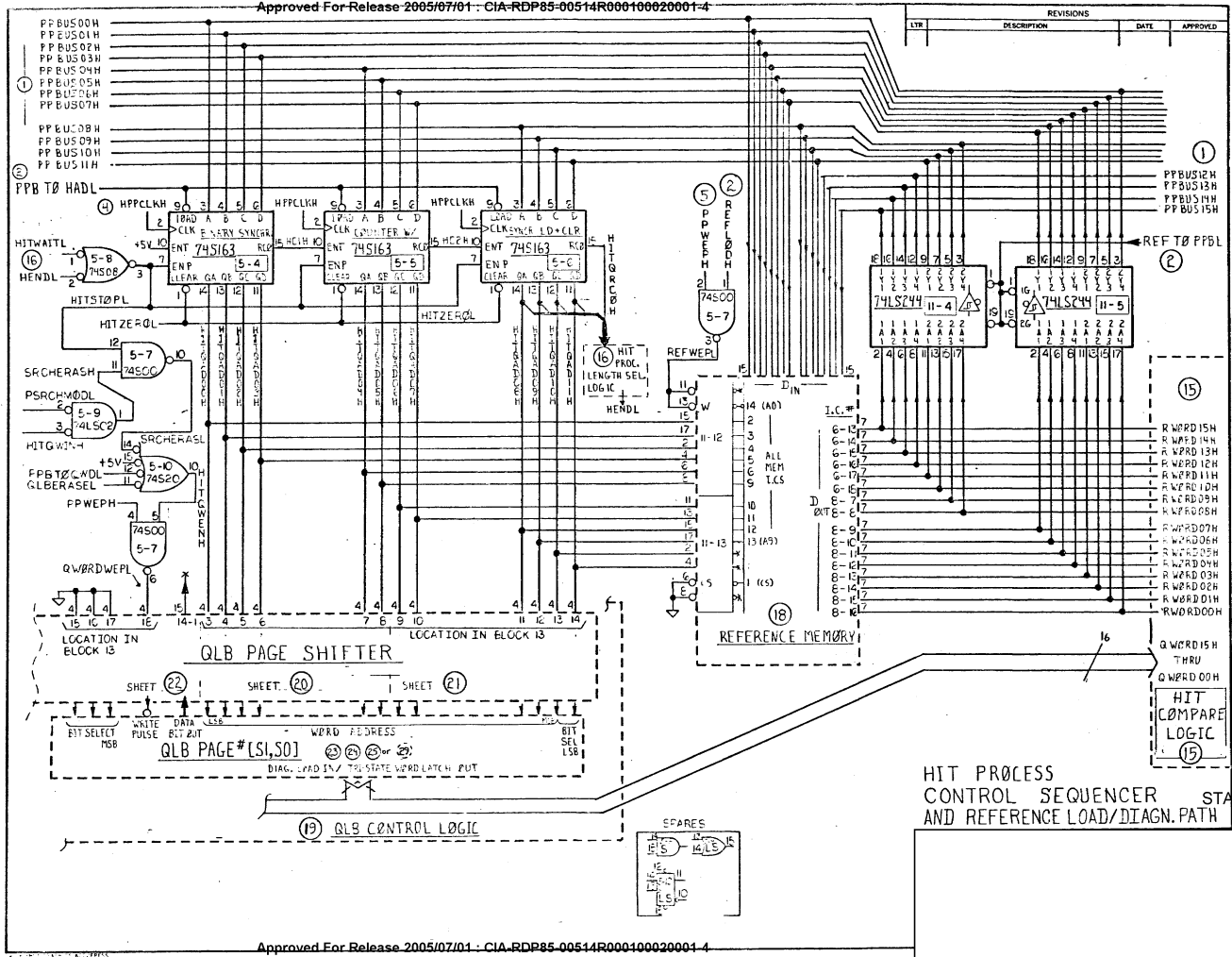


- 5. FIPWZEL SELECTS (ADDER OUTPUTS = C) MODE FOR EPASE FUNCTION. ADDER, FIPNTWEL OR FIPRWEL DETERMINES FAL WORD TO BE LOADED. (10)
- 4. LOAD PATH APPLIES PFBUS (LOADBUS) WORD TO BOTH FALCOUNTER AND F06 POINTER/F06 VIA NON-INCREMENT
- 3. F06 RANGE INHIBITS WRITE IF COUNTER IS ALREADY AT FULL SCALE.
- 2. IF FAL GLB CONTROL (SHEET 5) FINDS F06BIT = 1, FIPWZEL AND FIPWEL WRITE NEW VALUE INTO COUNTER + 0FL0
- 1. CIRCUIT APPLIES (FALCOUNT + 1) TO FAL MEMORY INPUT (IE BITS).

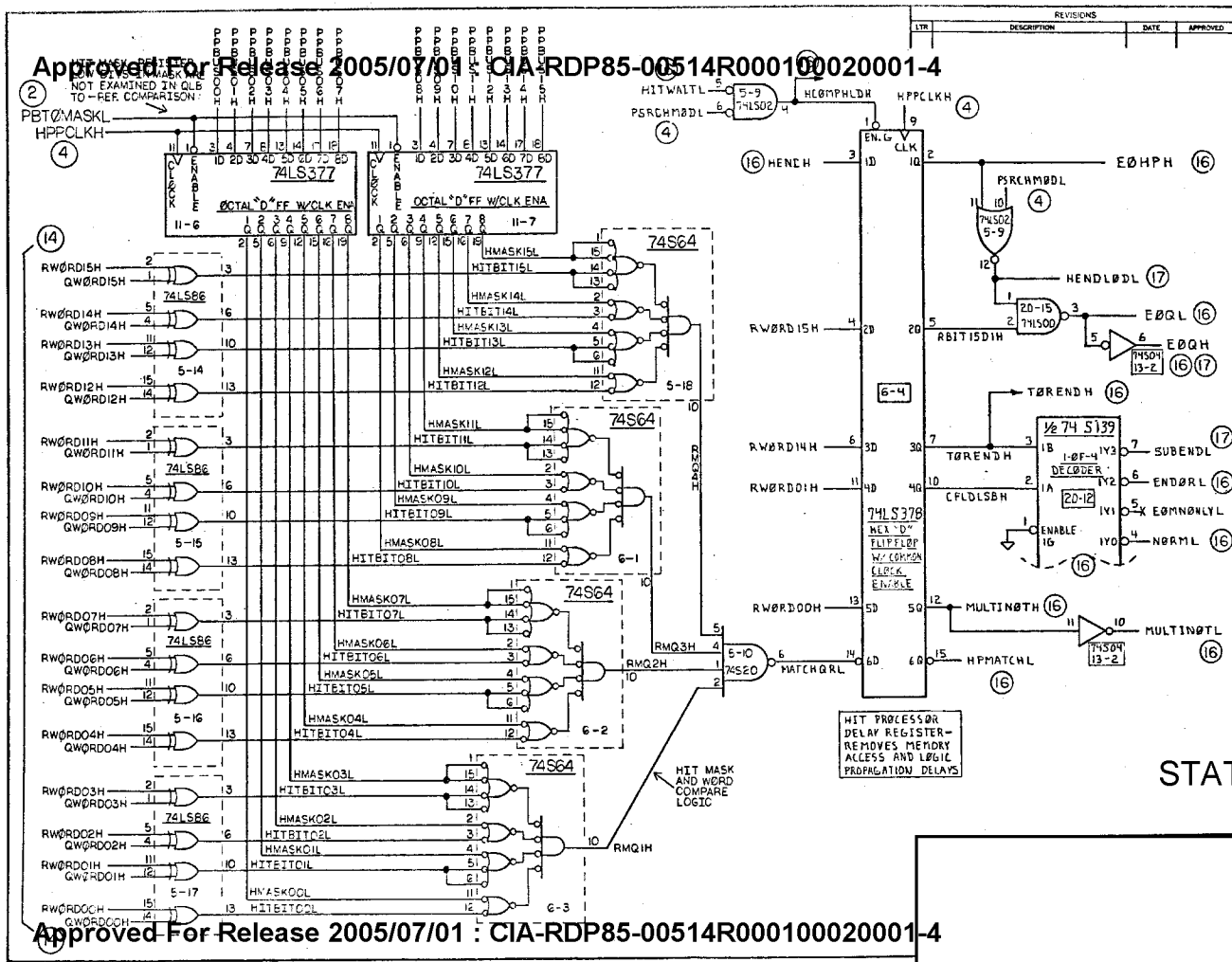


FAL #1 QLB CONTROL AND FOS/DIAGNOSTIC READ INTERFACE

- 1. IF F1 HRL MKH IS LOW, READS FLU OCCURRENCE BIT (BIT 0, 1, 2, 3, OR 4 OF SELECTED QLB WORD, WHERE F0BAD = FLUCODE). F0BIT CONTROLS WRITE OF FALCOUNTER INCREMENT (12)
- 2. IF F1 HRL MKH IS HIGH, MARKS SELECTED HRL BIT TO INDICATE DOCUMENT WAS ON USER'S HIT LIST.
- 3. HRL BIT IS ANY NON-F0E [SEE MASK, (15)] SELECTED BY GT IN BITS 1-7 OF THE BLOCK OF QLB WORDS FOR THE QUERY
- 4. F1 HRL MKH = HIGH ALSO STOPS FAL ADDRESS SEQUENCER (10)

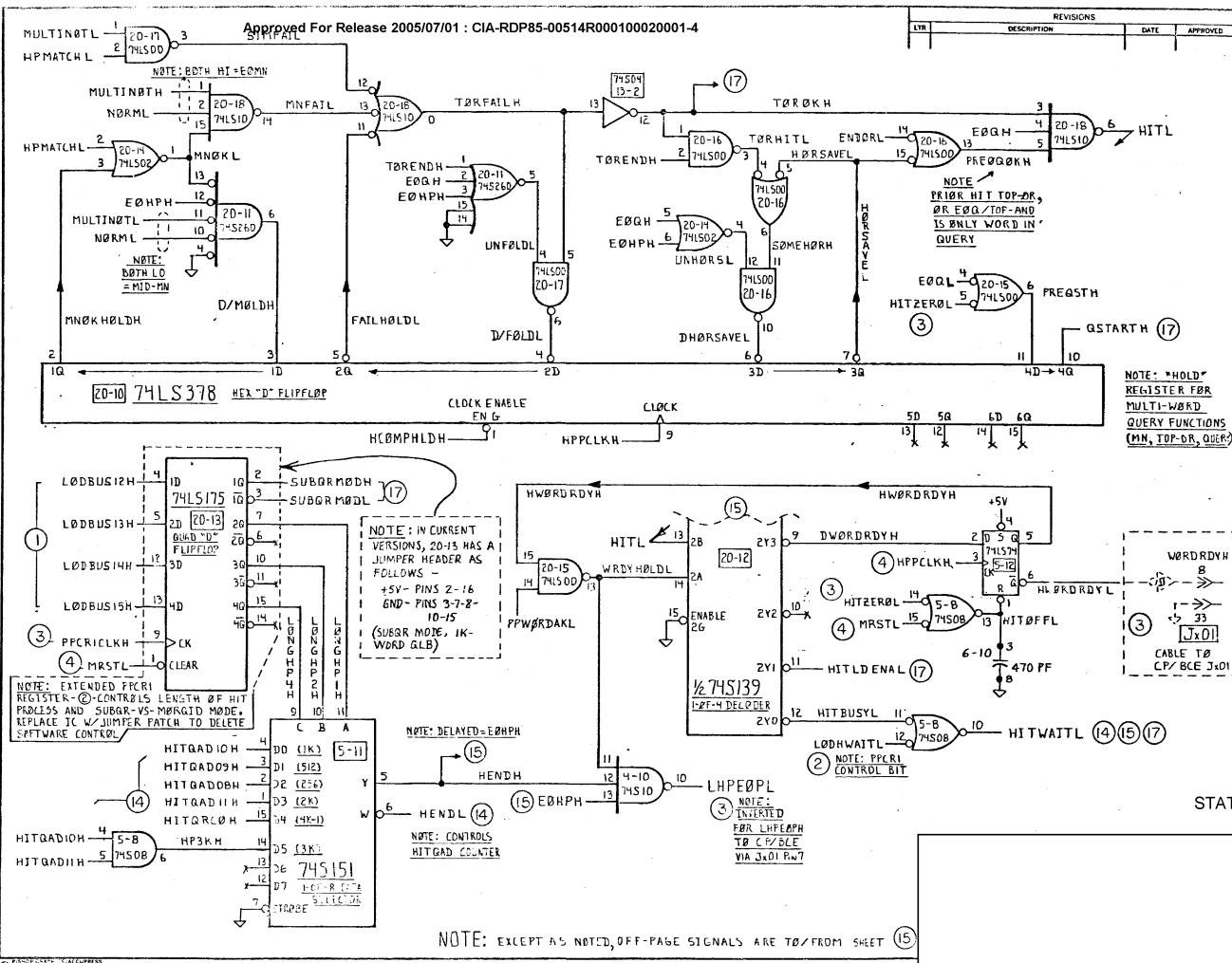


Approved For Release 2005/07/01 : CIA-RDP85-00514R000100020001-4

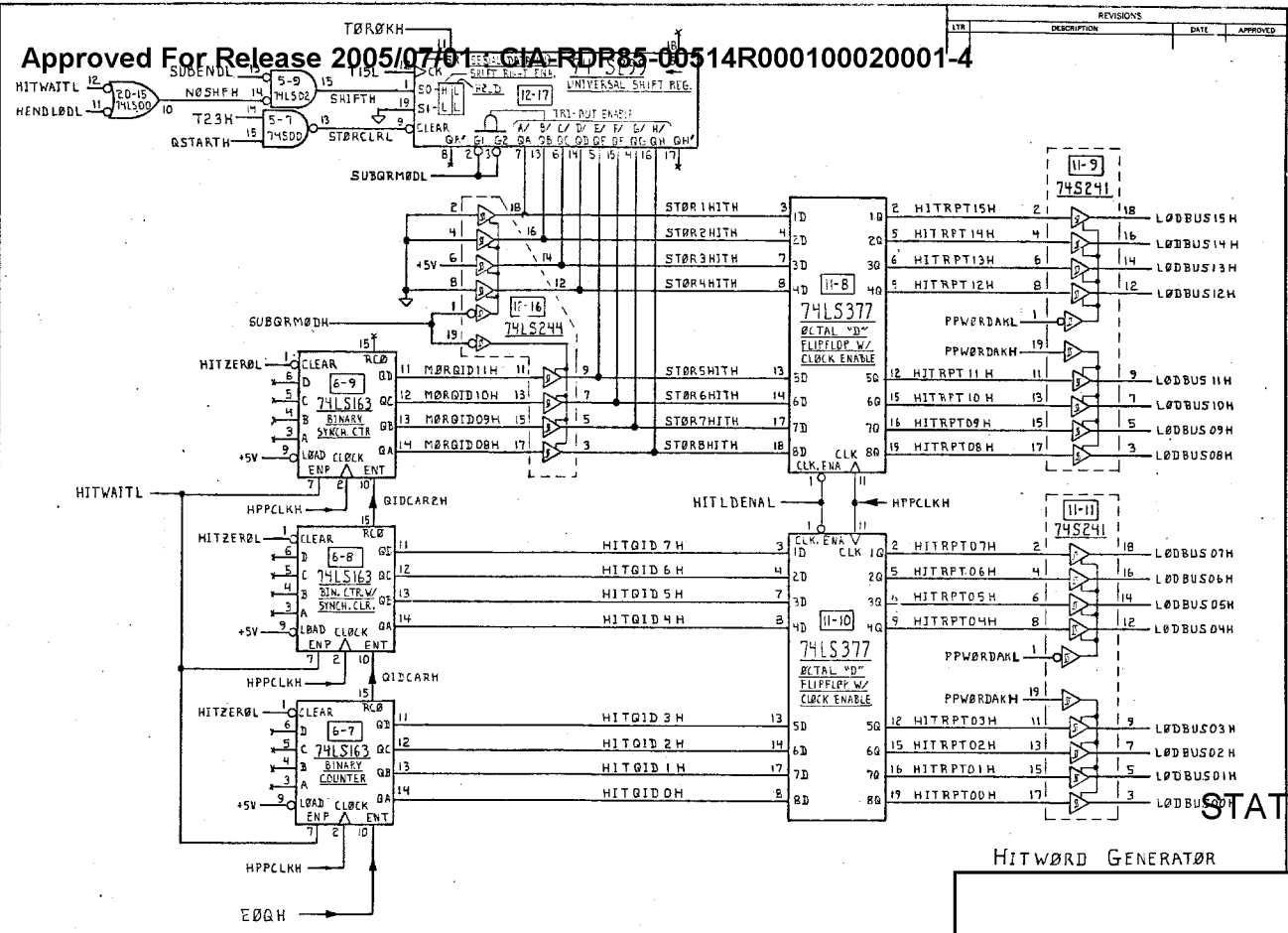


Approved For Release 2005/07/01 : CIA-RDP85-00514R000100020001-4

REVISIONS			
REV	DESCRIPTION	DATE	APPROVED

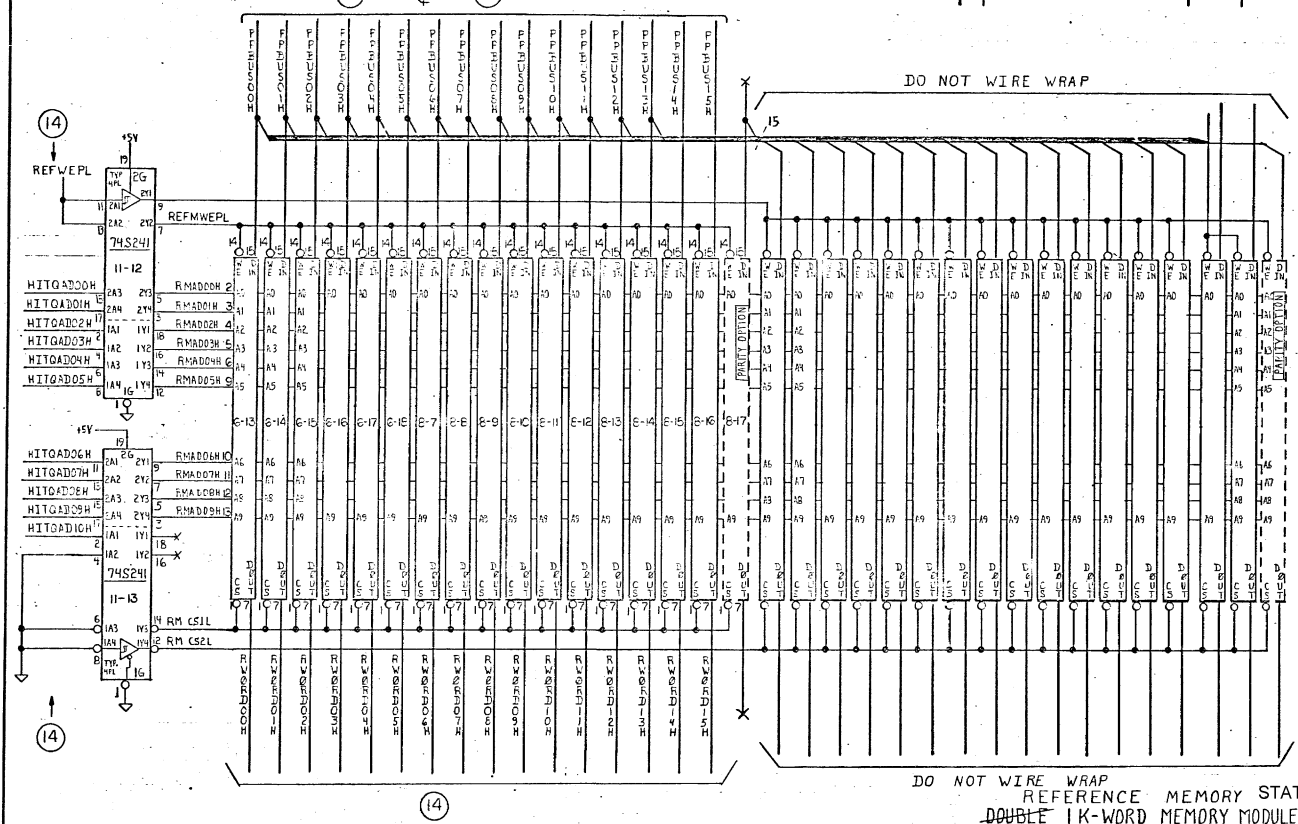


Approved For Release 2005/07/01 : CIA-RDP85-00514R000100020001-4



Approved For Release 2005/07/01 : CIA-RDP85-00514R000100020001-4

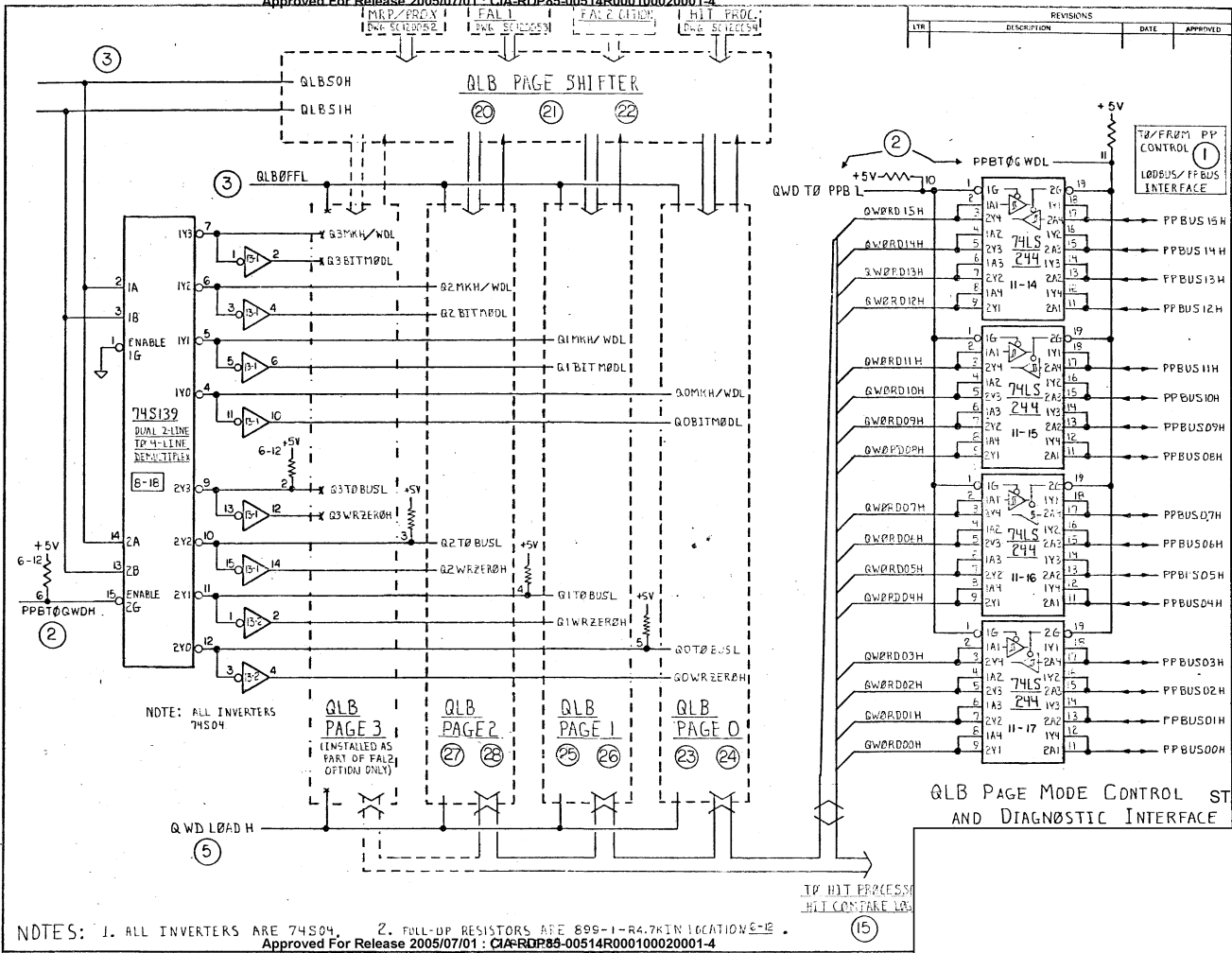
REV. NO.	DESCRIPTION	DATE	APPROVED



3. SWAP WITH MRP MEMORY FOR TEST.
 2. CHIPS FOR 2ND HALF OF DOUBLEWORD NOT INSTALLED.
 NOTES: EXCEPT AS NOTED: 1. MEMORY I.C.'S ARE 53L425 OR 2125AL, 1024 X 1 BIT, 16 PLACES

TRIP PROC. 1 FALL 1
 1000 SCHEMATIC 1000 SCHEMATIC
 FALSE OTHER
 HIT PROC. 1000 SCHEMATIC

YR	DESCRIPTION	REVISIONS	DATE	APPROVED

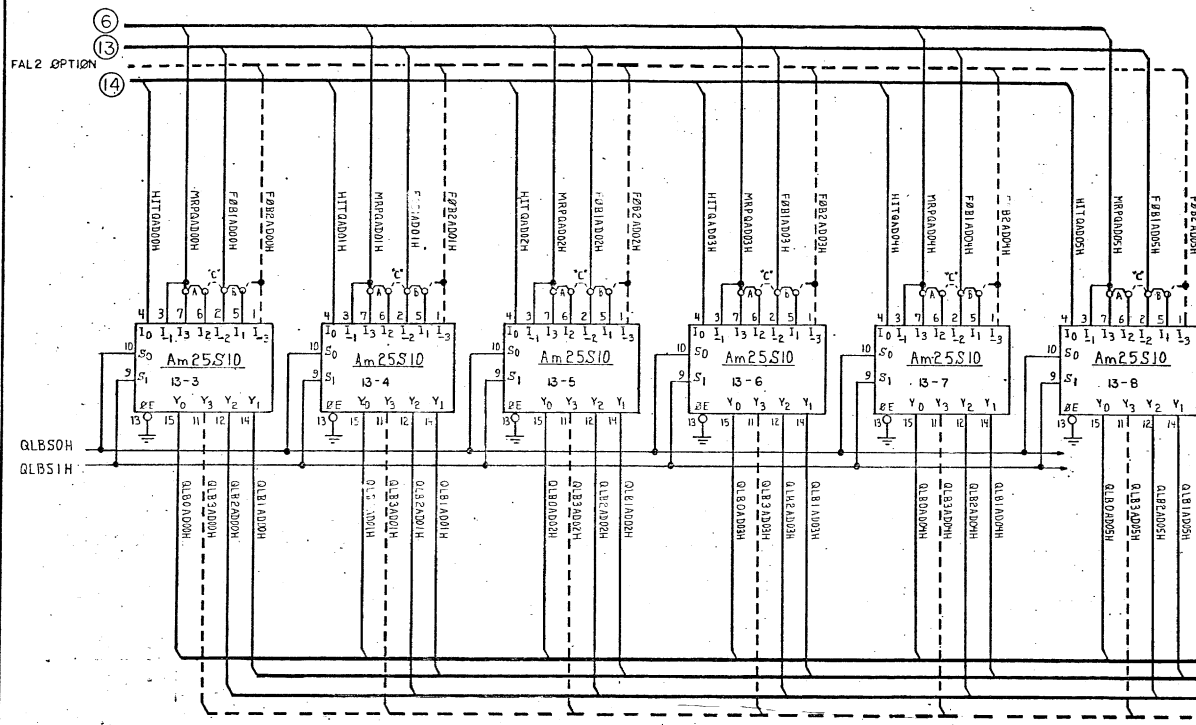


QLB PAGE MODE CONTROL STATE AND DIAGNOSTIC INTERFACE

IF HIT PROCESSOR
 HIT CONTROL LOG

(15)

REV	DESCRIPTION	DATE	APPROVED

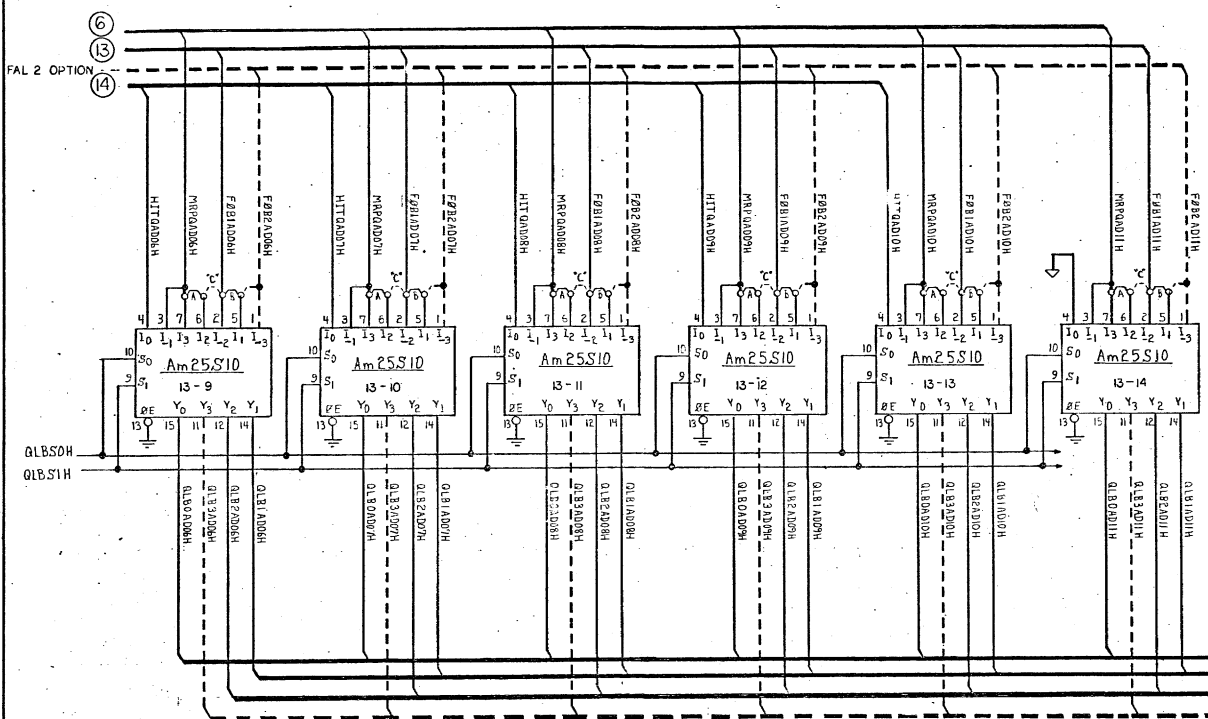


5. S₁, S₀ COUNTS UP AT EOD, GLB_{HIT} = GLB_{S1, S0}
- e. INSTALL FAL2 AND GLB 3 (DOTTED LINES)
- b. INSTALL JUMPERS "C" (PINS 2 TO PINS 6, 17 PLACES TOTAL)
4. TO INSTALL OPTIONAL FAL 2: a. REMOVE JUMPERS "A" (6-7) AND "B" (2-5), (17 PLACES EACH, TOTAL)
3. PINS 6 AND 5 ARE THE LAST PIN IN THEIR WIRE-WRAP STRINGS AND JUMPERS "A" AND "B" ARE 2ND-LEVEL WIRES.
- NOTES: 1. PIN 16 = Vcc PIN 17 = GND 2. CONNECTION SHOWN IS FOR SINGLE FAL PROCESSOR.

GLB PAGE SHIFTER A

STAT

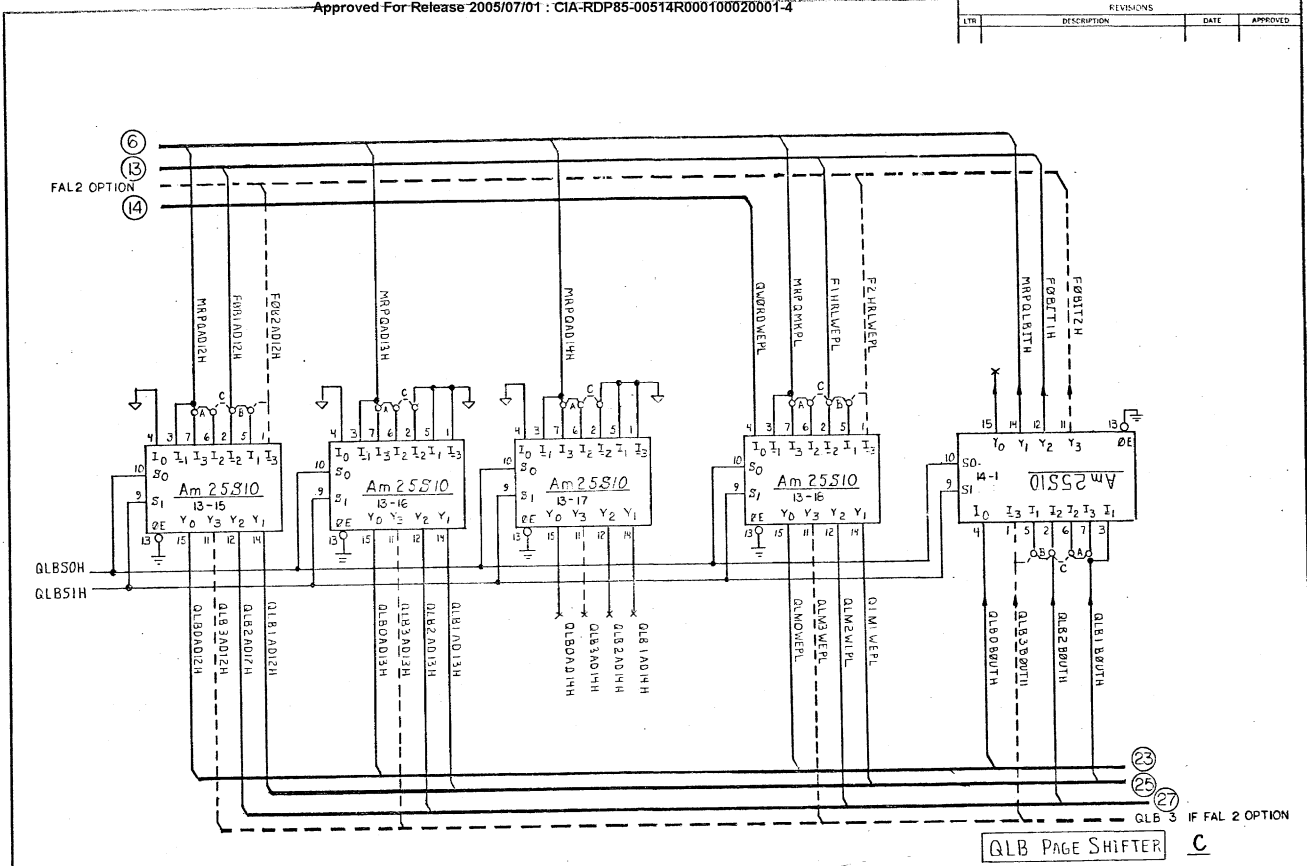
REVISIONS			
LT#	DESCRIPTION	DATE	APPROVED



5. S_1, S_0 COUNTS UP AT EOD, $QLB_{HIT} = QLB_{S_1, S_0}$
 - a. INSTALL FAL2 AND QLB3 (DOTTED LINES)
 - b. INSTALL JUMPERS "a" (PINS 2 TO PINS 6, 17 PLACES TOTAL)
 - c. REMOVE JUMPERS "A" (6-7) AND "B" (2-5). (17 PLACES EACH, TOTAL)
4. TO INSTALL OPTIONAL FAL 2: -
3. PINS 6 AND 5 ARE THE LAST PIN IN THEIR WIRE-WRAP STRINGS AND JUMPERS "A" AND "B" ARE 2ND-LEVEL WIRES.

NOTES: 1. PIN 16 = VCC PIN 8 = GND 2. CONNECTION SHOWN IS FOR SINGLE FAL PROCESSOR.

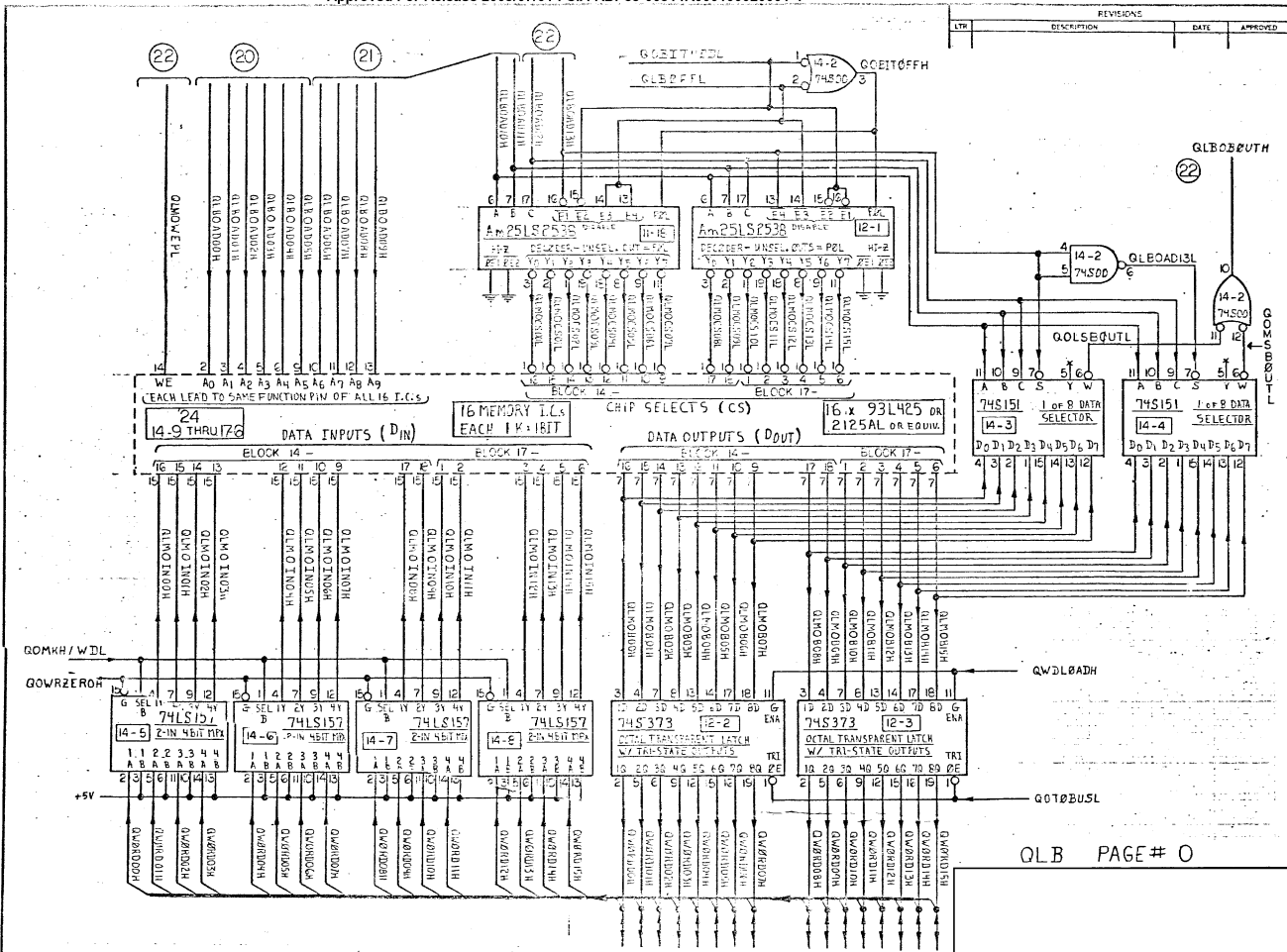
REVISIONS		DATE	APPROVED
178	DESCRIPTION		



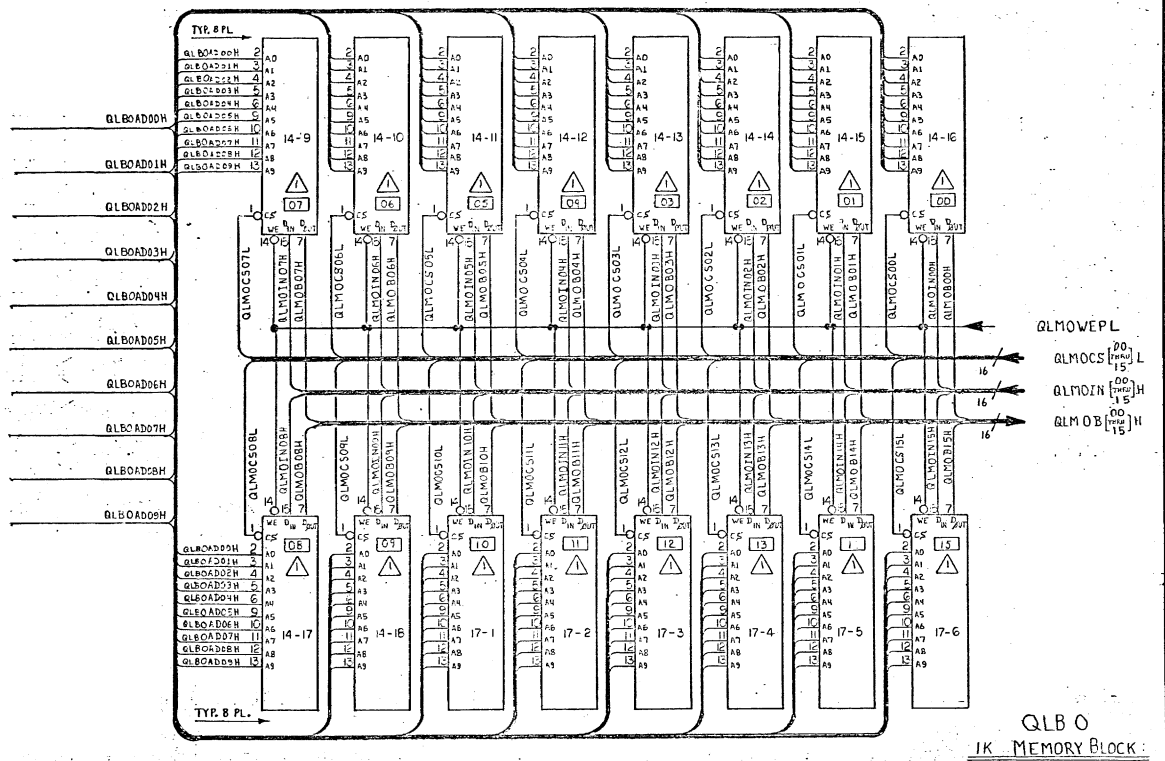
NOTES: SEE (21) & (22)

GLB PAGE SHIFTER C

STAT



TR	DESCRIPTION	DATE	APPROVED
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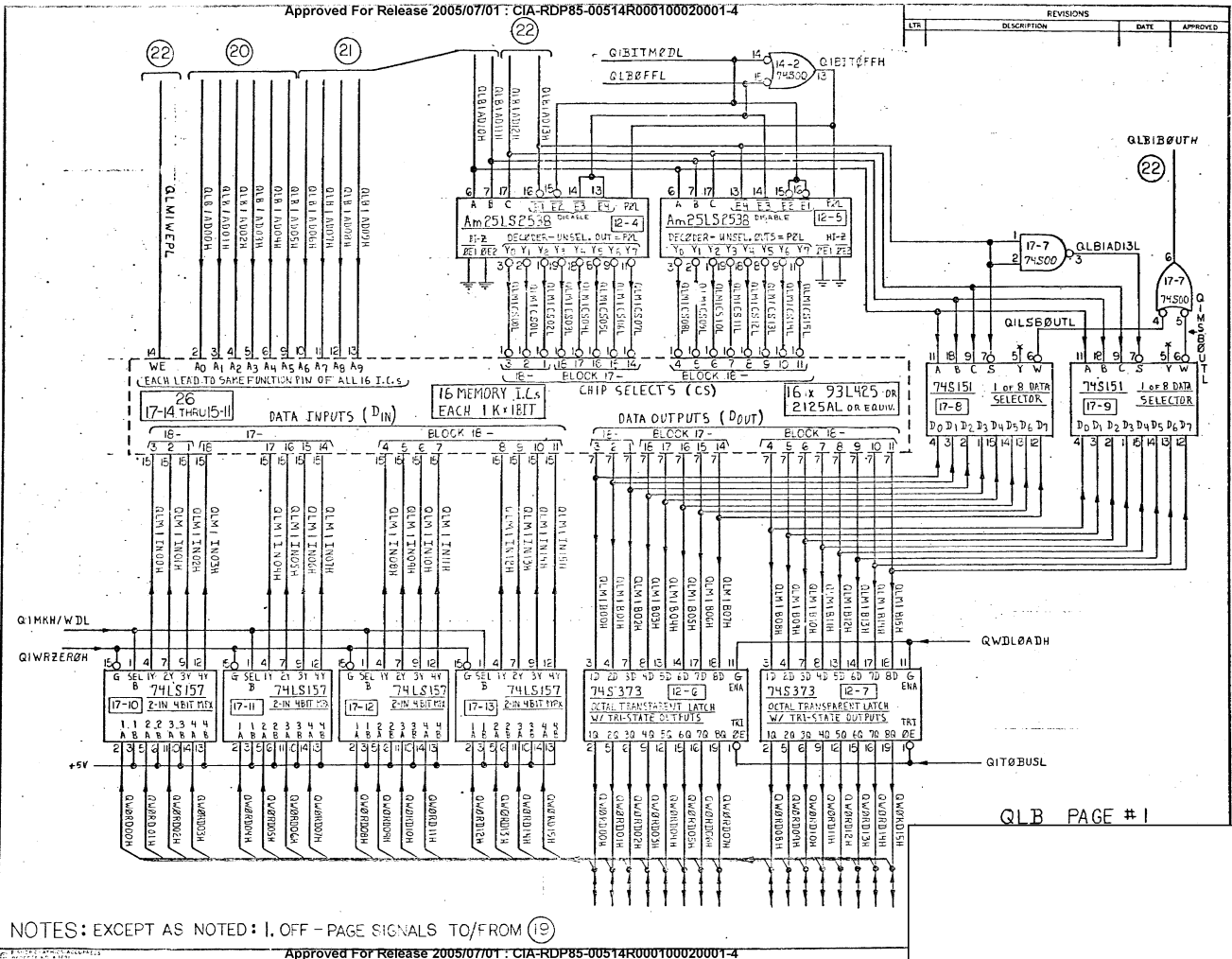


2. OFF - PAGE SIGNALS TO/FROM (23).

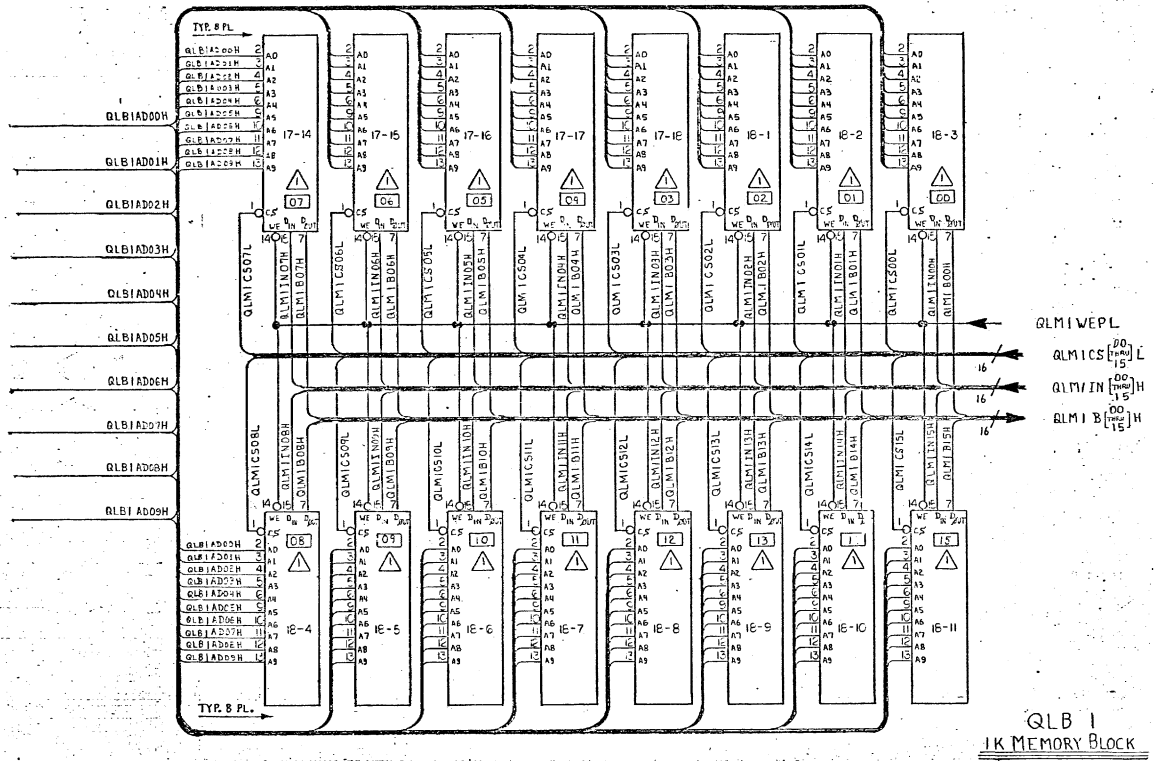
PIN 16 = Vcc = +5V, PIN 8 = GND.

NOTES: ALL MEMORY I.C.s ARE 93L425 OR 2125 AL, 1024x1 BIT. BOX [] = BIT WEIGHT IN MEMORY WORD.

STAT

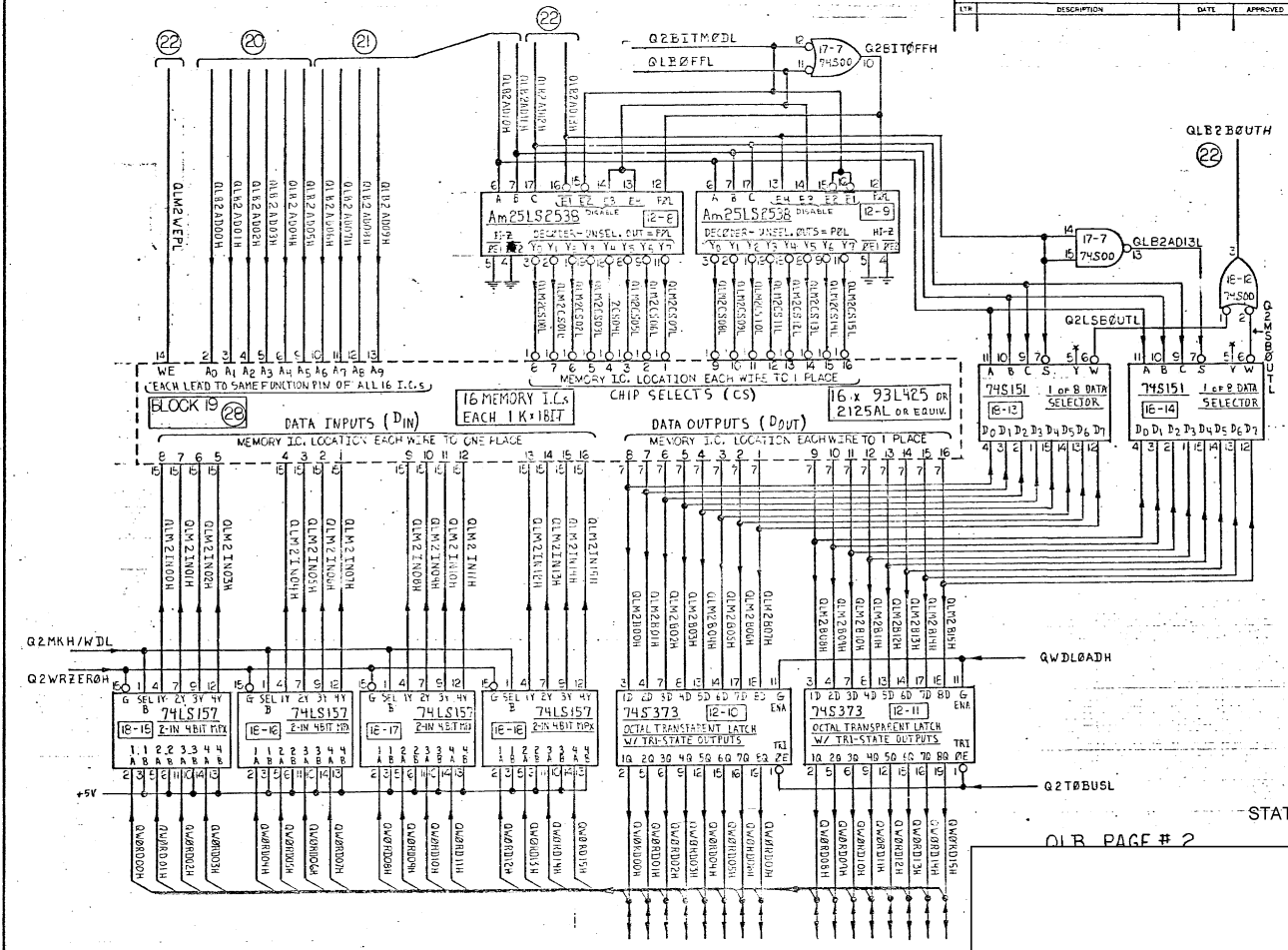


REV.	DESCRIPTION	DATE	APPROVED



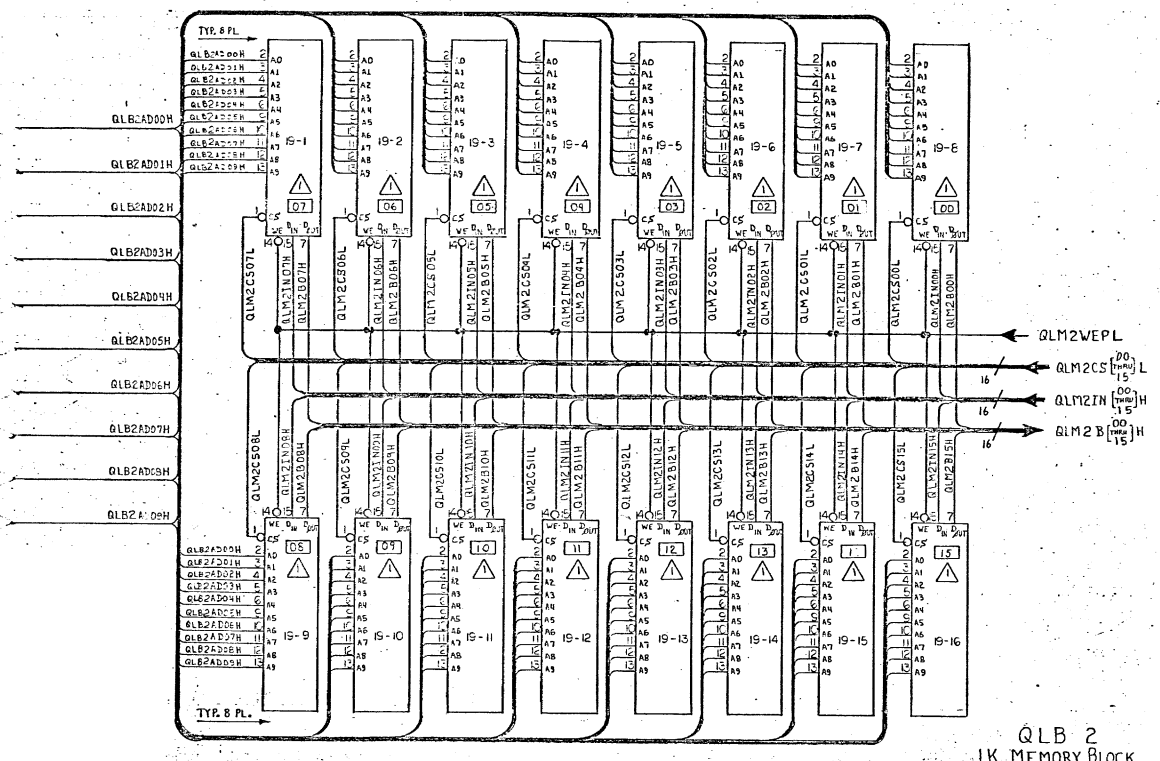
2. OFF = PAGE SIGNALS TO/FROM (25)
 PIN 16 = V_{CC} = +5V, PIN8 = GND.
 NOTES: ALL MEMORY I.C.s ARE 93L425 OR 2J25AL, 1024x1 BIT. BOX [n] = BIT WEIGHT IN MEMORY WORD.

REV	DESCRIPTION	DATE	APPROVED
17-7			
16-12			
16-10			
16-9			
16-8			
16-7			
16-6			
16-5			
16-4			
16-3			
16-2			
16-1			



NOTES : EXCEPT AS NOTED: 1. OFF - PAGE SIGNALS TO/ FROM (15)

REV. NO.	DESCRIPTION	DATE	APPROVED



2. OFF-PAGE SIGNALS TO/FROM (27)
 PIN 16 = V_{cc} = +5V, PIN 8 = GND.

NOTES: ALL MEMORY I.C.s ARE 93L425 OR 2125AL, 1024x1 BIT. BOX [n] = BIT WEIGHT IN MEMORY WORD.

HQR SUB-DOCUMENT
PROCESSOR

SUBORDINATE DOCUMENTS:

SC120070 B
WL120070 B
AP120070
PL120070A

REVISION HISTORY:

ORIGINAL ISSUE 3/7/80

CONTENTS:

SHEETS

IC SOCKET POSITIONS 2-8
CONNECTOR & BLOCK POSITIONS 9

STAT

STAT

175948

EECO DOC NO. 413124-C

DATE 11-07-79

IC LOCATION LIST

PAGE 1

IC TYPE B/D BLK SKT

74S157	0	1	3
74S157	0	1	4
74S157	0	1	5
74S157	0	1	6
74LS153	0	1	9
74LS153	0	1	10
74LS153	0	1	11
74LS153	0	1	12
74LS153	0	1	15
74LS153	0	1	16
74LS153	0	1	17
74LS153	0	1	18
JX01	0	1	25
JX02	0	1	26
74S140	0	2	2
74LS174	0	2	3
74LS138	0	2	4
74LS04	0	2	5
R180/390	0	2	7
74LS02	0	2	8
74S140	0	2	9
74S139	0	2	10
74S10	0	2	11
74S02	0	2	12
74S04	0	2	13
74S109	0	2	14
74S109	0	2	15
74LS00	0	2	16
74S260	0	2	17
74S163	0	2	18
74LS74	0	3	1
74S74	0	3	2
74S139	0	3	3
74S02	0	3	6
74S00	0	3	8
74S08	0	3	9
74S151	0	3	10
74S151	0	3	11
74S10	0	3	12
74LS161	0	3	13
74S157	0	3	14
74S182	0	3	15
74S138	0	3	16
74S158	0	3	17
74S158	0	3	18

NOTES: "R180/390"
= 898-5-R180/390

"30 RES"
= 898-3-R30 or
898-3-R33

"8981R4.7K"
= 898-1-R4.7K

"898SR228"
= 898-1-R220

2141 MAY BE 2147

AD120070
ZOF9

STAT

175948

EECO DOC NO. 413124-C

DATE 11-07-79 I C L O C A T I O N L I S T

PAGE 2

IC TYPE	B/D	BLK	SKT
74S373	0	4	1
74S373	0	4	2
25LS2538	0	4	3
25LS2538	0	4	4
74S381	0	4	5
74S381	0	4	6
74S381	0	4	7
74S381	0	4	8
74S299	0	4	11
8981R4.7	0	4	12
74S241	0	4	13
74S241	0	4	14
74LS244	0	4	15
74LS244	0	4	16
74LS244	0	4	17
74LS244	0	4	18
93L422	0	5	4
93L422	0	5	9
93L422	0	5	10
93L422	0	5	11
93L422	0	5	12
93L422	0	5	13
93L422	0	5	14
93L422	0	5	15
93L422	0	5	16
93L422	0	5	17
93L422	0	5	18
93L422	0	5	19
93L422	0	5	20
25LS2520	0	5	21
25LS2520	0	5	22
25LS2520	0	5	23
25LS2520	0	5	24
PWR TIES	0	5	27
PWR TIES	0	5	28
8T28	0	7	3
8T28	0	7	4
8T28	0	7	5
8T28	0	7	6
74S04	0	7	9
74S27	0	7	10
74S260	0	7	11
74LS00	0	7	12
74LS109	0	7	15
74S112	0	7	16

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PAGE 3

IC TYPE	B/D	BLK	SKT
74S00	0	7	17
JX01	0	7	25
JX08	0	7	26
74LS175	0	8	2
74S02	0	8	3
74S64	0	8	4
74S64	0	8	5
74LS155	0	8	6
74LS08	0	8	8
74S257	0	8	9
74S257	0	8	10
74S257	0	8	11
74LS32	0	8	12
74LS00	0	8	13
74LS10	0	8	14
74S157	0	8	15
74S157	0	8	16
74S157	0	8	17
74S157	0	8	18
74LS377	0	9	1
74LS377	0	9	2
74S374	0	9	4
74S374	0	9	5
74S374	0	9	6
74S241	0	9	7
74S241	0	9	8
30 RES	0	9	9
74S240	0	9	10
74S241	0	9	11
74LS373	0	9	12
74LS373	0	9	13
74S374	0	9	14
74S374	0	9	15
74S241	0	9	16
74S241	0	9	17
30 RES	0	9	18
74LS373 74S373	0	10	1
74LS373 74S373	0	10	2
74LS373	0	10	3
74LS373	0	10	4
74S374	0	10	5
74S374	0	10	6
74S241	0	10	7
74S241	0	10	8
30 RES	0	10	9

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STAT

[Redacted]

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DATE 11-07-79 I C L O C A T I O N L I S T

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IC TYPE	B/D	BLK	SKT
74LS244	0	10	10
74LS244	0	10	11
74LS373	0	10	12
74LS373	0	10	13
74S374	0	10	14
74S374	0	10	15
74S241	0	10	16
74S241	0	10	17
30 RES	0	10	18
74S163	0	11	1
74S163	0	11	2
74LS157	0	11	3
74LS157	0	11	4
74LS157	0	11	5
74LS157	0	11	6
74S00	0	11	7
74S08	0	11	8
74S85	0	11	9
74S85	0	11	10
74S85	0	11	11
74S85	0	11	12
74S163	0	11	15
74S163	0	11	16
74S163	0	11	17
74S163	0	11	18
74S139	0	12	1
74S10	0	12	2
74S175	0	12	3
74LS00	0	12	4
74LS02	0	12	5
74LS10	0	12	6
74S175	0	12	7
74S00	0	12	8
74LS02	0	12	9
74S00	0	12	10
74S74	0	12	11
74LS174	0	12	12
74S157	0	12	14
74LS10	0	12	15
2141	0	13	1
2141	0	13	2
2141	0	13	3
2141	0	13	4
2141	0	13	5
2141	0	13	6

2141
MAX BE
2147

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STAT

[Redacted]

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EECO DOC NO. 413124.C

DATE 11-07-79 I C L O C A T I O N L I S T

PAGE 5

IC TYPE B/D BLK SKT

IC TYPE	B/D	BLK	SKT
2141	0	13	7
2141	0	13	8
2141	0	13	9
2141	0	13	10
2141	0	13	11
2141	0	13	12
2141	0	13	13
2141	0	13	14
2141	0	13	15
2141	0	13	16
2141	0	13	17
2141	0	13	18
2141	0	14	1
2141	0	14	2
2141	0	14	3
2141	0	14	4
2141	0	14	5
2141	0	14	6
2141	0	14	7
2141	0	14	8
2141	0	14	9
2141	0	14	10
2141	0	14	11
2141	0	14	12
2141	0	14	13
2141	0	14	14
2141	0	14	15
2141	0	14	16
2141	0	14	17
2141	0	15	1
2141	0	15	2
2141	0	15	3
2141	0	15	4
2141	0	15	5
2141	0	15	6
2141	0	15	7
2141	0	15	8
2141	0	15	9
2141	0	15	10
2141	0	15	11
2141	0	15	12
2141	0	15	13
2141	0	15	14
2141	0	15	15
2141	0	15	16

2141
MAY BE
2147

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STAT



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IC TYPE B/D BLK SKT

2141	0	15	17
2141	0	16	1
2141	0	16	2
2141	0	16	3
2141	0	16	4
2141	0	16	5
2141	0	16	6
2141	0	16	7
2141	0	16	8
2141	0	16	9
2141	0	16	10
2141	0	16	11
2141	0	16	12
2141	0	16	13
2141	0	16	14
2141	0	16	15
2141	0	16	16
2141	0	16	17
74LS00	0	17	1
74LS08	0	17	2
74LS27	0	17	3
74LS08 74LS109	0	17	4
74LS109	0	17	5
74LS109	0	17	6
74LS109	0	17	7
74LS109	0	17	8
74LS109	0	17	9
74LS08	0	17	10
74LS00	0	17	11
74LS32	0	17	12
74LS02	0	18	4
74LS08	0	18	5
74LS00	0	18	6
74LS04	0	18	7
2141	0	21	1
2141	0	21	2
2141	0	21	3
2141	0	21	4
2141	0	21	5
2141	0	21	6
2141	0	21	7
2141	0	21	8
2141	0	21	9
2141	0	21	10
2141	0	21	11

2141
MAY BE
2147

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STAT



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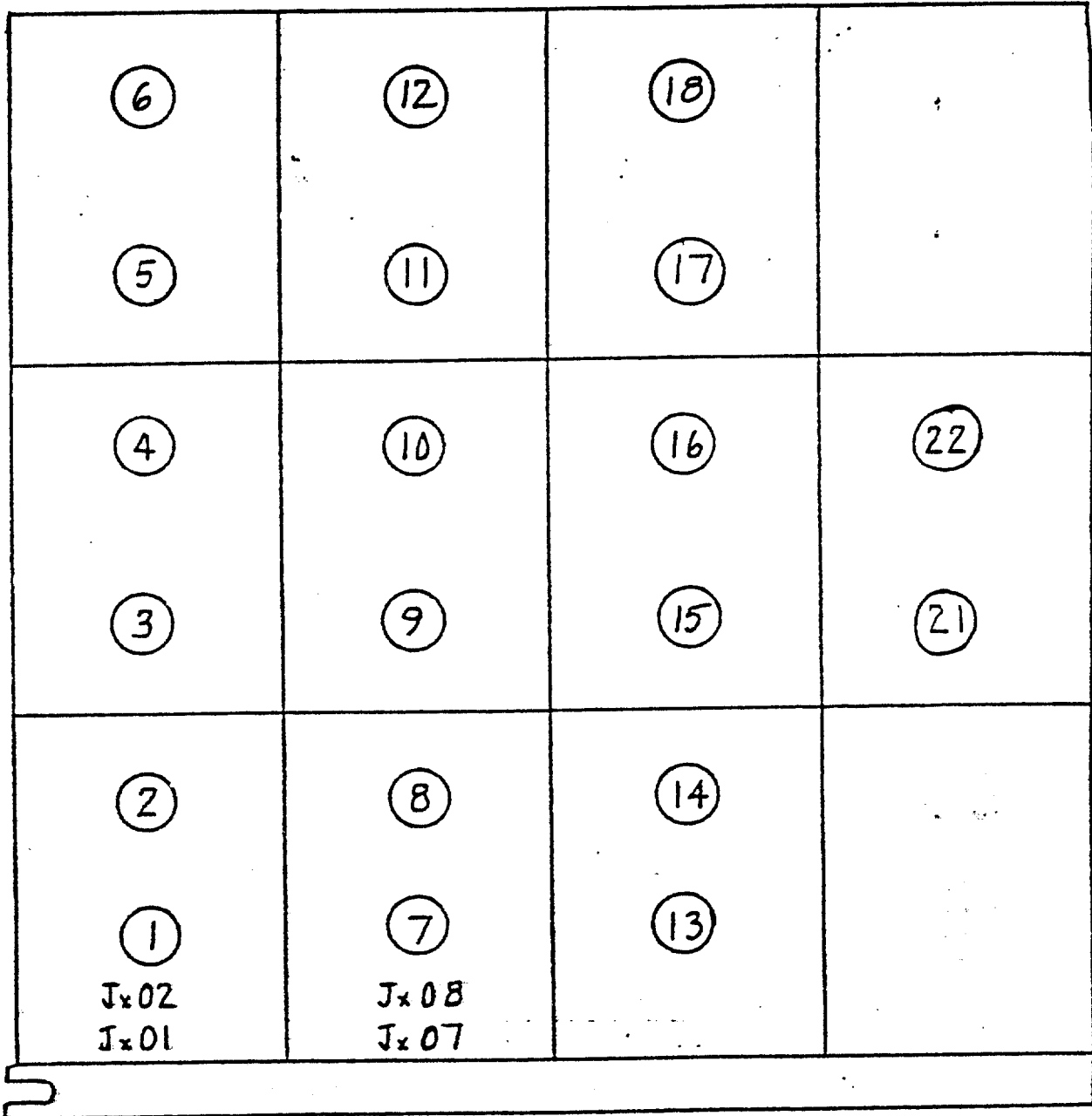
IC TYPE	B/D	BLK	SKT
2141	0	21	12
2141	0	21	13
2141	0	21	14
2141	0	21	15
2141	0	21	16
2141	0	21	17
2141	0	22	1
2141	0	22	2
2141	0	22	3
2141	0	22	4
2141	0	22	5
2141	0	22	6
2141	0	22	7
2141	0	22	8
2141	0	22	9
2141	0	22	10
2141	0	22	11
2141	0	22	12
2141	0	22	13
2141	0	22	14
2141	0	22	15
2141	0	22	16
2141	0	22	17
8985R221	0	22	18

898/1/R220

2141
MAY BE
2147

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CONNECTOR AND BLOCK POSITIONS



PIN 1 OF ALL IC SOCKETS AND CONNECTORS IS TOWARD PIVOT (LOWER LEFT) CORNER.

VIEW IS OF COMPONENT SIDE.

x = BOARD POSITION IN CHASSIS.

AD120070
9 OF 9

1. EECO P/N 413120-01, REV. A
2. IC'S PER SHEETS 2 & 3

STAT

STAT

HQR FRAME 3 -
SUBDOCUMENT PROCESSOR

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EECO DOC NO. 413124-C

IC TYPE LIST

DATE 11-07-79

IC TYPE SCD NO. QTY

JX01 NONE 2
JX02 NONE 1
JX08 NONE 1
PWR TIES NONE 2

(898-5-R180/390)

R180/390 NONE 1
2141 (OR 2147) NONE ~~202~~ 96

(898-3-R30) (OR R33)

25LS2520 NONE 4
25LS2538 NONE 2
30 RES NONE 4
74LS00 NONE 7
74LS02 NONE 4
74LS04 NONE 2
74LS08 NONE 4
74LS10 NONE 3
74LS109 NONE ~~1~~ 6
74LS138 NONE 1
74LS153 NONE 8
74LS155 NONE 1
74LS157 NONE 4
74LS161 NONE 1
74LS174 NONE 2
74LS175 NONE 1
74LS244 NONE 6
74LS27 NONE 1
74LS32 NONE 2
74LS373 NONE ~~1~~ 6
74LS377 NONE 2
74LS74 NONE 1
74S00 NONE 5
74S02 NONE 3
74S04 NONE 2
74S08 NONE 2
74S10 NONE 3
74S109 NONE ~~1~~ 3
74S112 NONE 1
74S136 NONE 1
74S139 NONE 3
74S140 NONE 2
74S151 NONE 2
74S157 NONE 10
74S158 NONE 2
74S163 NONE 7
74S175 NONE 2
74S182 NONE 1
74S240 NONE 1

STAT

74S240
74S240

NONE

1

Approved For Release 2005/07/01 : CIA-RDP85-00514R000100020001-4

STAT



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EECO DOC NO. 413124-C

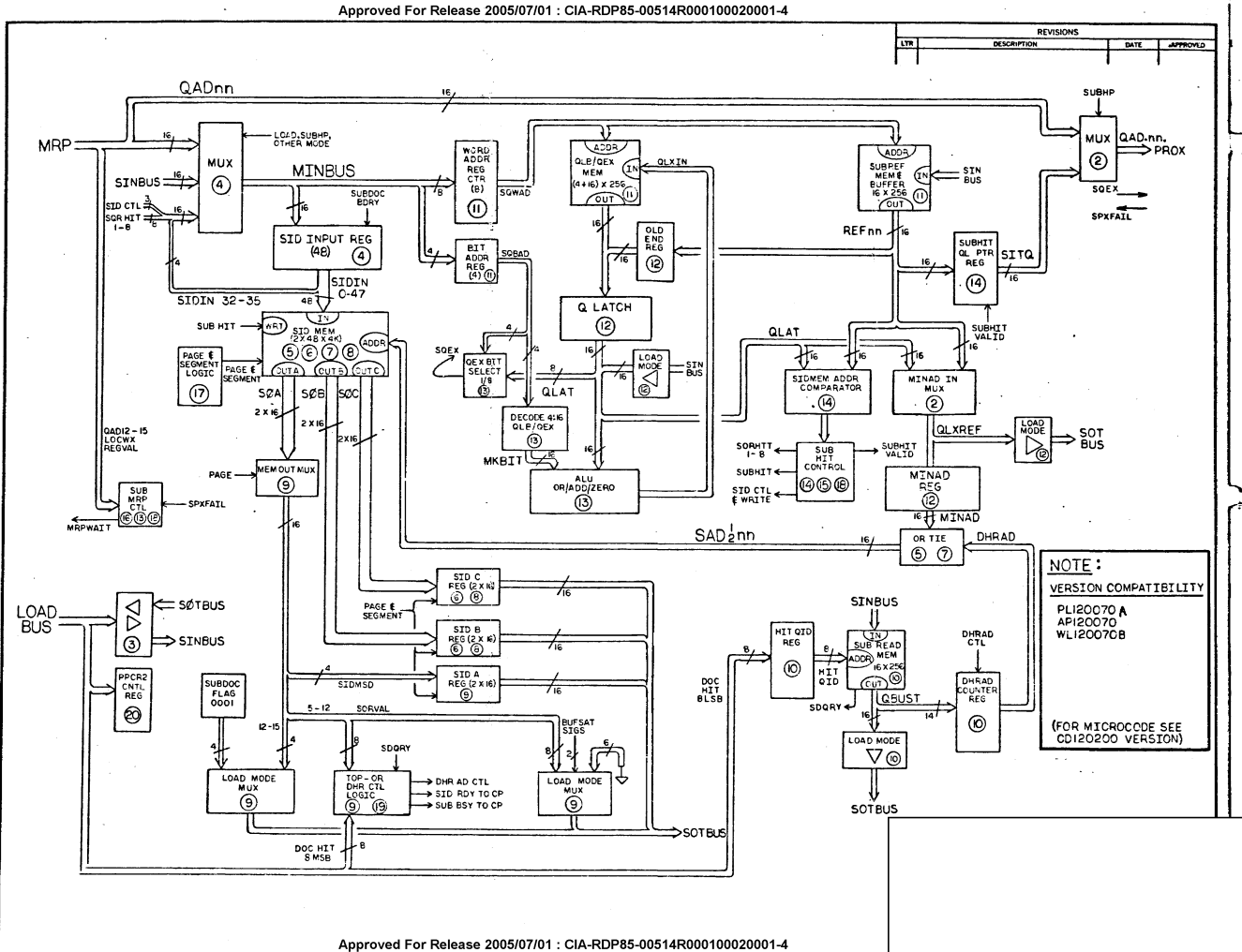
'I C' T Y P E L I S T

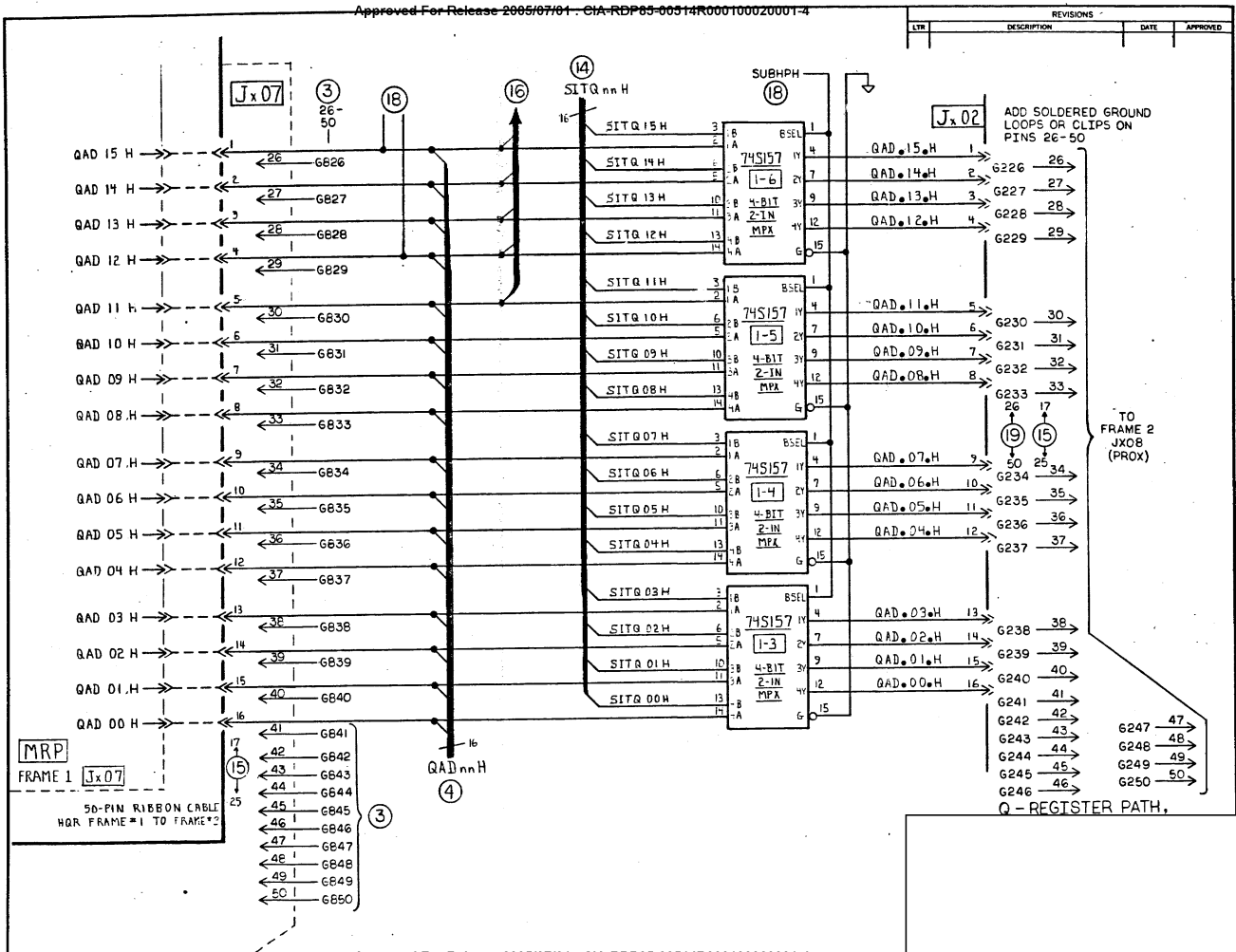
DATE 11-07-79

IC TYPE SCD NO. QTY

A

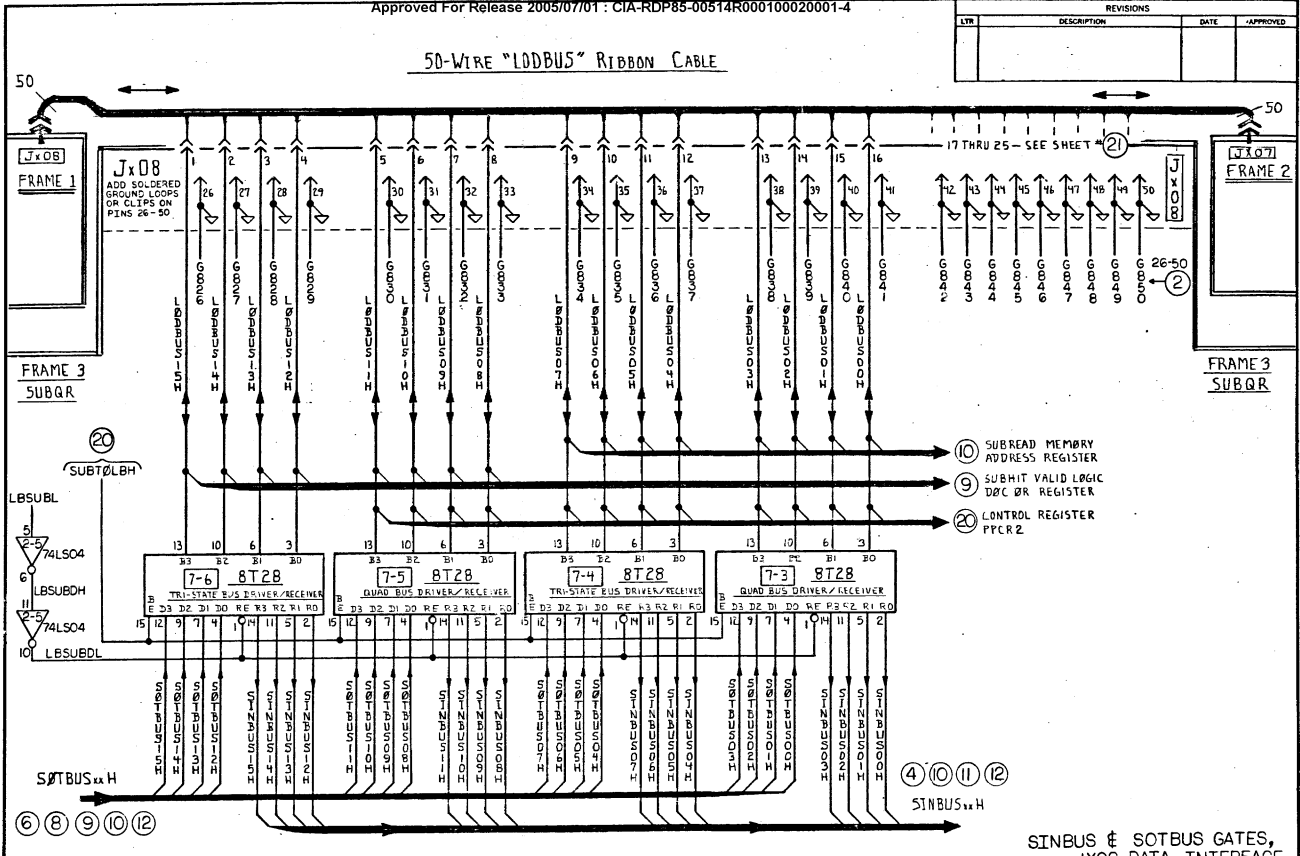
IC TYPE	SCD NO.	QTY
74S241	NONE	11
74S257	NONE	3
74S260	NONE	2
74S27	NONE	1
74S299	NONE	1
74S373	NONE	1 4
74S374	NONE	9
74S381	NONE	4
74S64	NONE	2
74S74	NONE	2
74S85	NONE	4
8T28	NONE	4
898-1-R4.7K	898-1-R4.7K	1
898-1-R220	898-1-R220	2
93L422	NONE	13





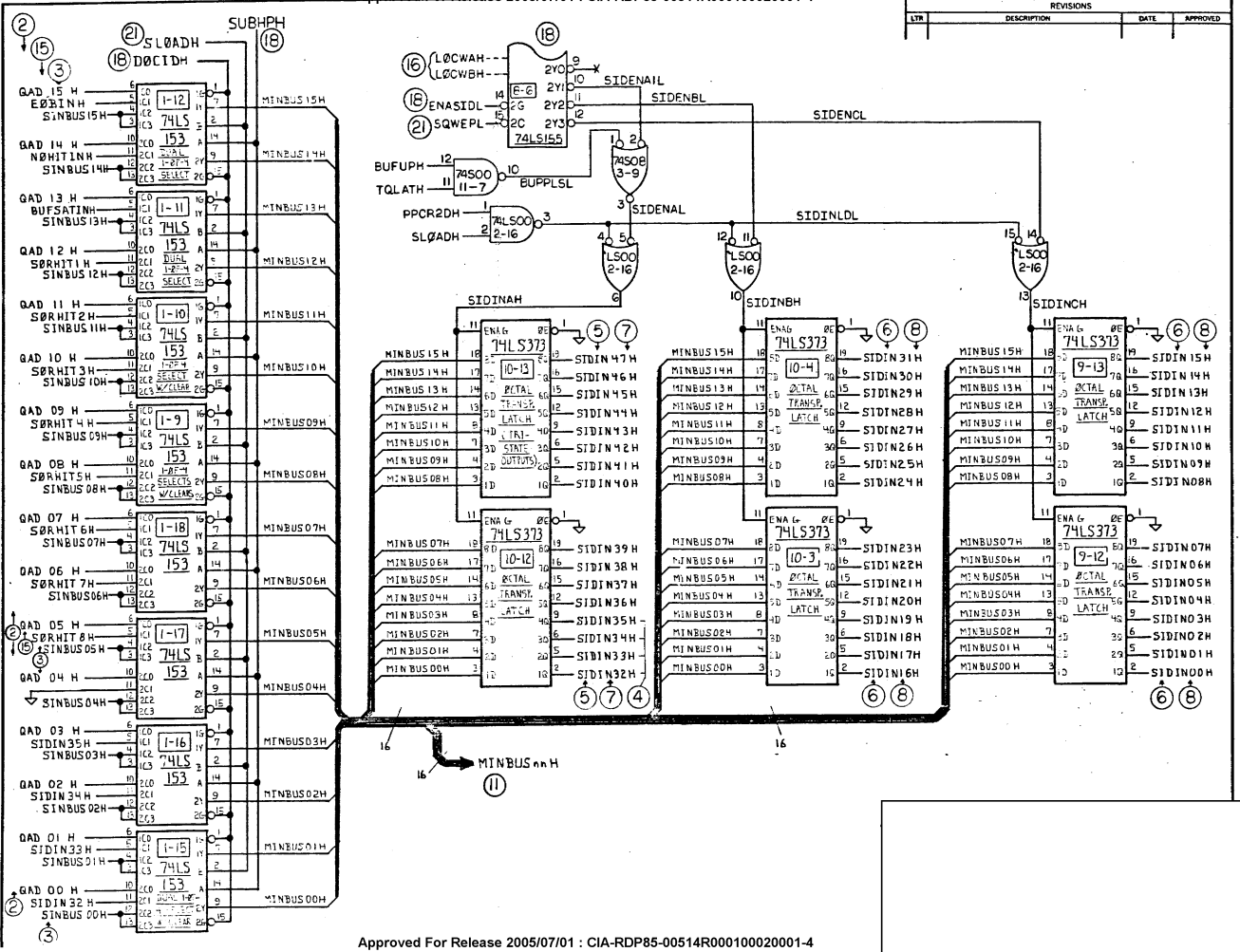
50-WIRE "LODBUS" RIBBON CABLE

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED



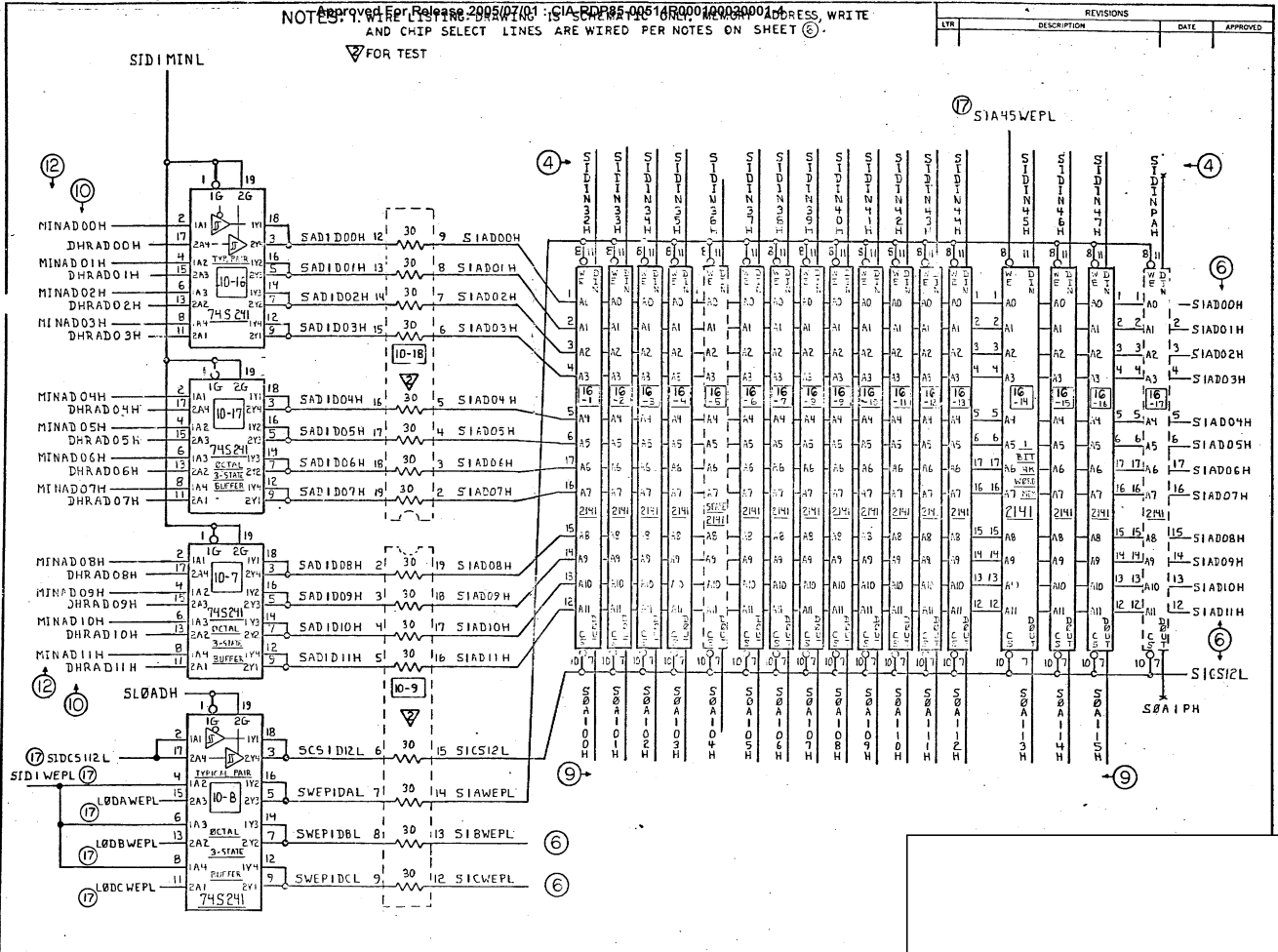
SINBUS & SOTBUS GATES, LOGIC DATA INTERFACING

STAT

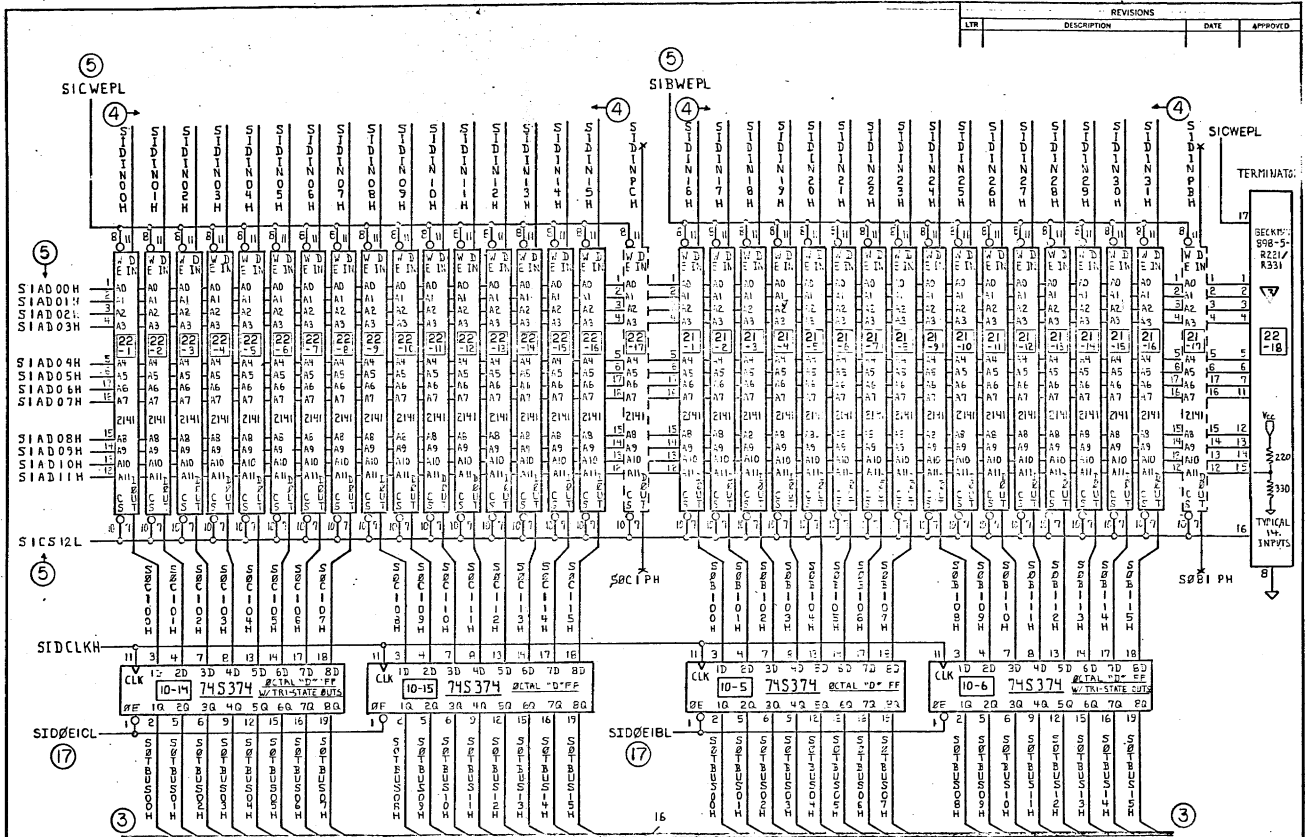


NOT APPROVED FOR RELEASE 2005/07/01 : CIA-RDP85-00514R000100020001-4
 AND CHIP SELECT LINES ARE WIRED PER NOTES ON SHEET ⑥.

TR	DESCRIPTION	REVISIONS	DATE	APPROVED



STAT



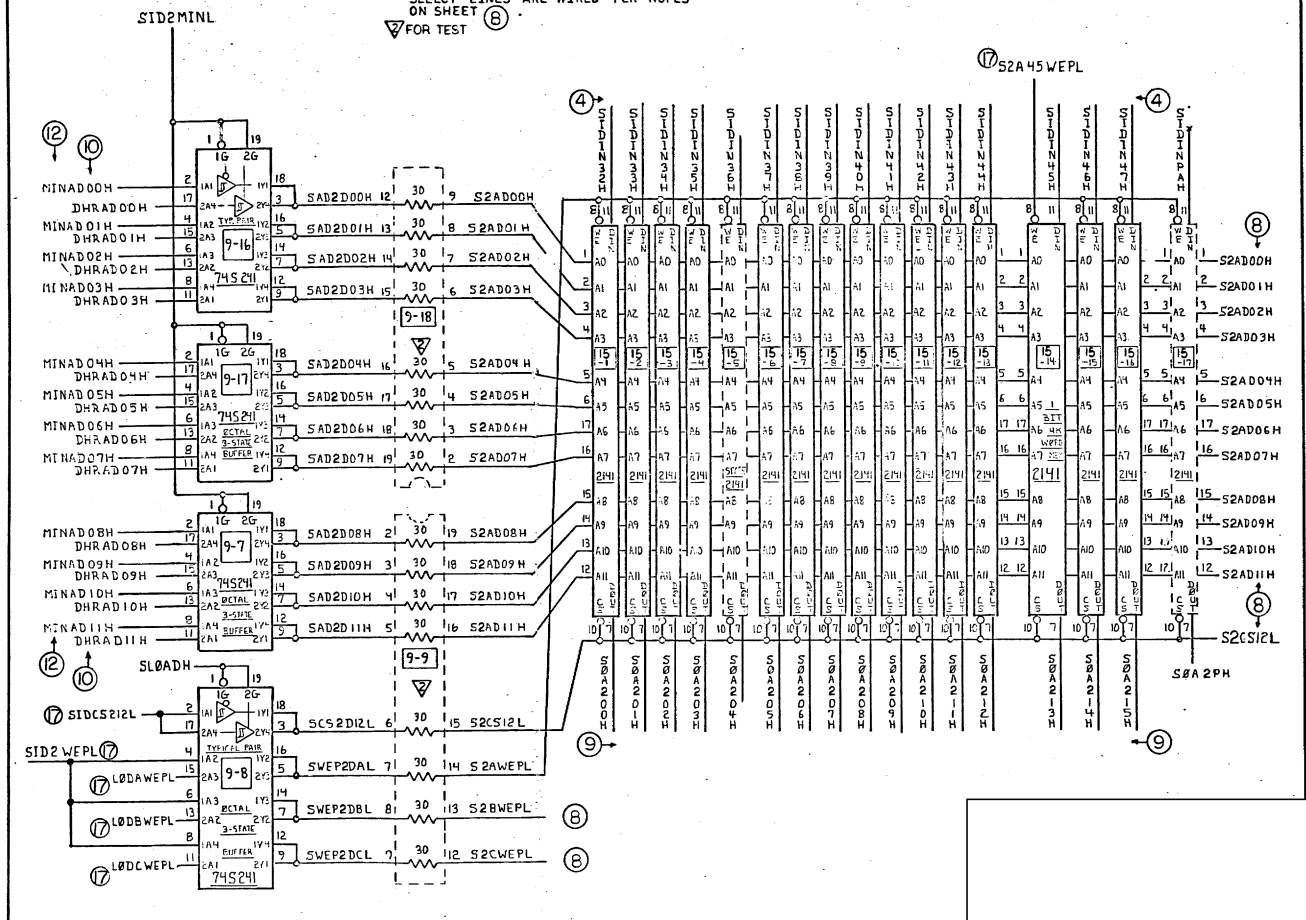
NOTES: 1. WIRE LISTING: DRAWING IS SCHEMATIC ONLY. WRITE AND ADDRESS LINES SIAD_{nn}H AND SICS₁₂L ARE WIRED AS FOLLOWS: S000-SD_{nn} (SERIES TERMINATOR), 16 -1, -2, -3, -4, -5, -6, -13, -14, -15, -16, -17; 17-13, -14, -15, -16, -17; 18-13, -14, -15, -16, -17, -18. 2. WRITE LINES S_{xx}WEPL ARE WIRED (SERIES TERMINATOR) TO (MEMORY BLOCK #) -1, -2, -3, -4, -5, -6, -12, -11, -10, -9, -8, -7, -13, -14, -15, -16, -17, -18.

FOR TEST

STAT

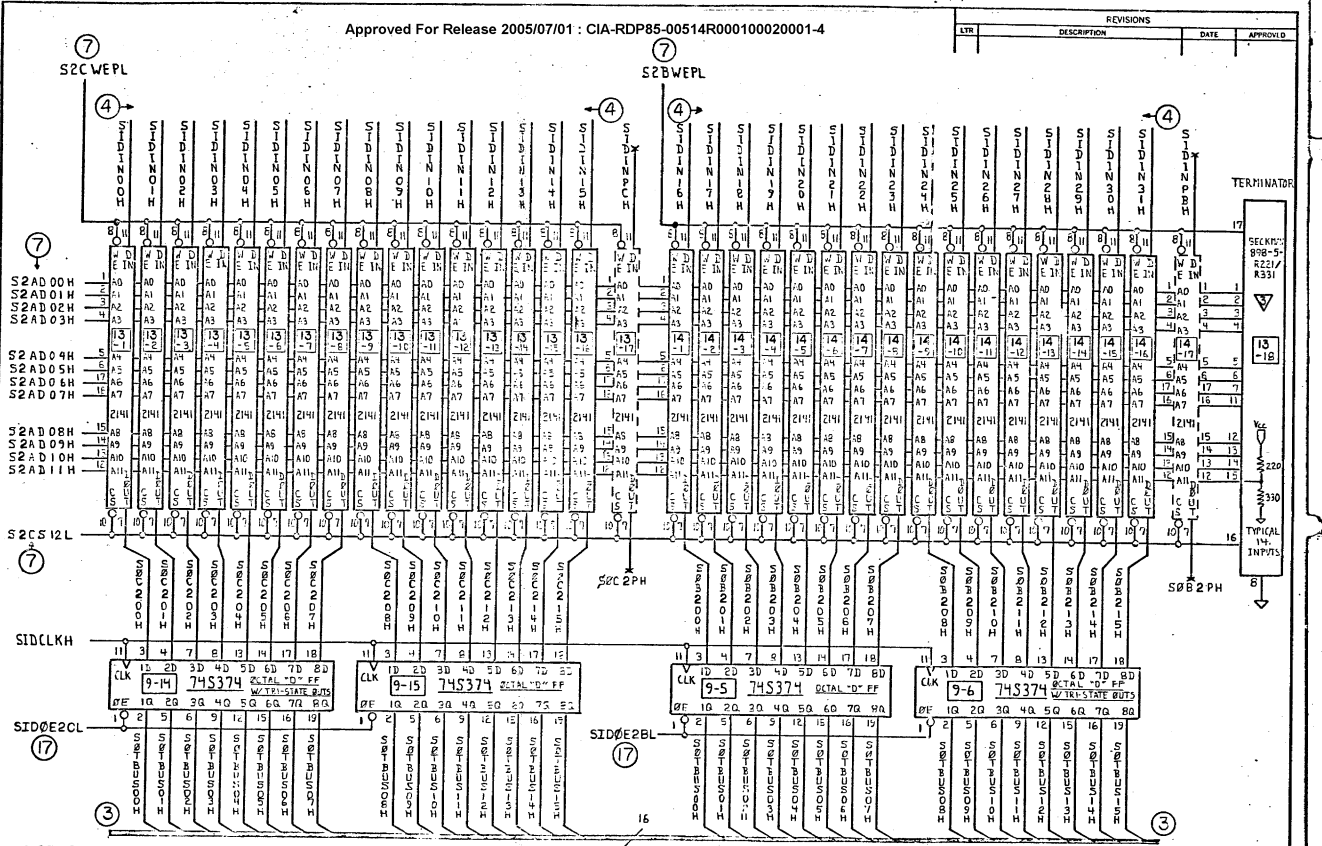
Approved For Release 2005/07/01 : CIA-RDP85-00514R000100020001-4
 NOTES: WIRE LISTING DRAWING AS SHOWN IS FOR PLATE ONLY. MEMORY ADDRESS, WRITE AND CHIP SELECT LINES ARE WIRED PER NOTES ON SHEET (B).
 ▽ FOR TEST

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED



STAT

REVISIONS	DATE	APPROVAL

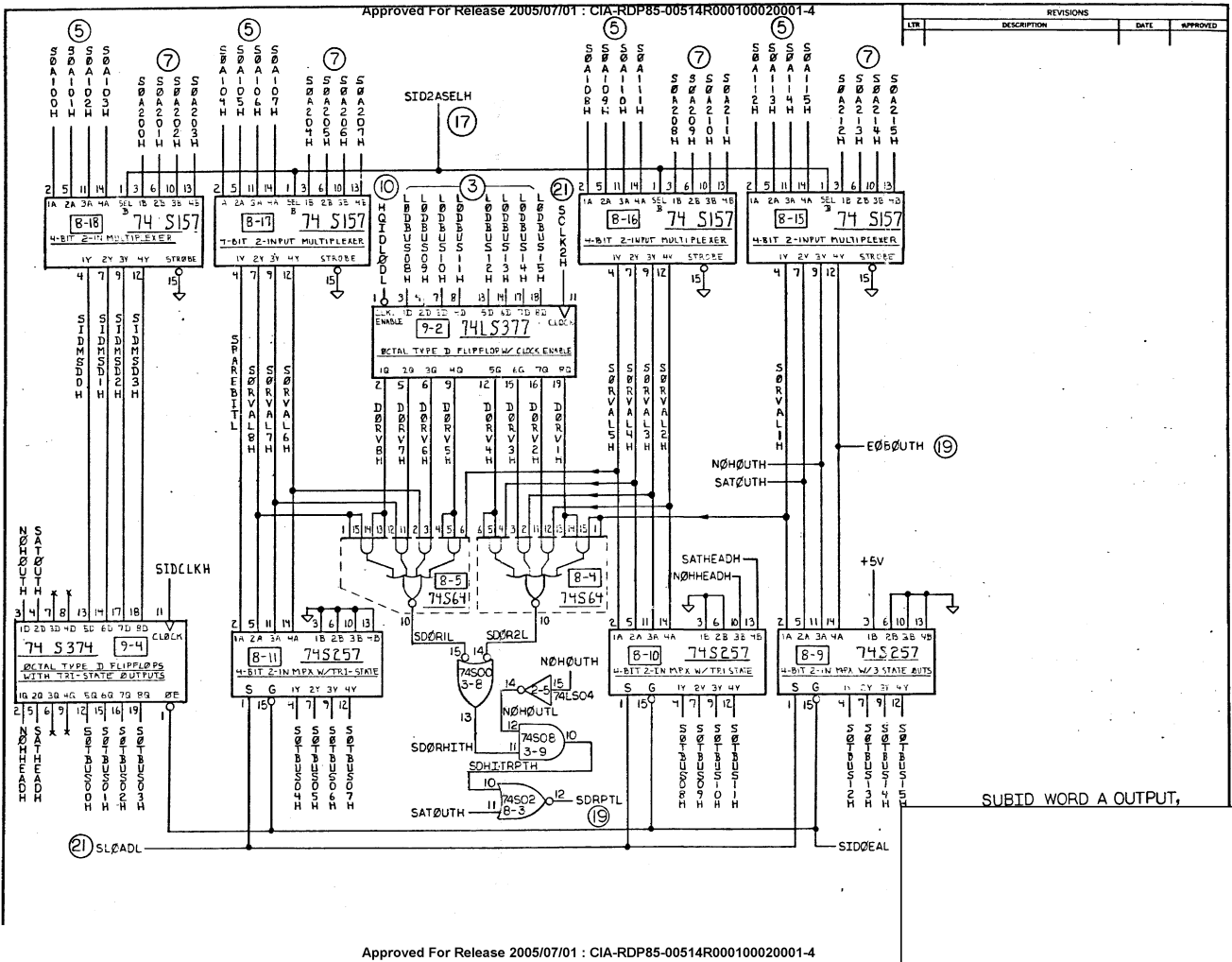


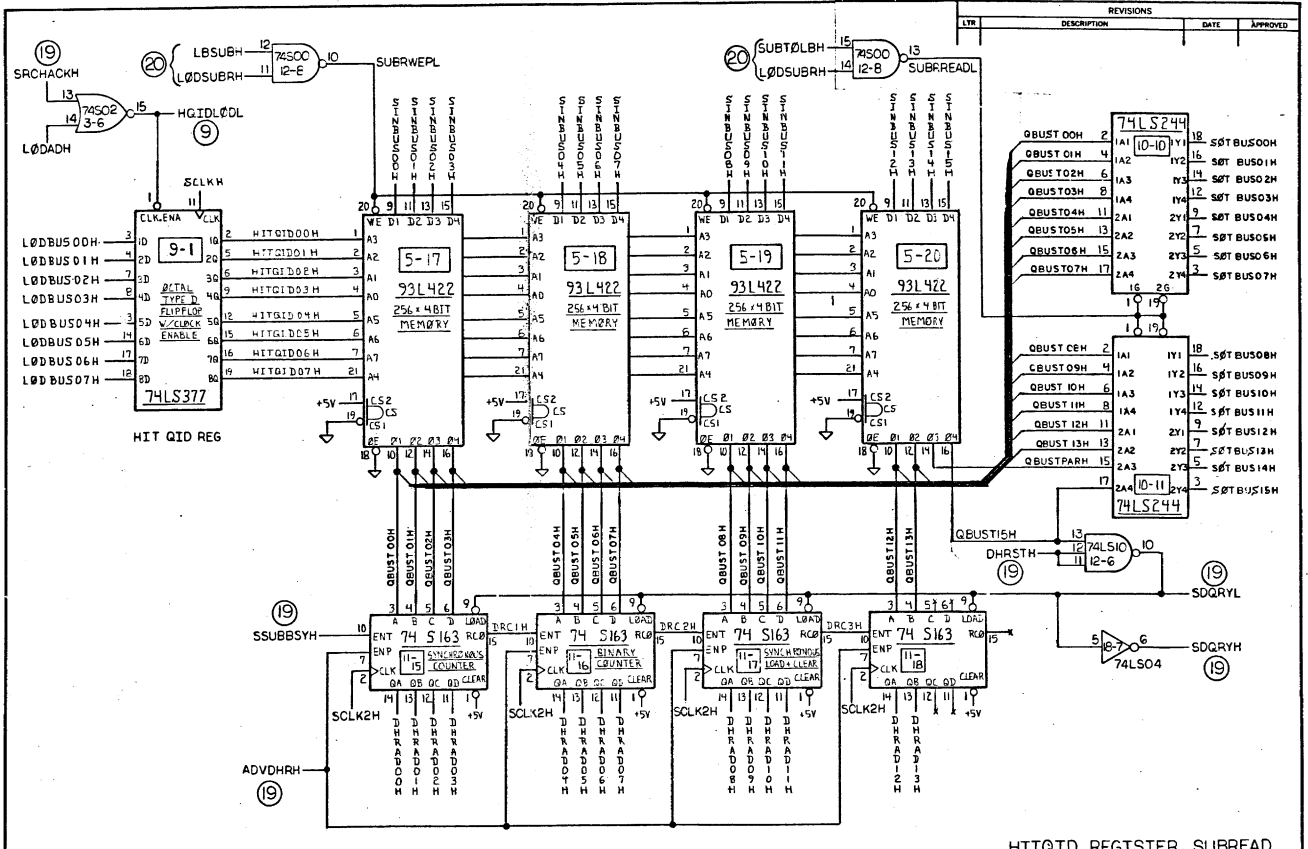
NOTES: 1. WIRE LISTING: DRAWING IS SCHEMATIC ONLY. WRITE AND ADDRESS LINES S2ADnnH AND S2CS12H ARE WIRED AS FOLLOWS: (SERIES TERMINATOR), 15-6,-5,-4,-3,-2,-1; 14-6,-5,-4,-3,-2,-1; 13-6,-5,-4,-3,-2,-1,-7,-9,-10,-11,-12; 12-7,-8,-9,-10,-11,-12; 11-7,-8,-9,-10,-11,-12,-17,-16,-15,-14,-13; 10-17,-16,-15,-14,-13; 9-18,-17,-16,-15,-14,-13; 8-18,-17,-16,-15,-14,-13; 7-18,-17,-16,-15,-14,-13; 6-18,-17,-16,-15,-14,-13; 5-18,-17,-16,-15,-14,-13; 4-18,-17,-16,-15,-14,-13; 3-18,-17,-16,-15,-14,-13; 2-18,-17,-16,-15,-14,-13; 1-18,-17,-16,-15,-14,-13.

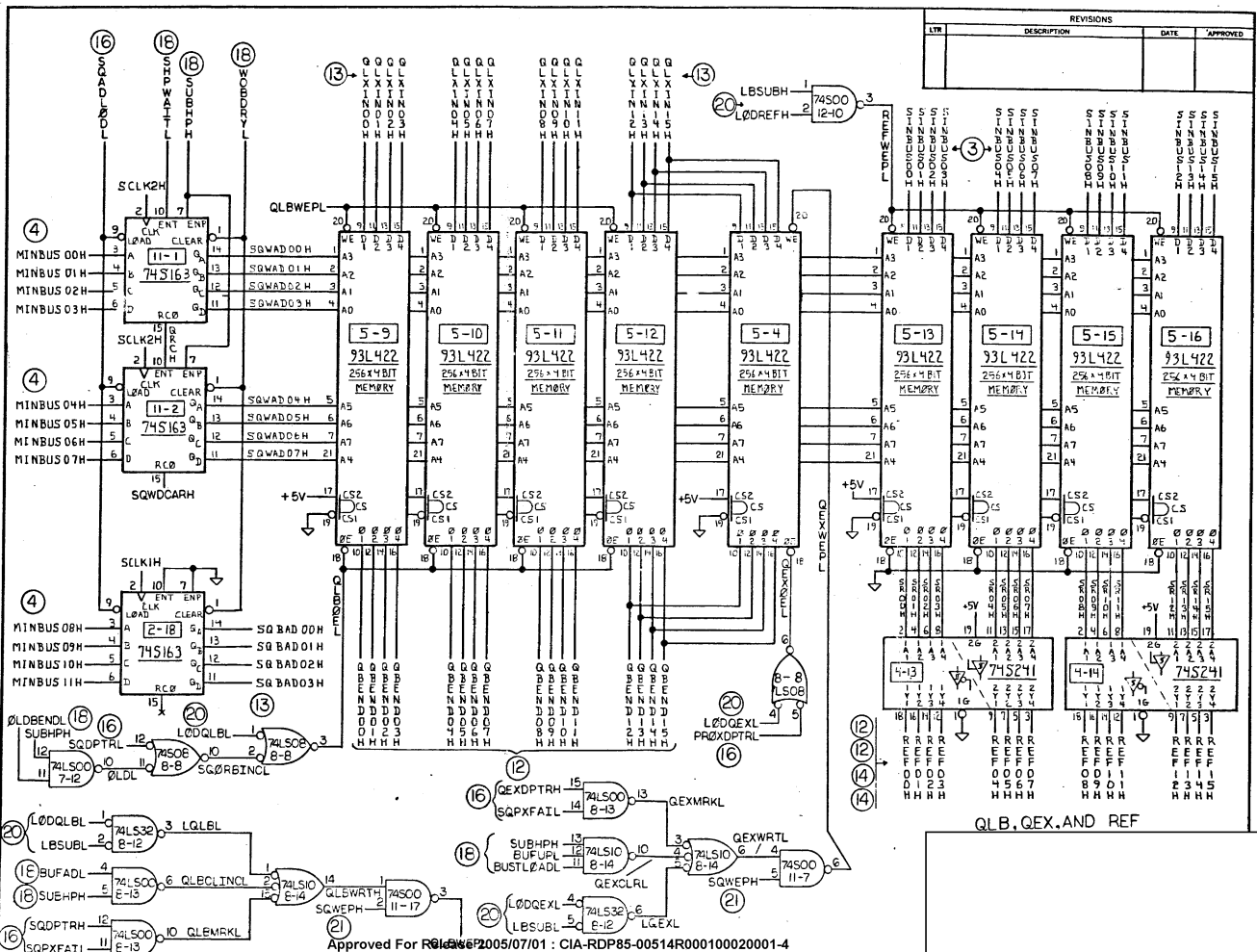
2. WRITE LINE 5xWEPL AND WIRED (SERIES TERMINATOR) TO (MEMORY BLOCK #) -1,-2,-3,-4,-5,-6,-12,11,-10,-9,-8,-7,-13,-14,-15,-16,-17.

▽ FOR TEST

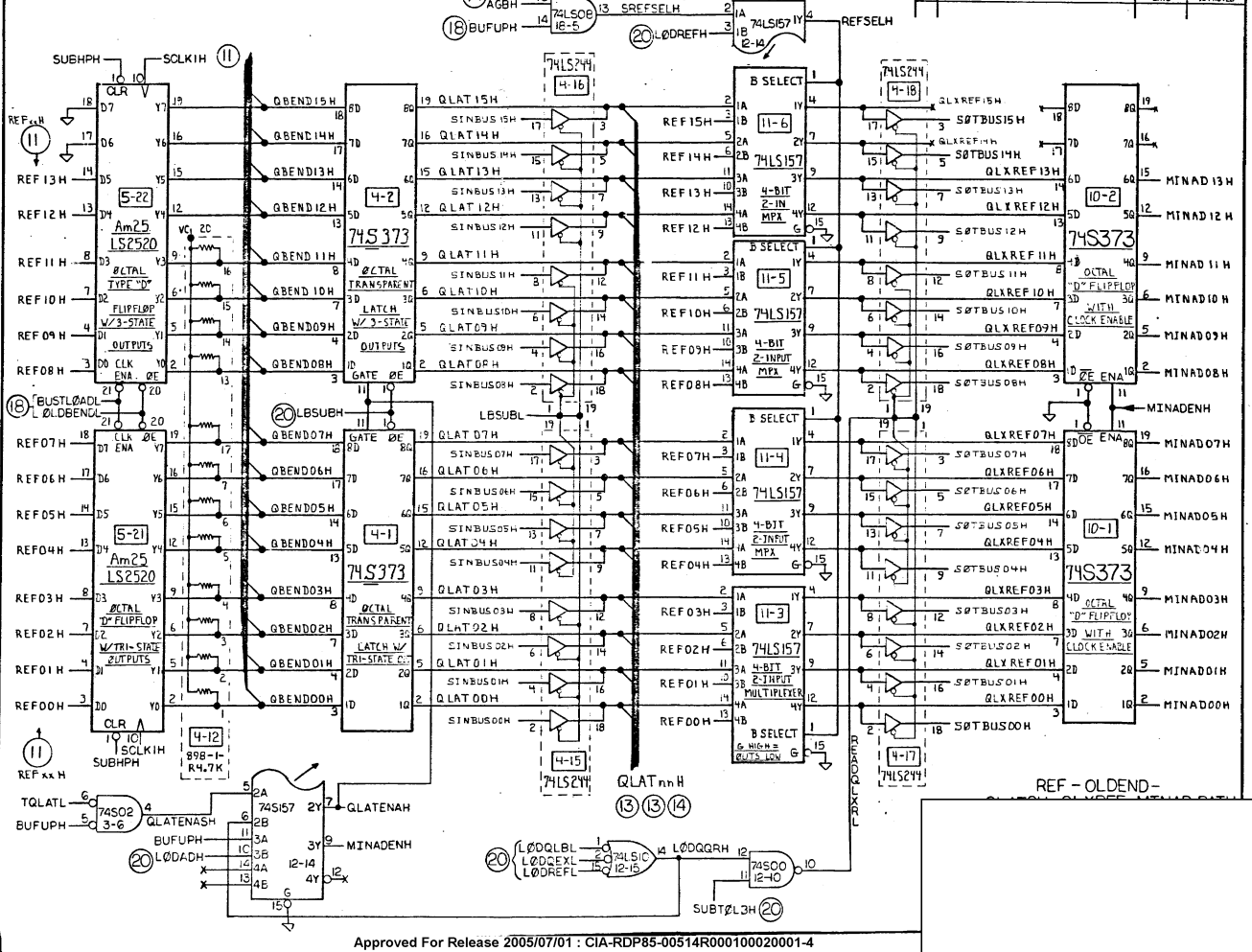
STAT

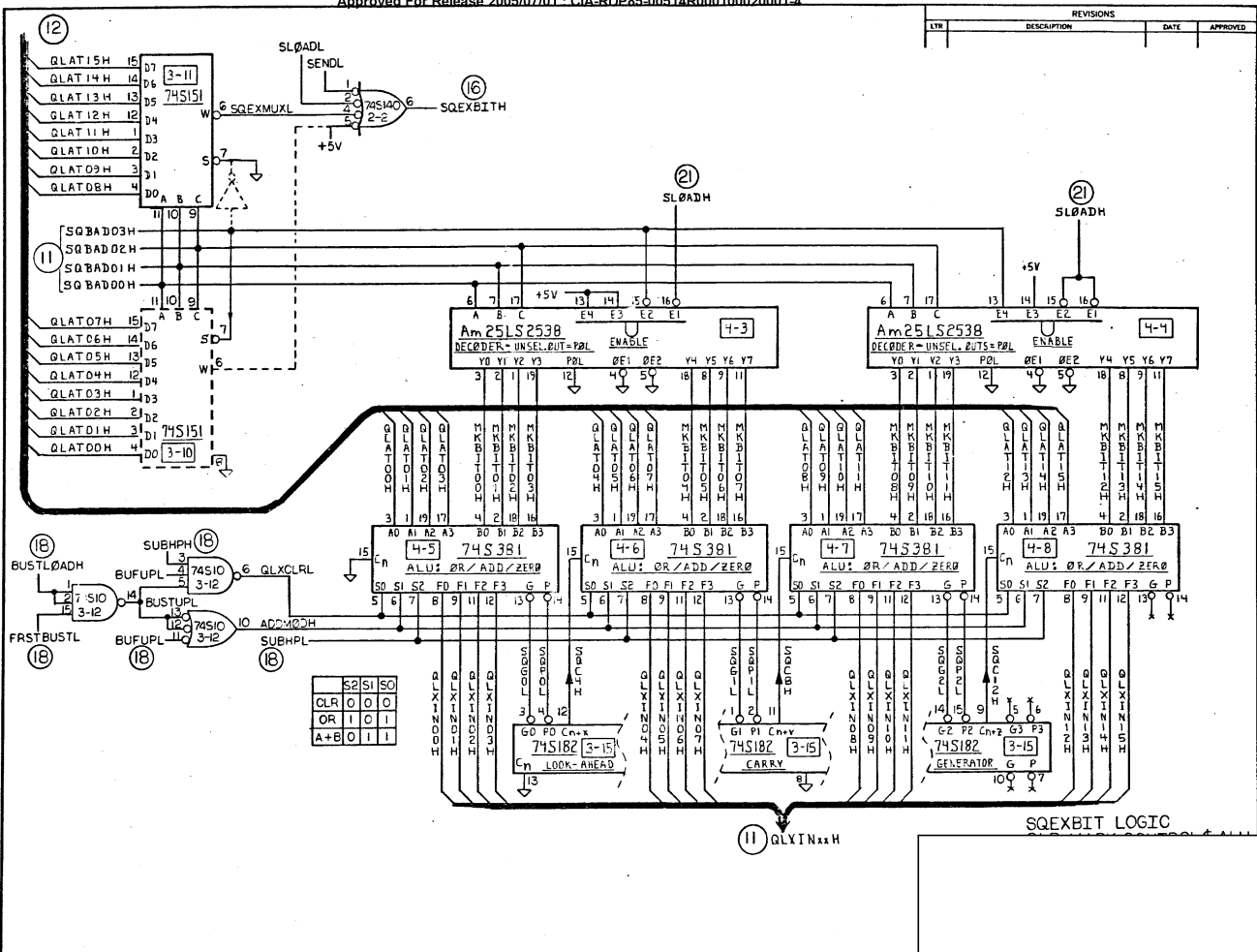




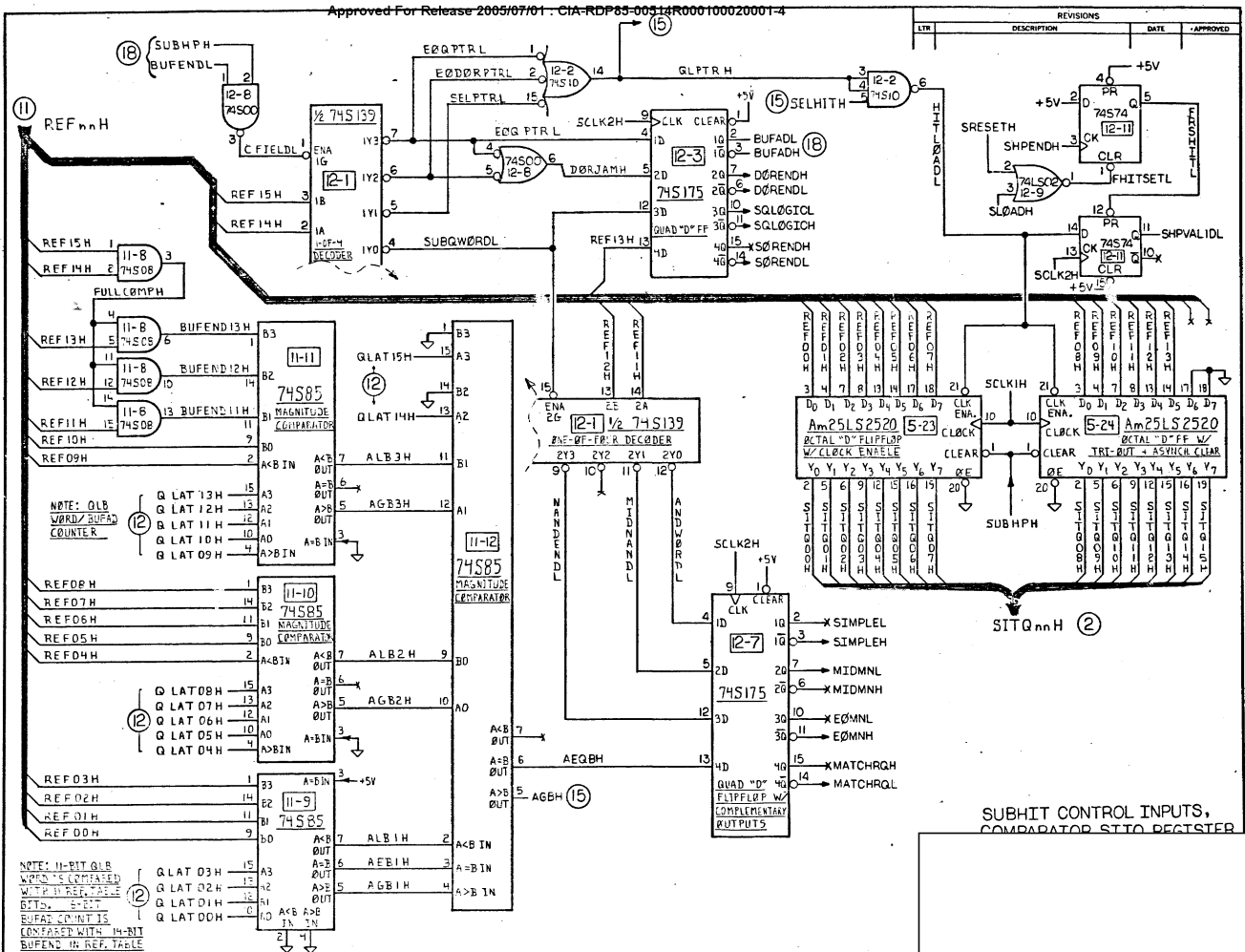


REV	DESCRIPTION	DATE	APPROVED

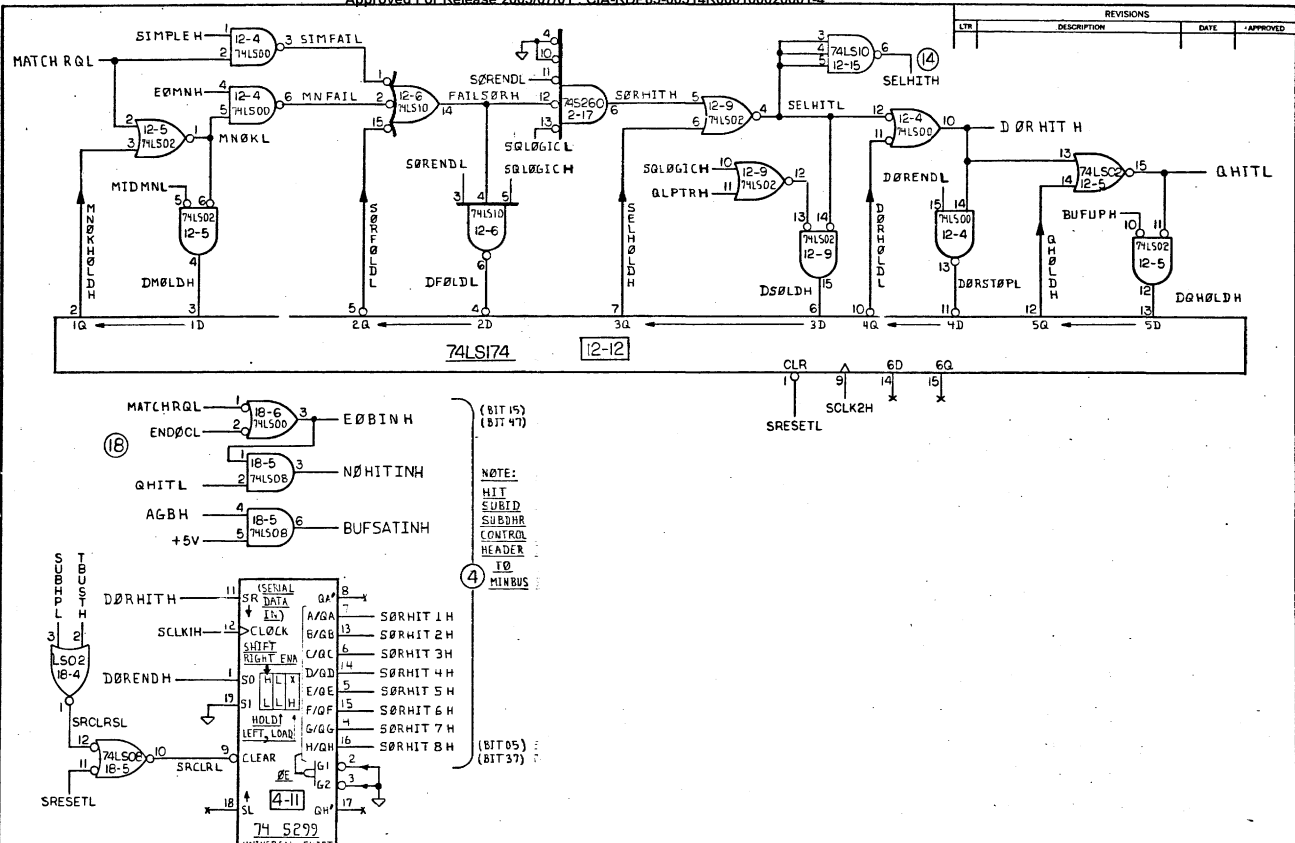




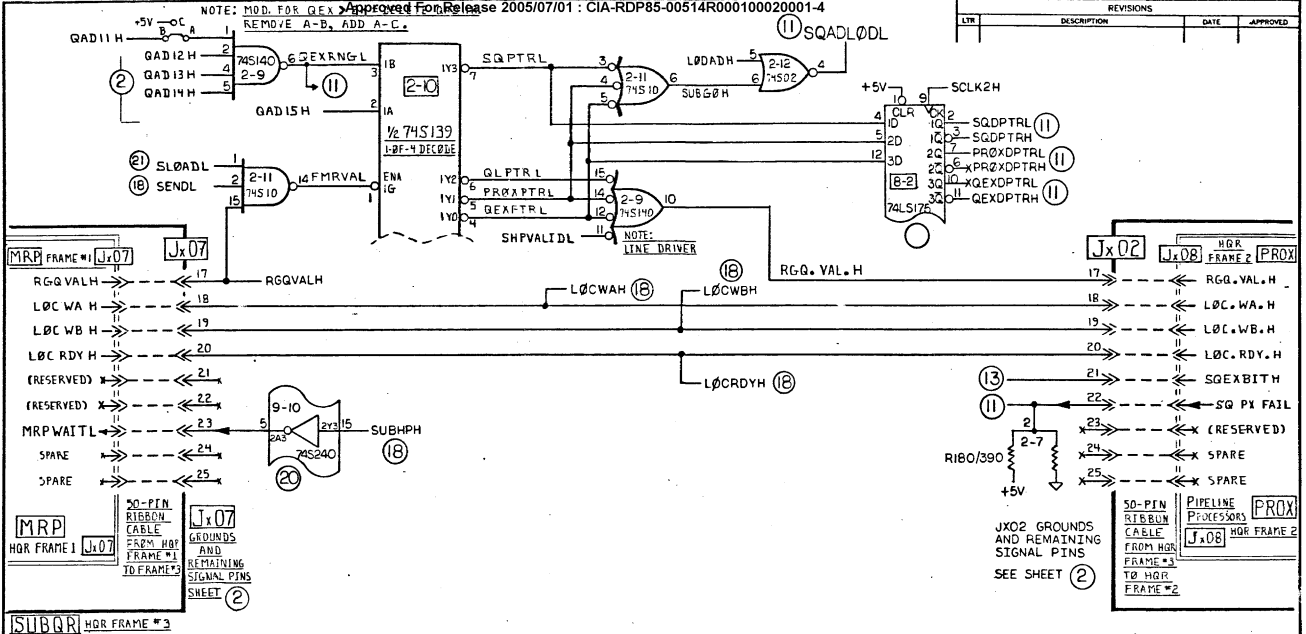
STAT



STAT



NOTE: MOD. FOR QEX APPROVED FOR RELEASE 2005/07/01 : CIA-RDP85-00514R000100020001-4
 REMOVE A-B, ADD A-C.



MRP FRAME #1 Jx07
 HQR FRAME 1 Jx07
 50-PIN RIBBON CABLE FROM FRAME #1 TO FRAME #3 SHEET 2

Jx07
 GROUND AND REMAINING SIGNAL PINS

Jx08
 HQR FRAME 2 PROX
 50-PIN RIBBON CABLE FROM HQR FRAME #3 TO HQR FRAME #2

Jx08
 HQR FRAME 2 PROX
 PIPELINE PROCESSORS

Jx02
 GROUND AND REMAINING SIGNAL PINS SEE SHEET 2

Jx02
 GROUND AND REMAINING SIGNAL PINS SEE SHEET 2

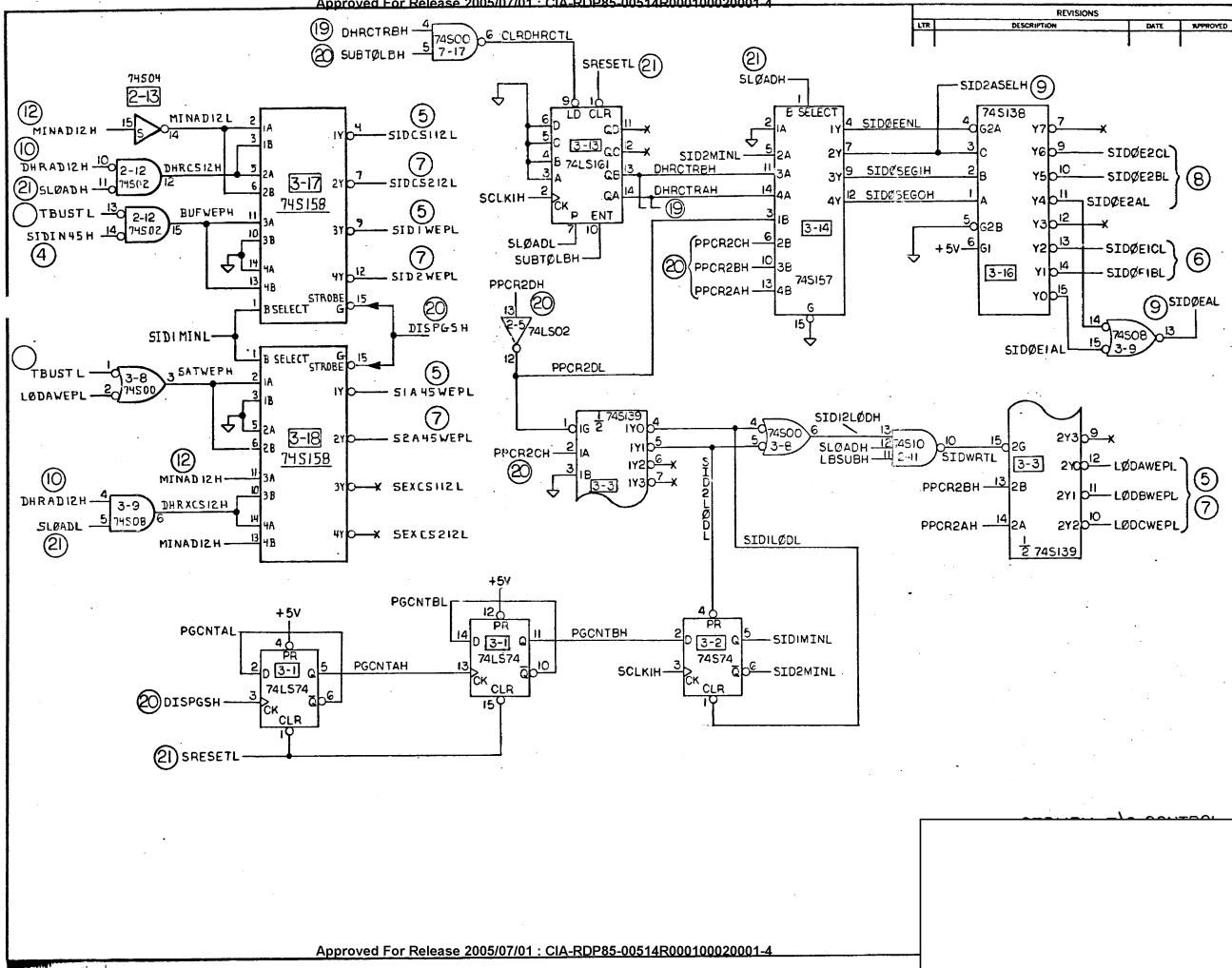
Jx02
 GROUND AND REMAINING SIGNAL PINS SEE SHEET 2

Jx02
 GROUND AND REMAINING SIGNAL PINS SEE SHEET 2

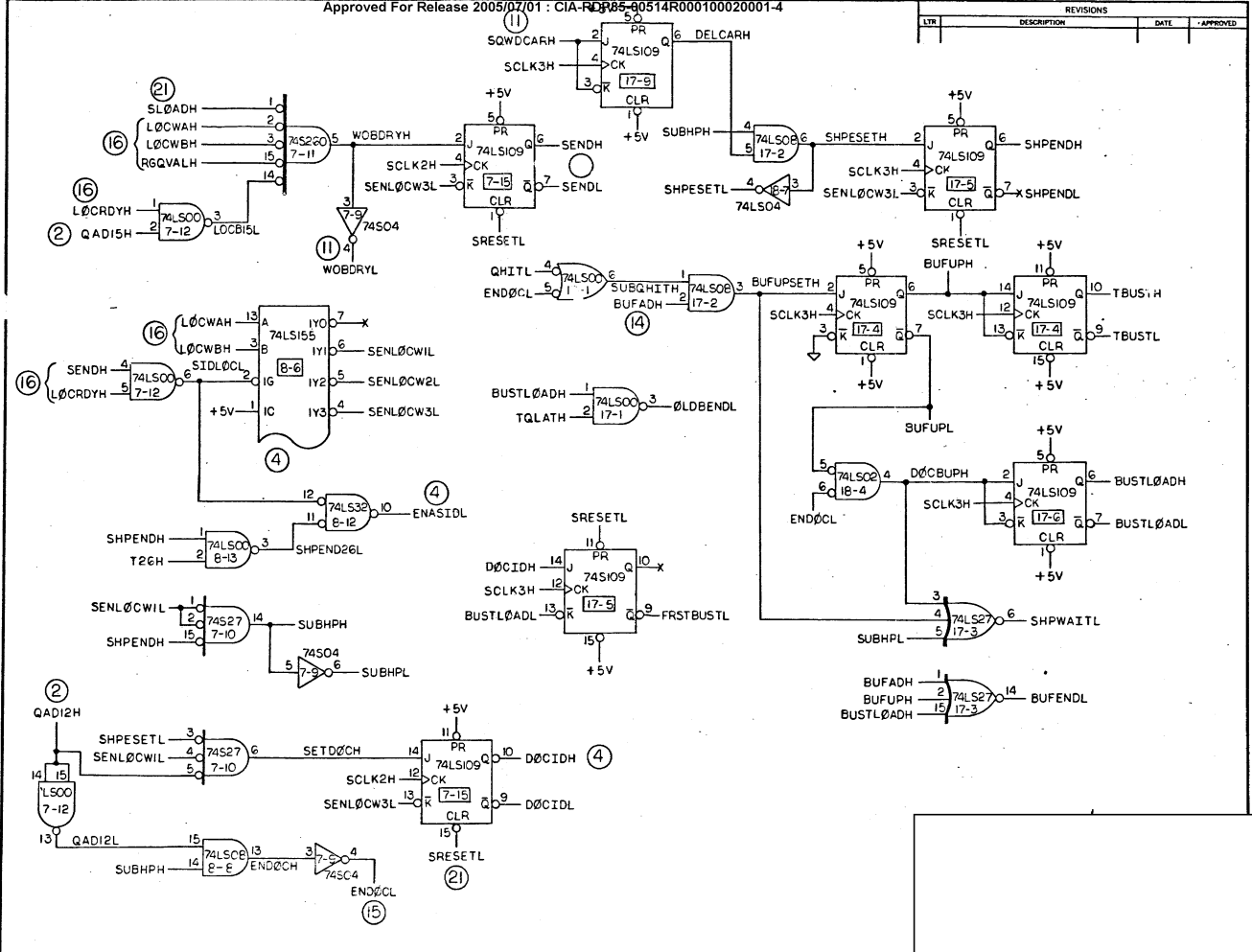
SUBQR HQR FRAME #3

SUBMRP INPUT CONTROL,
 Q - REGISTER CONTROL,

STAT

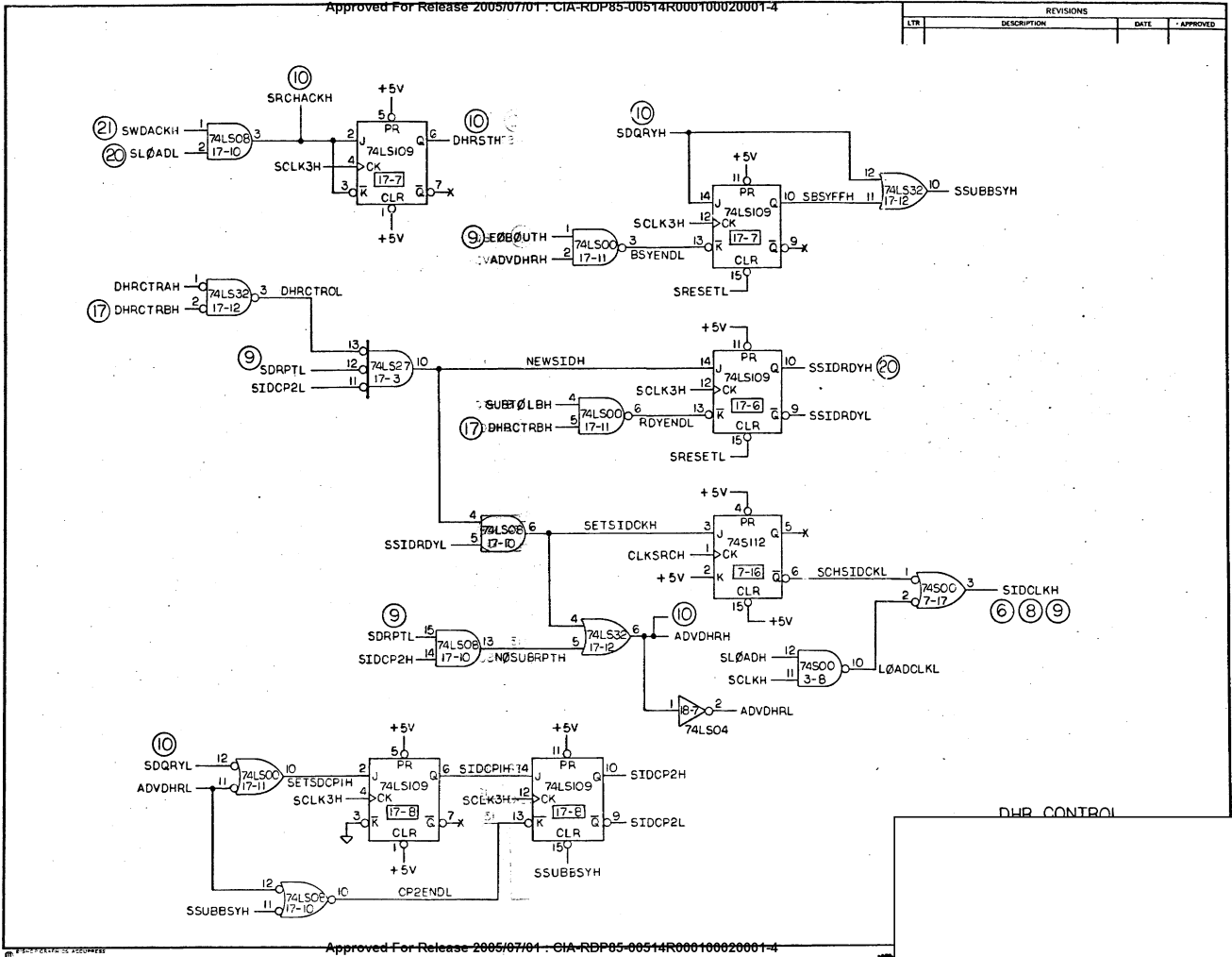


LTR	DESCRIPTION	DATE	APPROVED



STAT

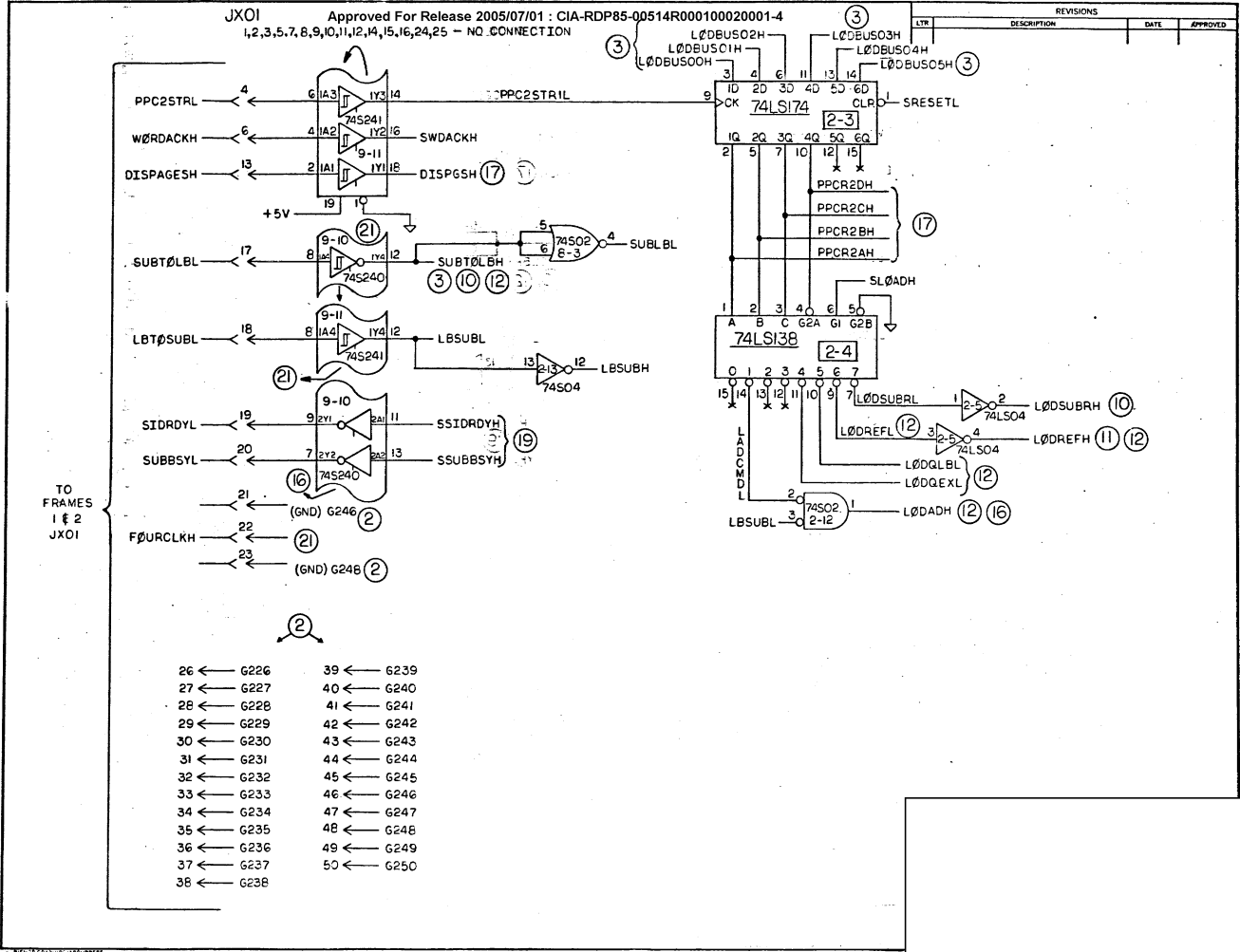
REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED



STAT

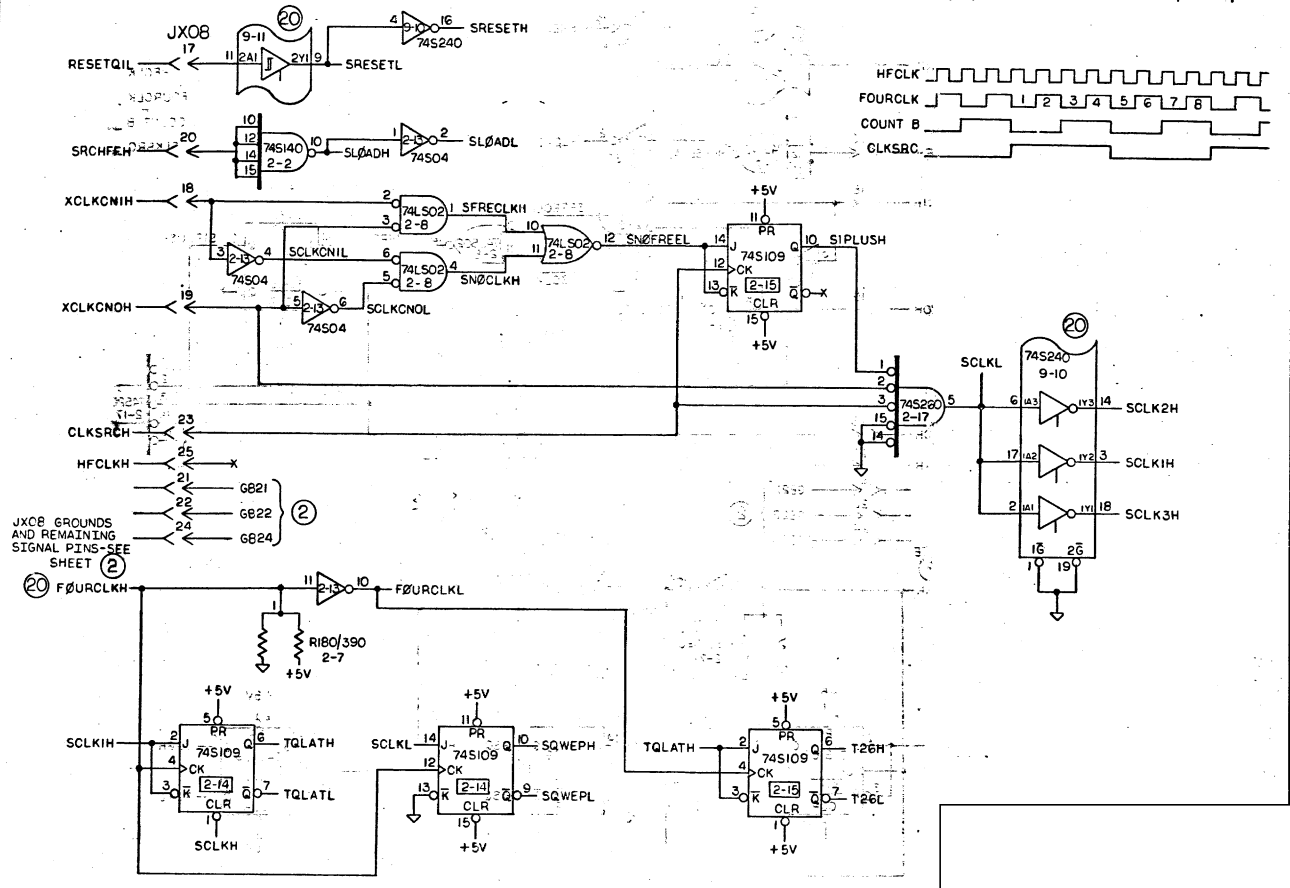
JX01 Approved For Release 2005/07/01 : CIA-RDP85-00514R000100020001-4
 1,2,3,5,7,8,9,10,11,12,14,15,16,24,25 - NO CONNECTION

LTN	DESCRIPTION	DATE	APPROVED



STAT

REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED



STAT