IBM

Field Engineering Education
Instructional Diagrams

360/30

MAINTENANCE DIAGRAM MANUAL

R25-5103-1
8/65

MAINTENANCE DIAGRAM MANUAL

I. ORGANIZATION

THE MAINTENANCE DIAGRAM MANUAL PROVIDES INFORMATION AT THE SYSTEM DATA FLOW, UNIT DATA AND CONTROL, AND THE SIMPLIFIED LOGIC LEVELS.

THE UNIT DATA AND CONTROL DIAGRAM PROVIDES INFORMATION ON DATA FLOW AND ITS ROS CONTROL AND INDICATION POINTS. IT ALSO PROVIDES A COMMUNICATION LINK TO THE FUNCTIONAL MAINTENANCE DIAGRAM THROUGH THE MATRIX PAGE NUMBERING SYSTEM. NOTE THAT THE VERTICAL COLUMNS OF THE UDCD RUN FROM 01 THROUGH 14 AND THE HORIZONTAL ROWS FROM A THROUGH D. EACH SECTION WILL THEN BE IDENTIFIED BY TWO NUMERIC AND ONE ALPHABETIC CHARACTERS (01A,02D,05C, ETC.).

THESE SAME THREE CHARACTERS ARE USED AS THE LAST THREE CHARACTERS OF THE PAGE NUMBERS FOR THE SIMPLIFIED LOGIC PAGES AND ARE PRECEDED BY A 5-- ONLY TO INDICATE THE DIAGRAM SECTION OF PAGES. (ALL SIMPLIFIED LOGIC PAGES ARE IN SECTION 5.)

THE CONTENT OF THE FOUR MAJOR ROWS, A THROUGH D, IS GENERALLY CONSISTENT AS FOLLOWS:

ROW A - INDICATION, CHECKING, STATUS, AND PRIORITY
ROW B - STORAGE ADDRESSING AND ARITHMETIC
ROW C - GENERAL DATA FLOW REGISTERS
ROW D - INPUT/OUTPUT COMMUNICATION AND STORAGE

II. SYMBOLOGY

THE SYMBOLOGY USED IN THE 2030 MAINTENANCE DIAGRAM MANUAL FOLLOWS THE STANDARD 1046-3 AND OR EXTENTIONS THEREOF.

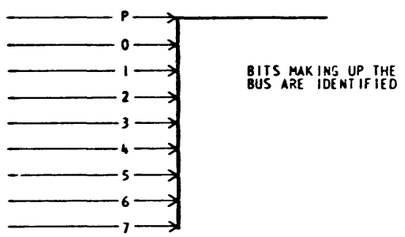
EXAMPLES OF THESE ENTENSIONS ARE SHOWN IN THE FOLLOWING PAGES.

A. BUSES

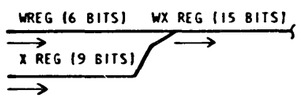
1. BUSES ARE DRAWN WITH HEAVY LINES AND ARE USED FOR BOTH DATA BITS AND CONTROL BITS. LINE WEIGHTS GENERALLY PROVIDE SOME INDICATION OF THE NUMBER OF BITS IN A BUS.

2. BUSES ARE BUILT BY:

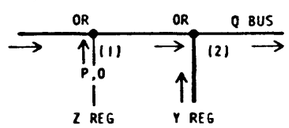
A) INDIVIDUAL BIT LINES MERGING



B) BUSES MERGING



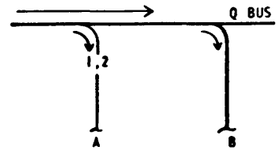
C) BUSES CONNECTING (DOT OR)



(1) THE P BIT OF THE Z REG IS DOT ORED WITH THE P BIT OF THE Q BUS AND THE 0 BIT OF THE Z REG IS DOT ORED WITH THE 0 BIT OF THE Q BUS.

(2) EACH BIT OF THE Y REG IS DOT ORED WITH CORRESPONDING BITS OF THE Q BUS.

3. BUSES MAY BE TAPPED OR DELETED BY A BUS OR ANY NUMBER OF BITS.



A. THE Q BUS 1, AND 2 BITS ARE TAPPED FROM THE BUS FOR USAGE.

B. THE ENTIRE Q BUS IS USED.

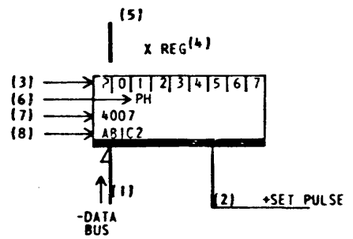
4. BUSES MAY CARRY BOTH + AND - LOGIC LEVELS. THESE LEVELS WILL BE IDENTIFIED IN THE BUS NAME OR IMPLIED BY THE OUTPUT SYMBOL OF THE LOGIC BLOCK(S) FEEDING THE BUS.

B. BUS FUNCTIONS

FUNCTIONS OF DATA OR CONTROL BITS IN MANY CASES ARE IDENTICAL FOR ALL BITS OF A BUS. CIRCUIT PACKAGES TAKE ADVANTAGE OF THIS FACT AND ALSO THE DIAGRAM REPRESENTS FUNCTIONS OF THE PACKAGE. EXAMPLES ARE SHOWN BELOW.

1. A REGISTER PACKAGE WITH CAPABILITIES OF STORING (REGISTERING) 9 BITS OF INFORMATION ON A BUS. THE SET INPUTS OF ALL REGISTERS WILL ALWAYS BE SHOWN IN THE LOWER LEFT CORNER AND THE RESETS WILL BE SHOWN IN THE LOWER RIGHT CORNER OF REGISTER SYMBOLS AS SHOWN IN (A). IF THE SYMBOL SHOULD BE SHOWN ROTATED, THE INPUT AND OUTPUT POSITIONS WOULD ROTATE WITH THE REGISTER SYMBOL.

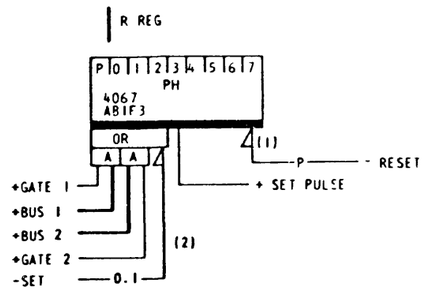
A. EXCLUSIVE OR "LATCHES" (PH)



THOSE BITS OF A DATA BUS (1) IDENTIFIED (3) WITHIN THE REGISTER SYMBOL, THAT ARE AT THE MINUS LEVEL, WILL BE STORED (REGISTERED) IN THE X REG (4) WITH THE + SET PULSE (2), SUCH THAT THEY PROVIDE PLUS OUTPUTS FROM THE REGISTER. THOSE BIT LINES THAT ARE AT A PLUS LEVEL ON THE INPUT DATA BUS WILL BE STORED AT THIS SAME TIME AND WILL PROVIDE MINUS OUTPUTS. THE PH (6) INDICATES THAT THIS IS THE "EXCLUSIVE OR" TYPE LATCH REGISTER. THE PART NUMBER OF THE CIRCUIT CARD IS 0580 4007 (7) AND IS LOCATED IN THIS MACHINE AT 01A - B1C2.

DATE	EC NO	DATE	EC NO.	TITLE SYMBOLOGY 1	
7-15-65	124961			IBM LOG 0.00.01.00	TYPE 2030
				PART NO. 826001	PAGE 1 OF 1

B. "EXCLUSIVE OR" LATCHES (PH) WITH BUS SELECTION INPUT

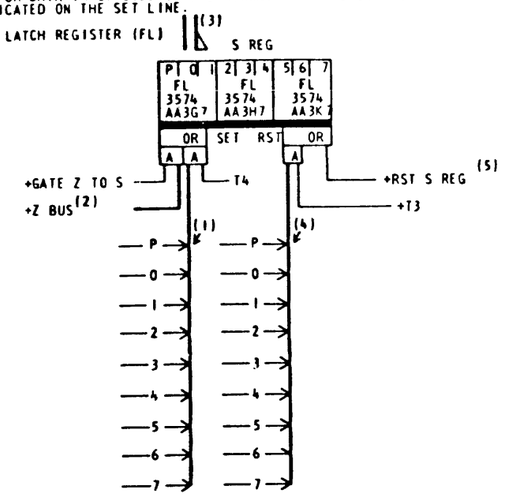


THIS PACKAGE IS AN EXTENSION OF THE PREVIOUS PACKAGE. PLUS BITS ON EITHER BUS 1 OR BUS 2 CAN BE SELECTED TO SET INTO THE R REGISTER AND PROVIDE PLUS OUTPUTS.

AN EXTERNAL (PULL OVER) RESET (1) MAY BE APPLIED TO EITHER PACKAGE A OR B. IF THE ENTIRE REGISTER IS AFFECTED, NO BITS WILL BE INDICATED ON THE LINE. IF SELECTED BITS ARE AFFECTED, THEY WILL BE INDICATED. THE USAGE SHOWN INDICATES THAT WHEN THE MINUS RESET LINE IS PRESENT THE P BIT POSITION WILL BE RESET TO PROVIDE A MINUS OUTPUT.

SELECTED BITS MAY ALSO BE SET INTO THE REGISTER. THESE WOULD BE DIAGRAMED ON THE SET OR DATA INPUT SIDE OF THE BLOCK. (2) THE BIT POSITIONS AFFECTED WOULD BE INDICATED ON THE SET LINE.

C. LATCH REGISTER (FL)

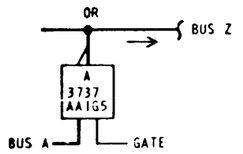


THE S REG IS MADE UP OF THREE CARDS OF THE FL TYPE AND WILL TURN ON AND PROVIDE OUTPUTS (3) FOR THE BITS THAT WERE PLUS ON BUS (1) AT T4 TIME OR THE BITS THAT WERE PLUS ON THE Z BUS (2) IF THE COMMON GATE (+ GATE Z BUS TO S) WAS PLUS. THE REGISTER CAN BE RESET WITH +RST S REG; (5) OR AT T4 TIME. BITS WITHIN THE REGISTER CAN BE RESET BY THE CORRESPONDING BITS BEING PLUS ON BUS (4).

2. BUS SELECTORS (ASSEMBLERS)

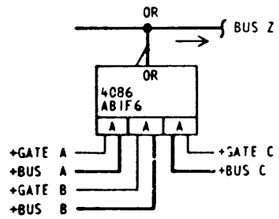
GATING OF BUSES ARE SHOWN IN THE FOLLOWING MANNER:

A.



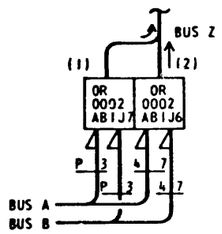
THOSE BITS THAT ARE PLUS AT INPUT BUS A, WHEN THE COMMON GATE IS PLUS, WILL APPEAR AT THE MINUS LOGICAL LEVEL ON BUS Z.

B.



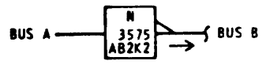
THOSE BITS THAT ARE PLUS AT INPUT BUS A WHEN THE COMMON GATE A IS PLUS OR AT INPUT BUS B WHEN THE COMMON GATE B IS PLUS OR AT INPUT BUS C WHEN THE COMMON GATE C IS PLUS WILL APPEAR AT THE MINUS LOGICAL LEVEL ON BUS Z.

3. BUS CONNECTORS



THE MINUS BITS OF BUS A OR CORRESPONDING MINUS BITS OF BUS B PROVIDE PLUS BITS ON BUS Z. THE BIT POSITIONS HANDLED BY THE DIFFERENT PACKAGES ARE INDICATED AS P,0,1,2,3 FOR PACKAGE (1) AND 4,5,6,7 FOR PACKAGE (2).

4. BUS INVERTERS



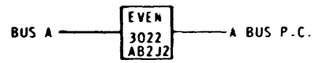
ALL BITS IN BUS A ARE INVERTED ON BUS B. (PLUS BITS ON BUS A WILL BE MINUS ON BUS B).

DATE	EC NO.	DATE	EC NO.	TITLE SYMBOLOGY 2	
7-15-65	124961			IBM LOG 0.00.02.00	TYPE 2030
				PART NO. 826002	PAGE 1 OF 1

PART NO. 826002	PAGE 1 OF 1	LOG 0.00.02.00

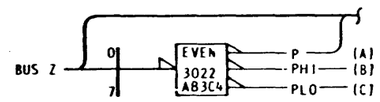
5. PARITY CHECK OR PARITY GENERATE

A.



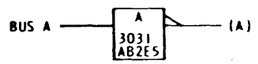
IF AN EVEN NUMBER OF PLUS BITS IS CONTAINED IN BUS A THE OUTPUT (A BUS P.C.) WILL BE PLUS.

B.



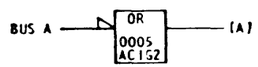
IF AN EVEN NUMBER OF MINUS BITS IS CONTAINED IN BUS Z, A MINUS OUTPUT (A) IS PROVIDED. THIS OUTPUT WILL MERGE WITH THE INPUT BUS TO MAKE UP A CHECKABLE BUS. ADDITIONAL OUTPUTS ARE AVAILABLE (B,C). OUTPUT (B) IS A GENERATED P BIT FOR 4 BITS (0-3) ONLY. OUTPUT (C) IS A GENERATED P BIT FOR 4 BITS (4-7) ONLY.

6. BUS AND



ALL BITS ON BUS A AND ANDED, AND MUST BE PLUS TO PROVIDE A MINUS OUTPUT (A).

7. BUS OR



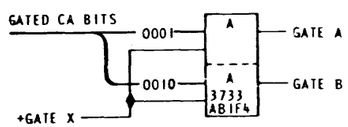
ANY BIT ON BUS A BEING MINUS WILL PROVIDE A PLUS OUTPUT (A).

8. SPECIAL FUNCTION CARDS

THOSE CARDS THAT PERFORM COMPLEX BUS FUNCTIONS ARE SHOWN AS SPECIAL (SPEC) FUNCTION BLOCKS. THE CONTROL LOGIC IS SHOWN AND THE CARD FUNCTION AND OR LOCATION USUALLY WILL BE IN THE FORM OF A NOTE OR TABLE NEAR THE BLOCK. CARDS OF THIS TYPE ARE THE ALU, TRUE-COMPLEMENT AND GATING DECIMAL CORRECTOR, A REG STRAIGHT-CROSS AND GATING, AND TRANSLATOR CARDS.

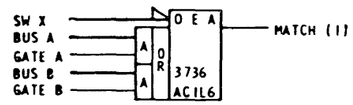
9. DECODERS

DECODERS, BEING NOTHING MORE THAN "AND" LOGIC ARE DRAWN COMBINING BUS "ANDING" AND UNIT LOGIC "AND" FUNCTION.



THE DECODER CARD LOCATED AT AB1F4 CONTAINS 2 DECODING CIRCUITS. GATE A WILL BE AT A PLUS LEVEL WHEN GATE X IS PLUS AND THE GATED CA BITS ARE PRESENT IN THE 0001 COMBINATION (BIT 3 PRESENT, NO BIT 0,1,2). GATE B WILL BE AT A PLUS LEVEL WHEN GATE X IS PLUS AND THE GATED CA BITS ARE PRESENT IN THE 0010 COMBINATION (BIT 2 PRESENT, NO BIT 0,1,3).

10. MATCH OR COMPARING



PLUS BITS FROM BUS A IF GATE A IS PLUS, OR PLUS BITS FROM BUS B IF GATE B IS PLUS WILL BE "EXCLUSIVE ORED" WITH CORRESPONDING MINUS BITS FROM SW X BUS. THESE OUTPUTS ARE "ANDED" TO PROVIDE A PLUS MATCH SIGNAL (1).

C. CARD REFERENCING

1. CARD TYPE AND LOCATION

THE LAST FOUR DIGITS OF THE CARD PART NUMBER AND CARD LOCATION IS PROVIDED WITHIN THE LOGIC SYMBOL. IF MORE THAN ONE LOGIC FUNCTION IS PERFORMED BY A CARD AND THESE FUNCTIONS ARE DIAGRAMMED TOGETHER, THE PART NUMBER AND LOCATION WILL BE SHOWN ONLY ONCE (AS IN ITEM B-9).

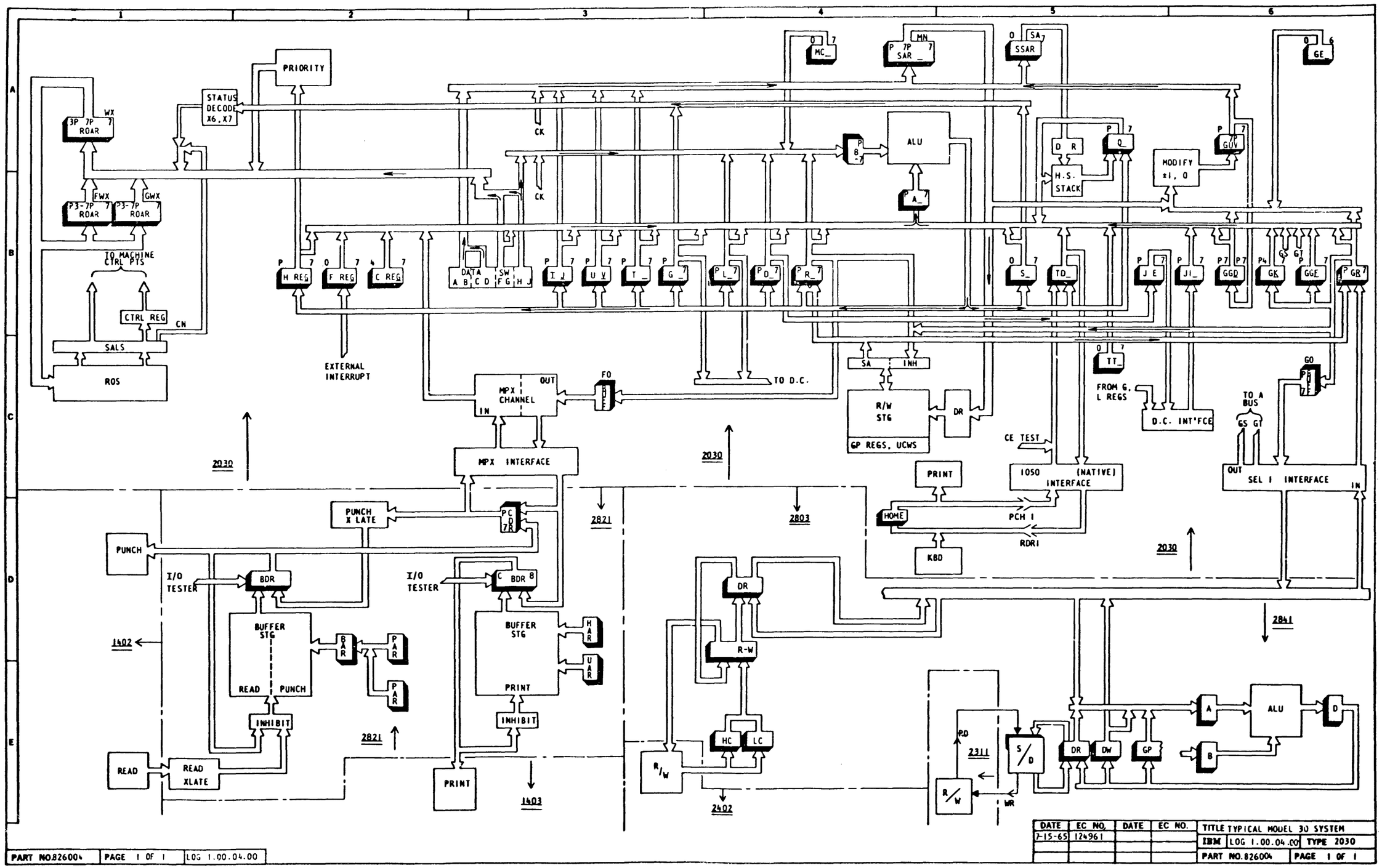
2. ALD REFERENCING IS INDICATED NEAR AND OUTSIDE OF THE SYMBOL WHEN IT IS REQUIRED.

3. LOGIC LINES AND BUSES GOING FROM ONE PAGE TO ANOTHER ARE CROSS-REFERENCED USING THE PAGE NUMBER AND SECTION WITHIN THE PAGE.

4. INPUT OR OUTPUT REFERENCES DESIGNATED AS EXAMPLE ---C6 MEANS LOCATION IS WITHIN THAT PAGE. THE XXXXX MEANS LOGIC IS IN DRAWINGS BUT AS YET NOT USED. THE 08CXX AS EXAMPLE MEANS THUR OUT PAGE HAS TOO MANY REFERENCES, OR IS TIED INTO A BUS.

PART NO. 826003	PAGE 1 OF 1	LOG 0.00.03.00

DATE	EC NO.	DATE	EC NO.	TITLE SYMBOLOGY 3	
7-15-65	124961			IBM LOG 0.00.03.00	TYPE 2030
				PART NO. 826003	PAGE 1 OF 1



DATE	EC NO.	DATE	EC NO.	TITLE TYPICAL MODEL 30 SYSTEM
7-15-65	124961			IBM LOG 1.00.04.00 TYPE 2030
				PART NO. 826004 PAGE 1 OF 1

PART NO.826004 | PAGE 1 OF 1 | LOG 1.00.04.00

ROAR

SALS

MANUAL

STG DATA

ROS BRANCH DECODE

PRIORITY DECODE

RECYCLE CONTROLS

EVEN PC

STOR DATA

CHECK BUS

P 7 W1 X1 F 7

ROAR SALS CTRL

EVEN PC EVEN PC EVEN PC

CH,CL

PRIORITY REQ

LOAD

FIJ

STOP

MPX SHARE
SX SHARE
MEM PROTECT

WP, XP

PA

0-32,54 33-53

STATUS

P 7 W P 7 X

X6, X7

CN

PRIORITIES

CK SALS

CA, CKP

STG WRAP DETECT

ADDRESS MATCH

ROAR

SAR

M-N REG ASSM

P 7 FW P 7 FX P 7 GW P 7 GX

CK SALS

TO DECODES

B REG ASSM

A REG ASSM

STORE DATA

SAL 0-6 = CN FIELD
7 = PS
8 = PA
9-12 = CM
13-16 = CL
17-19 = CM
20-21 = CU
22-25 = CA
26-27 = CB
28-32 = CK
33 = PC
34-37 = CD
38-40 = CF
41-42 = CG
43-44 = CV
45-47 = CC
48-51 = CS
52 = AA
53 = AS
54 = AK

33 53 CTRL

33 53

CLOCK START-STOP CONTROL

A B C D E F G H I J MANUAL DATA SWITCHES

4 7 C 0 7 F P 7 H

P 7 I P 7 J

P 7 U P 7 V

P 7 T P 7 G

P 7 L

P 7 D

P 7 R

ALU

STG DATA

0 54 SALS

0 54 0 54

ADDR SEL.

0 59 READ ONLY STORAGE 0-4K

0 59 READ ONLY STORAGE 4-8K

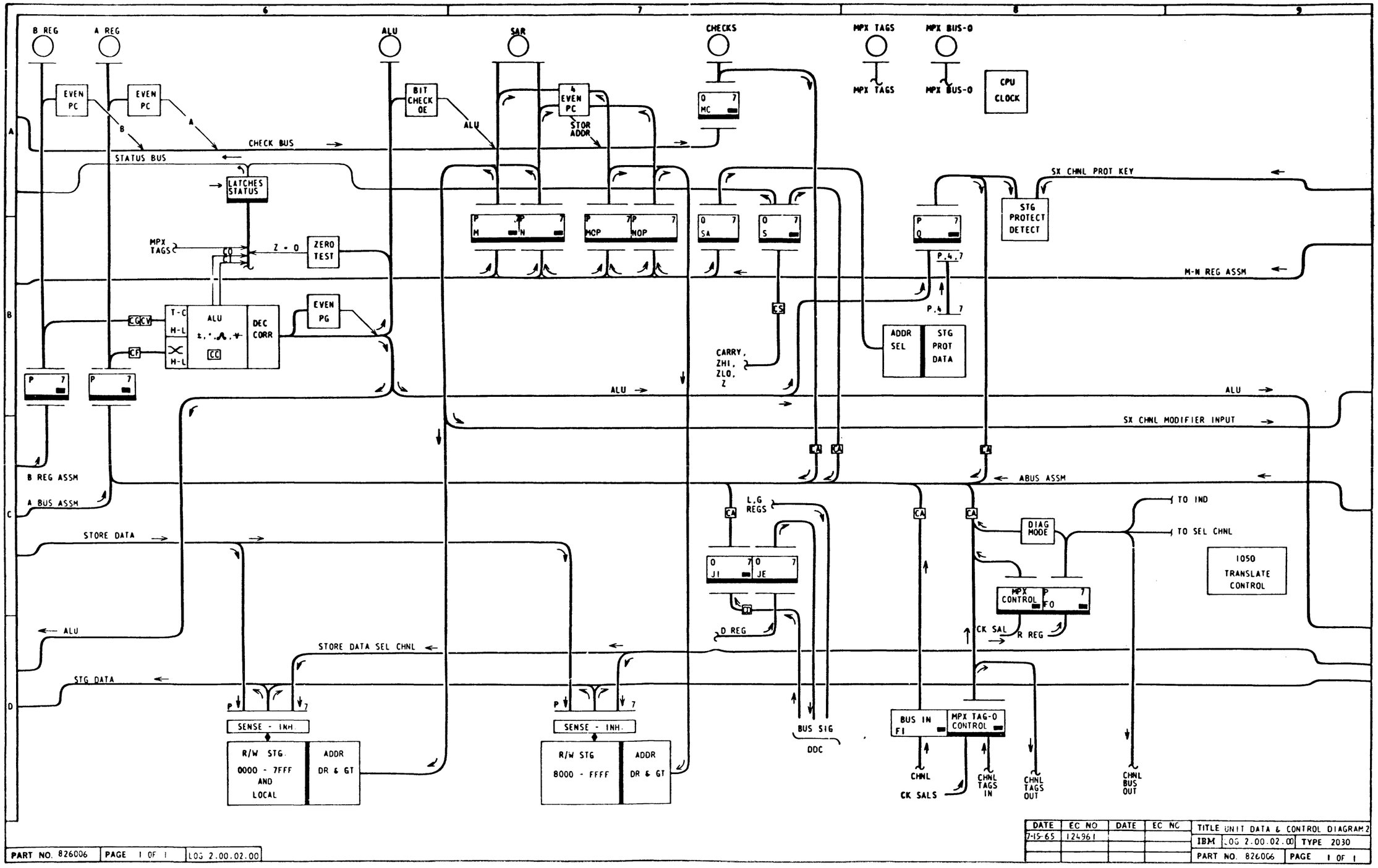
MANUAL CONTROLS 1

R/W STG CONTROLS

R/W STORAGE CLOCK 0-32K

DATE	EC NO.	DATE	EC NO.	TITLE UNIT DATA & CONTROL DIAGRAM 1	
7-15-65	124961			IBM LOG 2.00.01.C	TYPE 2030
				PART NO. 826005	PAGE 1 OF 1

PART NO. 826005	PAGE 1 OF 1	LOG 2.00.01.00



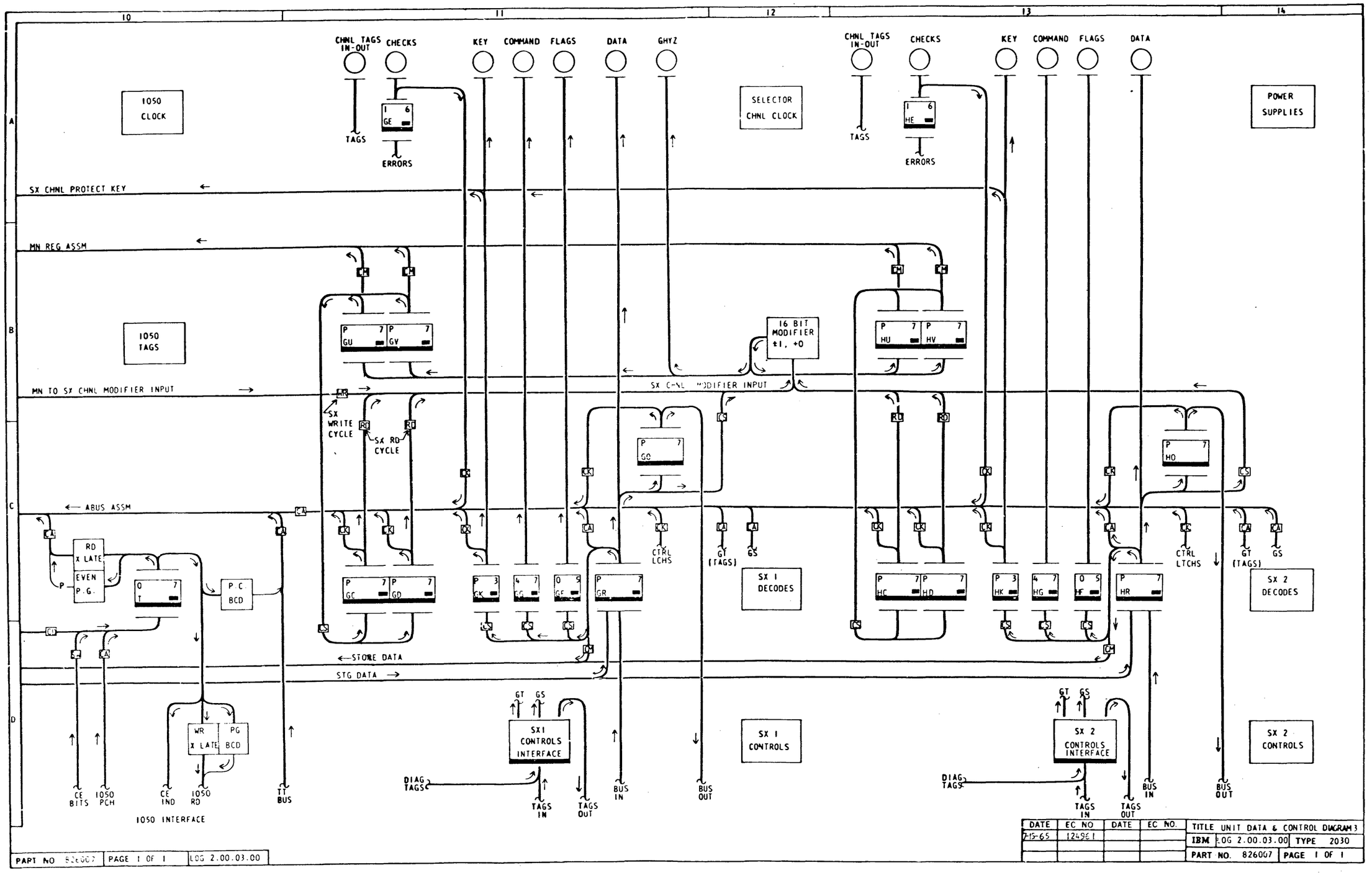
DATE	EC NO	DATE	EC NO
7-15-65	124961		

TITLE UNIT DATA & CONTROL DIAGRAM 2

IBM LOG 2.00.02.00 TYPE 2030

PART NO. 826006 PAGE 1 OF 1

PART NO. 826006 PAGE 1 OF 1 LOG 2.00.02.00



DATE	EC NO	DATE	EC NO.	TITLE UNIT DATA & CONTROL DIAGRAM 3
7-15-65	124961			IBM LOG 2.00.03.00 TYPE 2030
				PART NO. 826007 PAGE 1 OF 1

PART NO 826007	PAGE 1 OF 1	LOG 2.00.03.00

IBM SYSTEM 360
MODEL 2030
FUNCTIONAL MAINTENANCE
DIAGRAMS

DATE	EC NO	DATE	EC NO	TITLE TITLE
7-15-65	124961			IBM L.03.5.00.01.00 TYPE 2030
				PART NO 826008 PAGE 1 OF 2

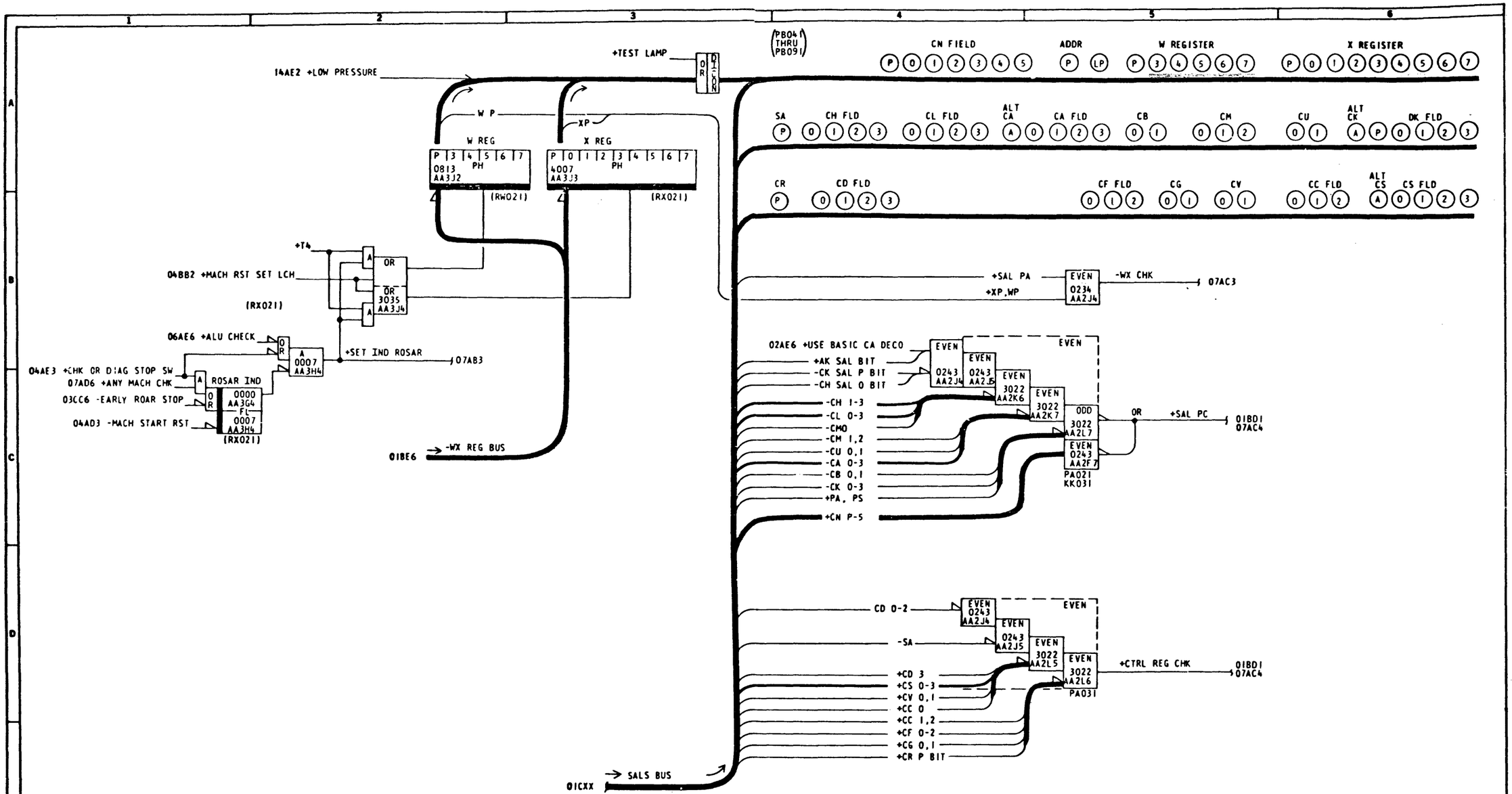


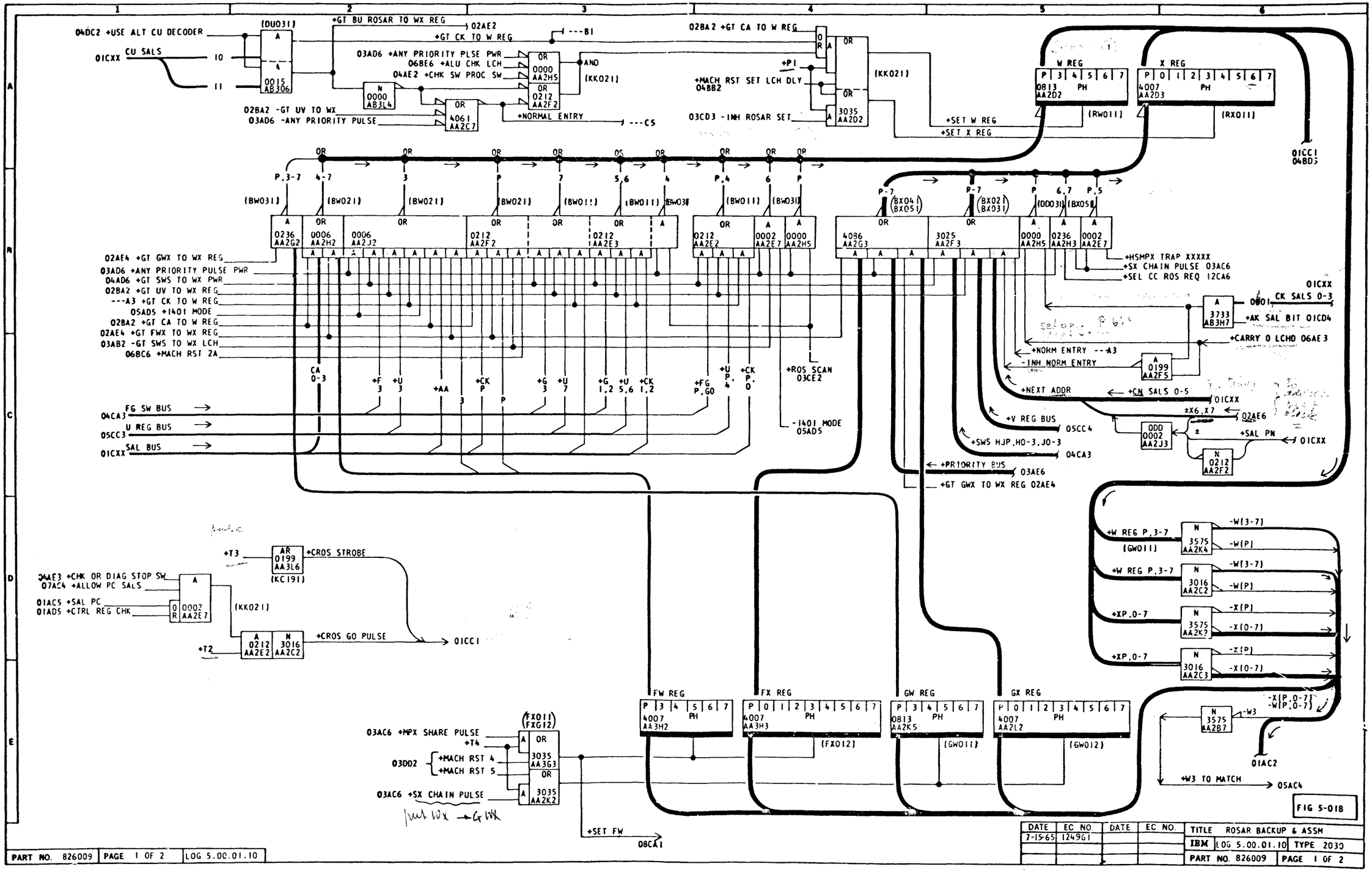
FIG 5-01A

DATE	EC NO.	DATE	EC NO.
7-15-65	124961		

TITLE ROS IND & CHK

IBM LOG 5.00.01.00 TYPE 2030

PART NO. 826008 PAGE 2 OF 2



DATE	EC NO	DATE	EC NO
7-15-65	124961		

TITLE ROSAR BACKUP & ASSM
IBM LOG 5.00.01.10 TYPE 2030
PART NO. 826009 PAGE 1 OF 2

PART NO. 826009 | PAGE 1 OF 2 | LOG 5.00.01.10

CTRL REG

(DD021)

-T1

OR 0212 AA2E2 — N 3016 AA2C2 → -AUX CTRL REG RST

03DD2 -MACH RST SW
03DC3 -MANUAL STORE
03AD6 -ANY PRIORITY LCH
+P1
OR / A 4061 AA2C7 → -CTRL REG RST

N 3016 AA2C2 → +CTRL REG RST → 07BD1

+SET CTRL REG

0ADE2 +COMPUTE

CD 0-3

N 0199 AB2C5

-T1

03DC3 +MANUAL STORE

CV0,1
CC0,1

CC2

CS 0-3

FL 3573 AA2C63
- ± CD REG 0-3 (DD011)

FL 3035 AB2C4
- -0 = +STRAIGHT (DF021)
- +0 = +CROSSED

FL 3573 AA2C33
- +CC2
- +CF1 ±GT A REG HI
- CF2 ±GT A REG LO
- +COMPUTE CY LCH
- +0 BIT GT B REG HI

FL 3035 AB2C6
- (DG011) N 0199 AB2C5 → -GT B REG HI
- -GT B REG LO
- +1 BIT +GT B REG LO

FL 3573 AA2D63
- ±CV 0, 1 (DP011)
- ±CC 0, 1

FL 3573 AA2D73
- ±GS 0-3 (DS011)

CTRL REG BUS

05CE1

06CC4
06BA1
06BB1, 03BC4
06BC1, 03BC4
06BB1

08CE2 -MACH RST MPX
+CK P
A 0199 AA2F5 → -CK SAL P BIT TO MPX (DP011)

SALS BUS → (DE061, DE071)

CUO1, CAO-3 → N 3016 AA2G6
CDO, CF1, CNO → N 3575 AA2G7
CMO-2 CBO-1 → N 3575 AA2E4
CKO-3 → N 3575 AA2H7 → OR
CSO-3 CKP, 0-3 → AR 0015 AA2H6
CKO-3 → N 3575 AA2K4 → CF2
CF2
+SA → N 0007 AB3F3 → -SA SAL BIT
DS041

01BA6
WI REG BUS

CROS GO PULSE & STROBE 01BD2

01DB1

SALS

CK | CH | CL | CM | CU | CA | CB | CK | CK | CD | CF | CG | CY | CC | CS | SA

3789 FL XAIJ2	3789 FL XAIK2	3789 FL XAIL2	3789 FL XAIH3	3789 FL XAIJ3	3789 FL XAIK3	3789 FL XAIL3	3789 FL XAIH4	3789 FL XAIJ4	3789 FL XAIK4	3789 FL XAIL4	3789 FL XAIH5	3789 FL XAIJ5	3789 FL XAIK5	3789 FL XAIL5	
PN 0 1 2	3 4 5 PS	PA 0 1 2	3 0 1 2	3 0 1 2	0 1 0 1	2 3 0 1	0 1 2 3	4 P 0 1	2 3 0 1	2 0 1 0	1 0 1 2	0 1 2 3	AA SA AK		

OR A A — SET — RST

RST A
GT EVEN B
GT ODD B
RST B
GT EVEN C
GT ODD C
RST C
GT ODD A
GT EVEN A

AR 0273 XAIH2 — AR 0273 XAIG4 — AR 0273 XAIG5

±X7 = 1
BIT
RST
+STROBE
-STROBE

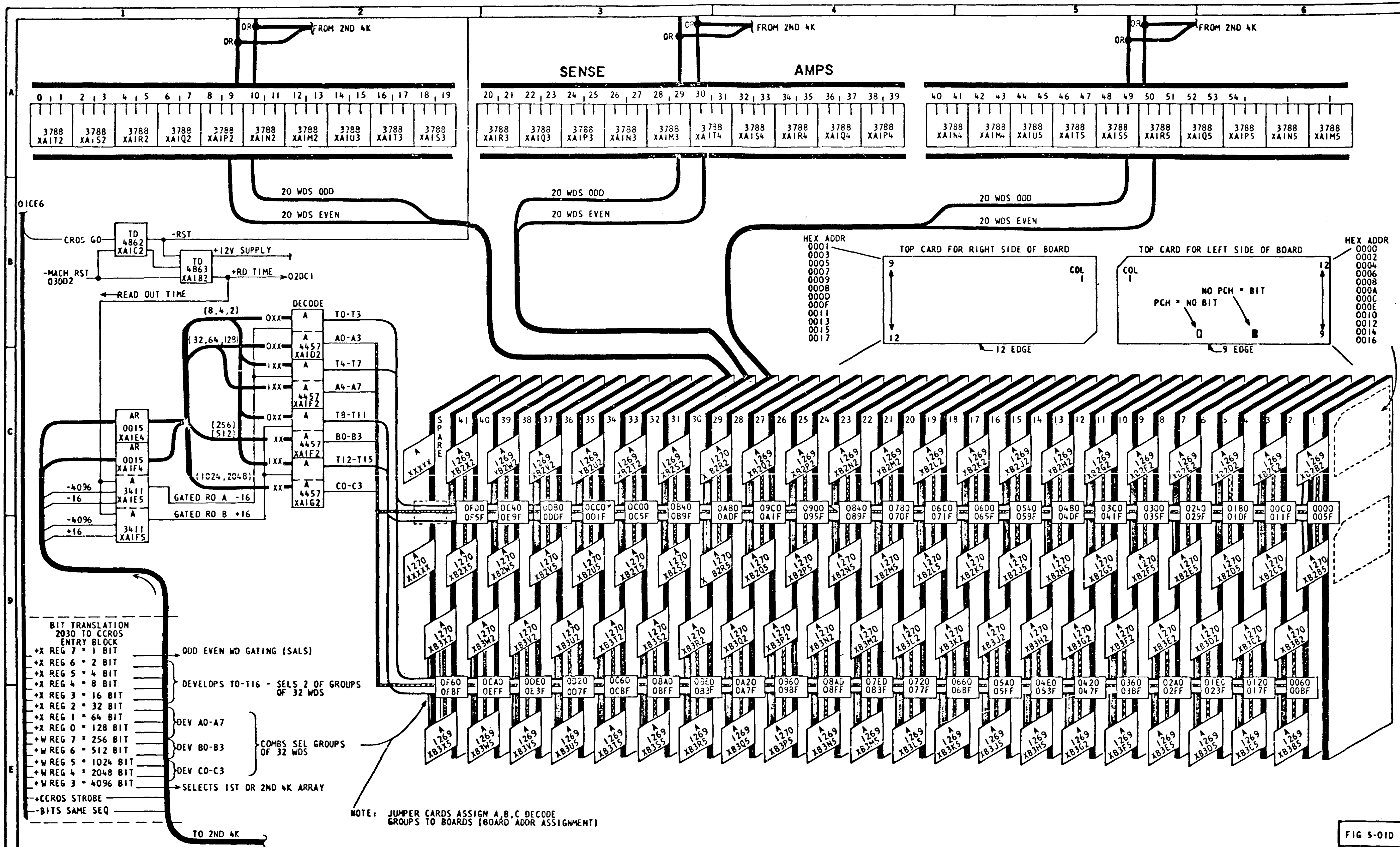
BITS 0-19 WDS ODD
BITS 0-19 WDS EVEN
BITS 20-39 WDS ODD
BITS 20-39 WDS EVEN
BITS 40-59 WDS ODD
BITS 4-59 WDS EVEN

FIG 5-01C

DATE	EC NO.	DATE	EC NO.
7-15-65	124961		

TITLE SALS & CTRL REG
IBM LOG 5.00.01.10 TYPE 2030
PART NO. 826009 PAGE 2 OF 2

PART NO. 826009 | PAGE 2 OF 2 | LOG 5.00.01.10



NOTE: JUMPER CARDS ASSIGN A,B,C DECODE GROUPS TO BOARDS (BOARD ADDR ASSIGNMENT)

FIG 5-01D

DATE	EC NO	DATE	EC NO
7-15-65	124961		

TITLE READ ONLY STG 1-4K
IBM LOG 5.00.01.20 TYPE 2030
PART NO. 826010 PAGE 1 OF 2

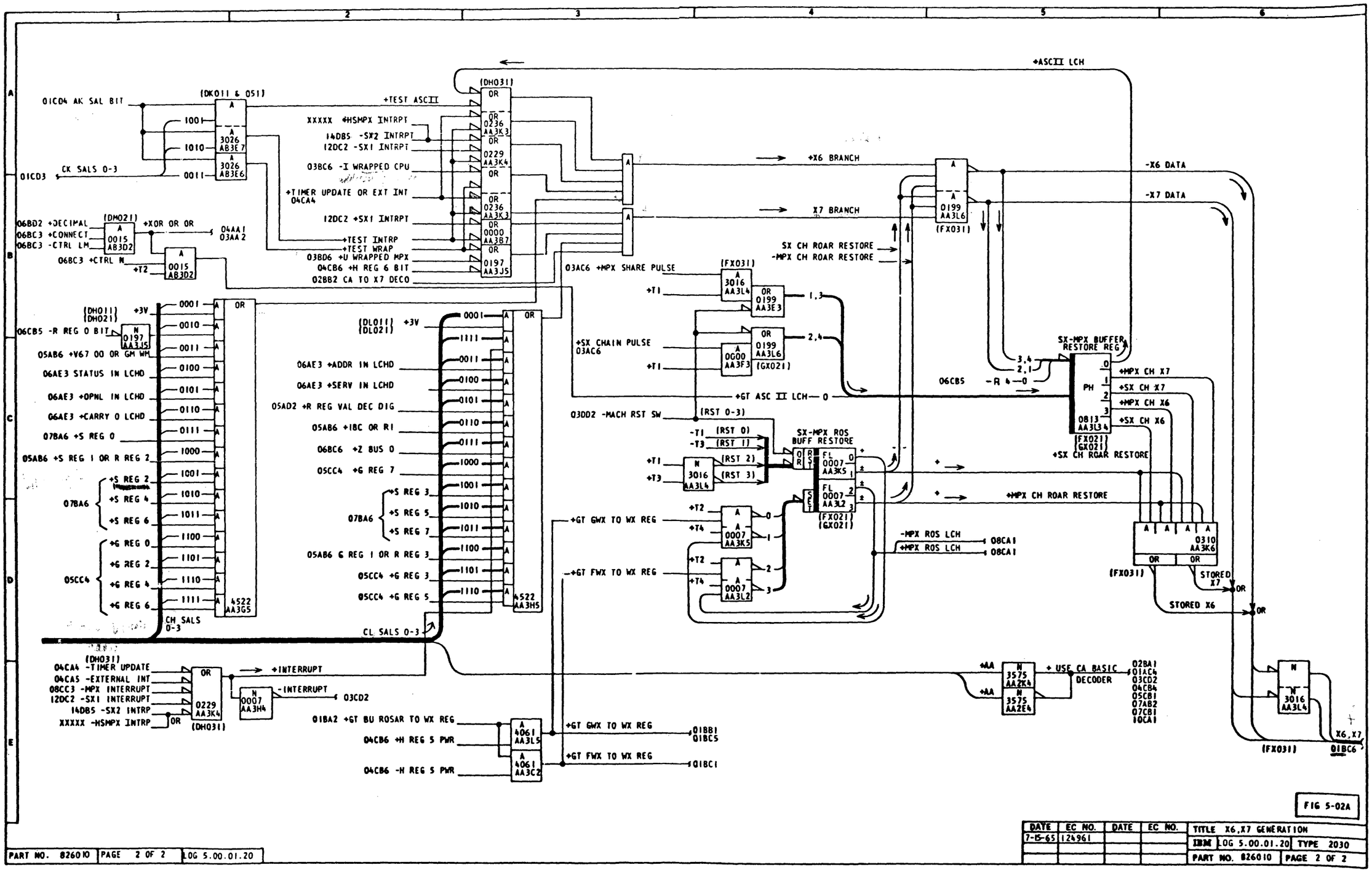


FIG 5-02A

DATE	EC NO.	DATE	EC NO.	TITLE X6,X7 GENERATION
7-15-65	124961			IBM LOG 5.00.01.20 TYPE 2030
				PART NO. 826010 PAGE 2 OF 2

PART NO. 826010 | PAGE 2 OF 2 | LOG 5.00.01.20

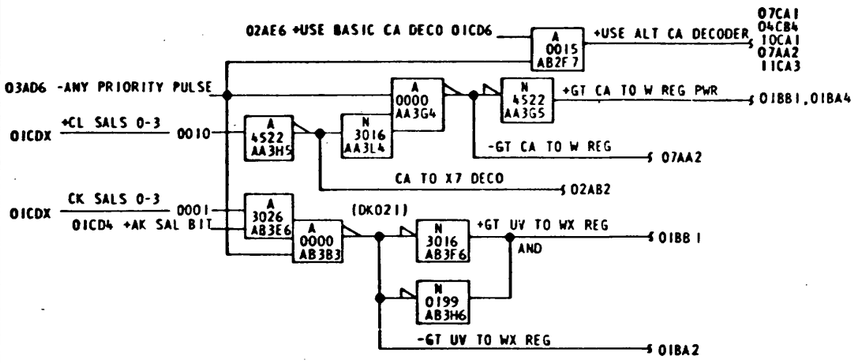
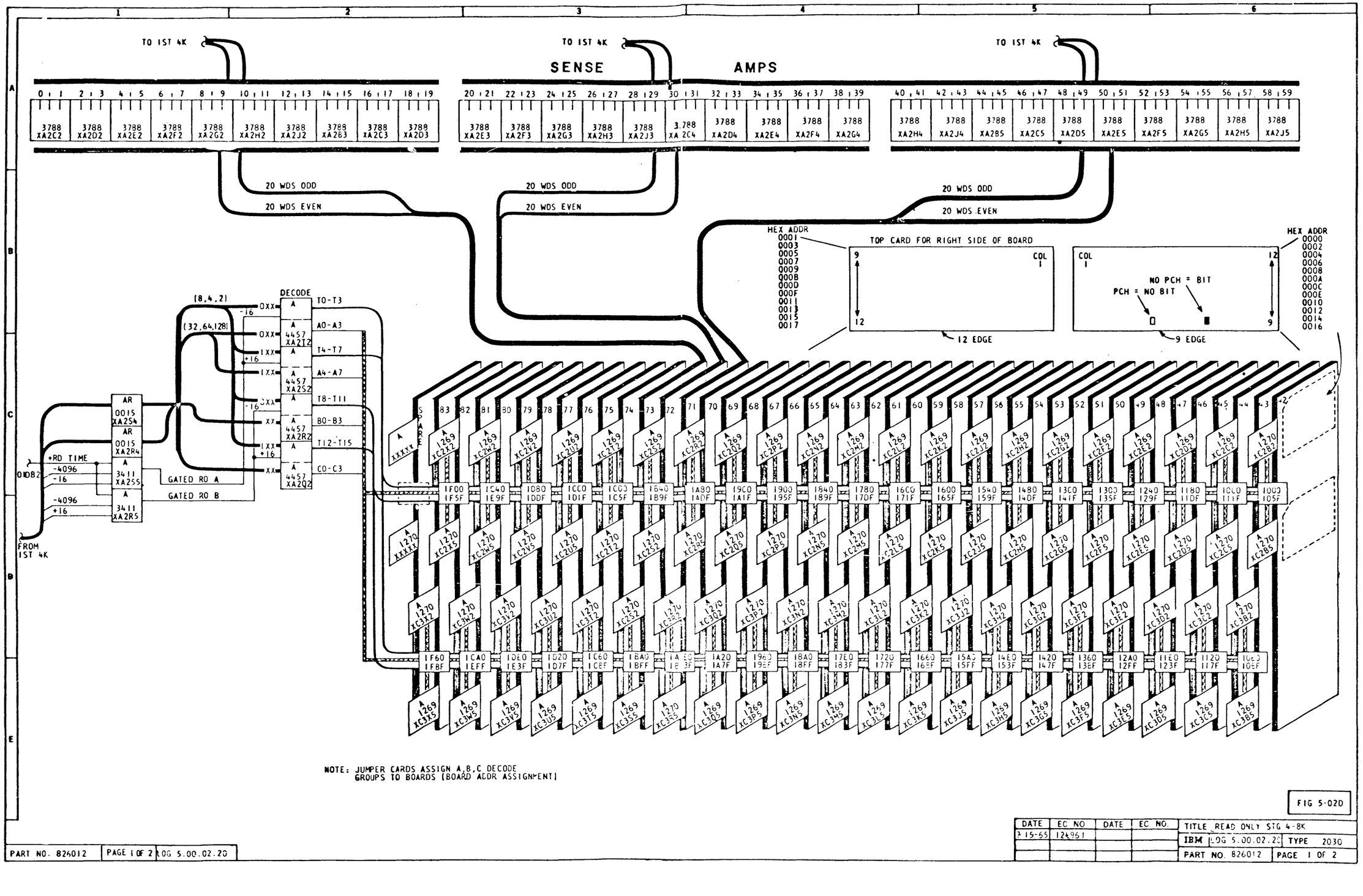


FIG 5-02B

DATE	EC NO.	DATE	EC NO.	TITLE W-X REG GATING	
7-15-65	124961			IBM LOG 5.00.02.10	TYPE 2030
				PART NO. 826011	PAGE 1 OF 2

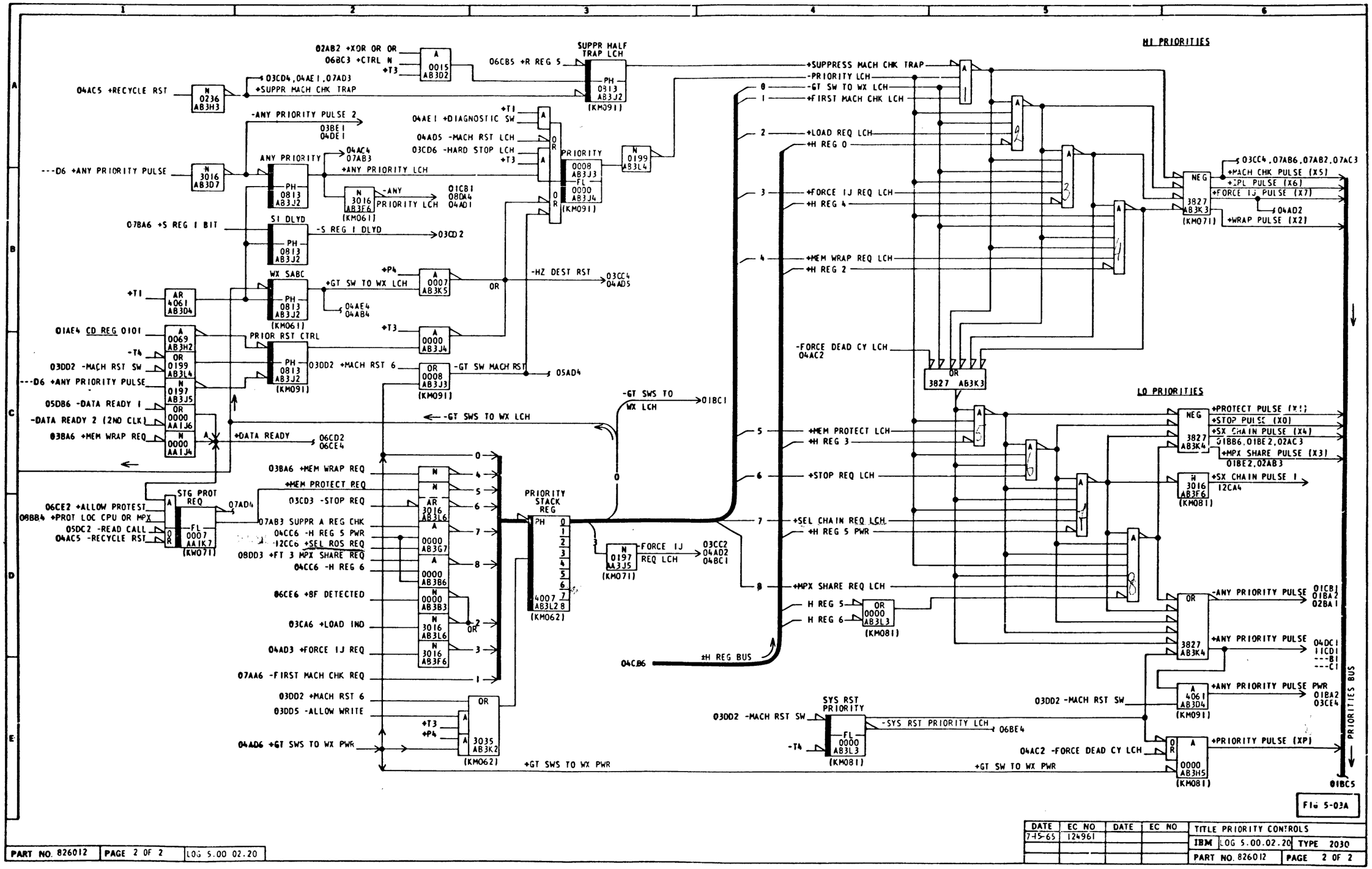


NOTE: JUMPER CARDS ASSIGN A,B,C DECODE GROUPS TO BOARDS (BOARD ADDR ASSIGNMENT)

FIG 5-02D

DATE	EC NO	DATE	EC NO.	TITLE READ ONLY STG 4-8K	
2 15-65	124961			IBM LOG 5.00.02.20	TYPE 2030
				PART NO. 826012	PAGE 1 OF 2

PART NO. 826012 | PAGE 1 OF 2 | LOG 5.00.02.20



PART NO. 826012	PAGE 2 OF 2	LOG 5.00 02.20

DATE	EC NO	DATE	EC NO	TITLE PRIORITY CONTROLS
7-15-65	124961			IBM LOG 5.00.02.20 TYPE 2030
				PART NO. 826012 PAGE 2 OF 2

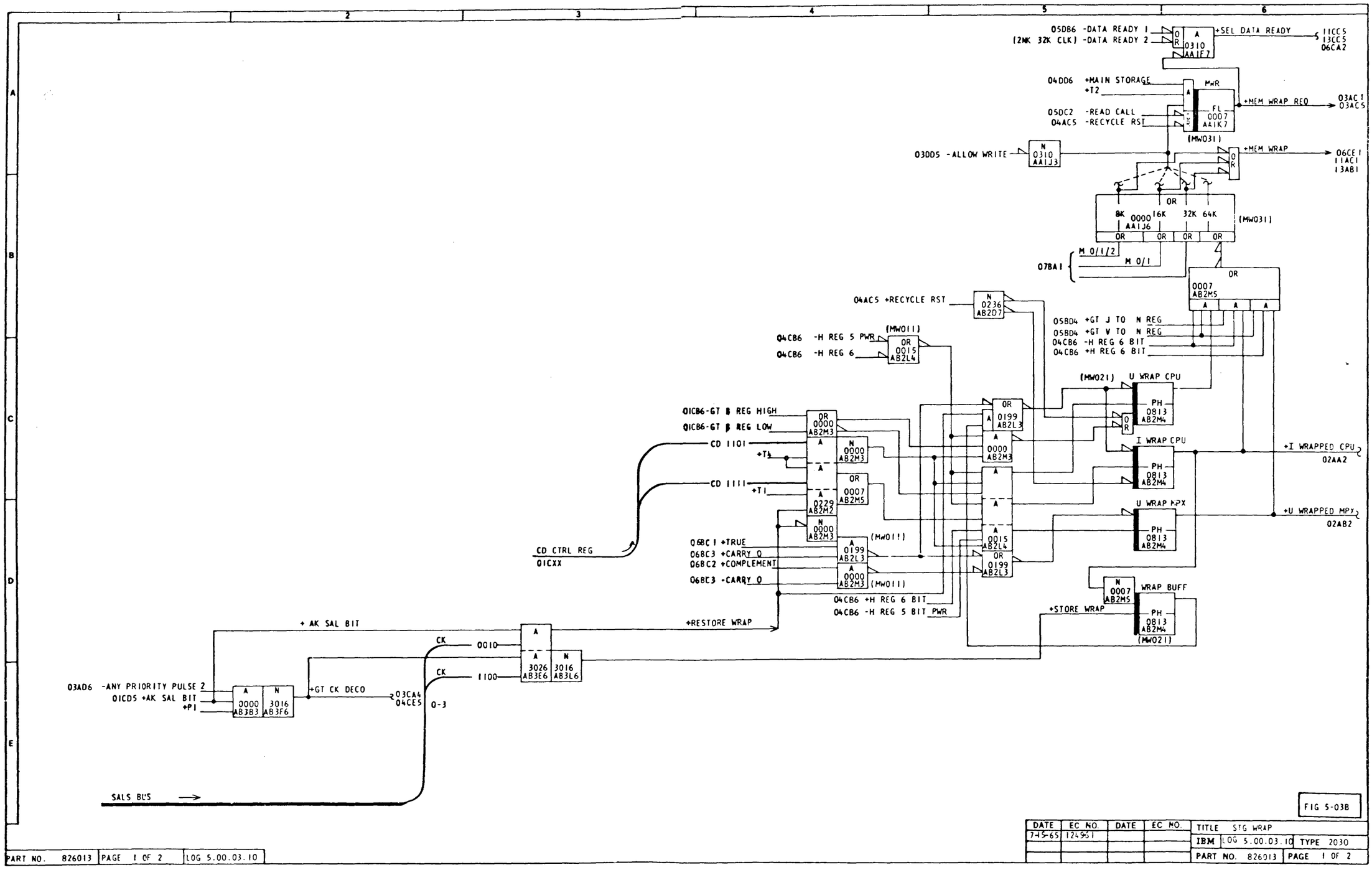


FIG 5-03B

DATE	EC NO.	DATE	EC NO.
7-15-65	124951		

TITLE STG WRAP
IBM LOG 5.00.03.10 TYPE 2030
PART NO. 826013 PAGE 1 OF 2

OPERATED KEY LEVELS SHOWN

-3V — N START T — +6V

03DB2 +ALLOW MAN OPER

STT RST INLK — FL 3829 AC1G7 (KC051)

-T2

STT RST — FL 3329 AC1G7

+START SW RST → 04AD2, 04BC2

START SW RST ---D1

08DD3 +FT3 MPX SHARE REQ
08AA1 -CONV OSC
+PROC STOP LOOP ACTIVE ---D3
12CC6 +SEL ROS REQ
A 0000 AC1K6 / A 0000 AC1J7 — OR (KC091)

---C3 -SET IC START

E CY STOP SAMPLE — FL 3329 AC1F7 (KT011)

-MACH RST SW 03DD2

-T4

03DA1

03DC1

03CE6 -CLOCK RST ---E6

CLK STT CTRL — FL 3829 AC1F5 (KC041)

-3V — N LOAD T — +6V — (PA101)

+MACH RST 3 03DD2

LOAD KEY INLK — FL 3829 AC1F7 (KC041)

03DD3

LOAD KEY SW → 03DD1, 04AB1 ---E5

LOAD KEY — FL 3329 AC1F7

-T4

---E6 -CLOCK RST

03AD3 -FORCE IJ REQ LCH
08AA1 -CONV OSC
(KC061)
A 0450 AC1D6 — -SET IC START → ---A2

08AA3 +CLOCK ON

SET IC INLK — FL 3829 AC1G7

-3V — SET IC — +6V

03DB2 +ALLOW MAN OPER

SET IC — FL 3329 AC1G7

-T2

03DD2 -MACH RST SW

SET IC ALLOWED → 04AC2

03DD2 +MACH RST 3 — N 0346 AC1F5

02AE6 +USE BASIC CA DECO
+CA SALS 01CXX 1110 — A 0229 AA2G5

(KC091)
A 0000 AC1D5 / N 0346 AC1F5 — +PROC STOP LOOP ACTIVE ---E5 ---B1

-INH ROSAR SET → 01BA4, 04AC3

-ANY PRIORITY PULSE — A 0000 AC1D5

-3V — STOP — +6V

04BB1 +SAR DLYD STOP SW
04BB6 +MATCH
---E3 +INSTR STEP SW
+T4
---A3 -START SW RST

PROCESS STOP — 0006 AC1H5 / FL 3735 AC1E5 (KC081)

03AB2 -S REG I DLYD
02AE2 -INTERRUPT
04AC3 +END OF E CY LCH

A 0069 AC1H7 — -STOP REQ → 03AC2

INH CF STOP — PROC — SCAN (1 2 3)

-3V — +6V

CF SALS 01CDX 100 +T4 — A 0229 AA2G5

A 0007 AC1G5 / N 3016 AC1F2 — CF STOP — FL 0000 AC1D5 (KC091)

+T4

04AD3 -FORCE IJ REQ — A 0000 AC1M5 / N 3016 AC1K6

N 0199 AC1G3

-MACH STT RST 04AD3

-ROS SCAN → 05AC4, 08DC2, 11AB5, 07AA3

+ROS CTRL PROC SW → 04AA5

+ROS SCAN → 01BC4, 06BE5

RATE SWITCH (PA032) — +SINGLE CYCLE SW — +INSTRUCTION STEP SW ---D1 — +RATE SW PROCESS SW → 04AA5

03AD6 +ANY PRIORITY PULSE PWR

98AB5 +CONV OSC
03DD6 -MAN OPERATION
---E6 -CLOCK RST
---E6 -CLOCK STOP

CLOCK START — 0007 AC1G5 / 0000 AC1K6 (KC031)

PWR OFF — +6V — +PWR OFF SW → 03DD3

03DD5 -ALLOW WRITE

PWR OFF — FL 3735 AC1F4 (KT031)

04AD3 -MACH START RST

03AB6 +MACH CHK PULSE
+P1
04AC5 -MACH CHK RST
03AD3 -HZ DEST RST

2ND ERR STP — FL 0007 AB3F4 (KR081)

-2ND ERROR STOP → 07AD4

FT 4 LD IND → 05CC1

N 3016 AC1F2 — -LOAD REQ LCH → 12CE4

+LOAD IND → 03AD2, 04AA4, 08DE4
-LOAD REQ ---E5

LOAD REQ — FL 3735 AC1E5 (KC051)

03DD2 +MACH RST 3

03BE2 +GT CK DECODE
CK SALS 01CXX 1101 — A 3026 AB3F7

N 0346 AC1F5 / 3735 AC1H6 — -RST SEL CHNL DIAG LCHS → 11DE1, 13DE1

-RST LOAD → 06BE5

N 3016 AC1F2 — -CLOCK START LCH ---C5

+CLOCK START LCH → 12AA4

12DA6 -SX1 SHARE CYCLE
14DB3 -SX2 SHARE CYCLE
+CPU T4
+SEL T4
12DB6 -SEL SHARE HOLD
12AA4 +SEL CONV OSC
12AB5 +SEL & BASIC CLOCK OFF

A 0236 AD1D2 / A / A 0069 AD1C4 — OR — (GH021)

stops CPU clock after start SEL clock

+SEL CHNL CPU CLOCK STOP → 12DB5

A 0008 AC1E4 — (KC031)

-GT J REG TO A BUS 05CC3

A 0006 AC1G6 — AND — +CLOCK START → 08AB1

---A5 -CLOCK START LCH

-EARLY ROAR STOP → 01AC1

+T4
07AB6 +FIRST MACH CHK
04AE3 +CHK OR DIAG STOP SW
07AD6 +ANY MACH CHK
04BB6 +MATCH LCH
04BA1 +EARLY ROAR STOP SW
06AE6 +ALU CHK
04AE1 +DIAGNOSTIC SW
07BE3 +CS DECODE X001
07BD2 +BASIC CSO
03AA2 +SUPPR MACH CHK TRAP
06BC6 +Z BUS 0 — N 0234 AC1E3
04BB1 +SAR STOP SW
04BB6 +MATCH LCH
04BB1 +ROAR STOP SW

OR — 0007 AB3F4 / A 0000 AC1K5 / A 0236 AB3H3 / A (KC071) / 0197 AC1J6 / OR (KC091) / A / A / 0008 AC1E4 / A 0069 AB3H2

(KR061)

HARD STOP — 0000 AB3G7 / FL 0199 AB3H6 (KR061)

-HARD STOP LCH → 03AA2

+HARD STOP LCH → 04AA1

MACH STT RST

03DD2 +MACH RST 3 — N 3016 AC1F6 (KC091)

08AB5 -CONV OSC 2 — A / A OR 0007 AC1G5 — -CLOCK RST → 03CB4, 03CB1, 03CC2

05CC3 -GT J REG TO A BUS

---D3 +PROC STOP LOOP ACTIVE
12CC6 -SEL ROS REQ
08DD3 -MPX SHARE REQ
+T2
---A6 -LOAD REQ
---B3 +LOAD KEY SW
03DE2 +SYSTE RST SW

A 0069 AC1H7 / A 0197 AC1J6 / N 0000 AC1J7 — OR -CLOCK STOP ---B4 (KC091)

FIG 5-03C

DATE	EC NO.	DATE	EC NO.
7-15-65	124961		

TITLE CLOCK START & STOP CTRLS
IBM LOG 5.00.03.10 TYPE 2030
PART NO. 826013 PAGE 2 OF 2

PART NO. 826013 | PAGE 2 OF 2 | LOG 5.00.03.10

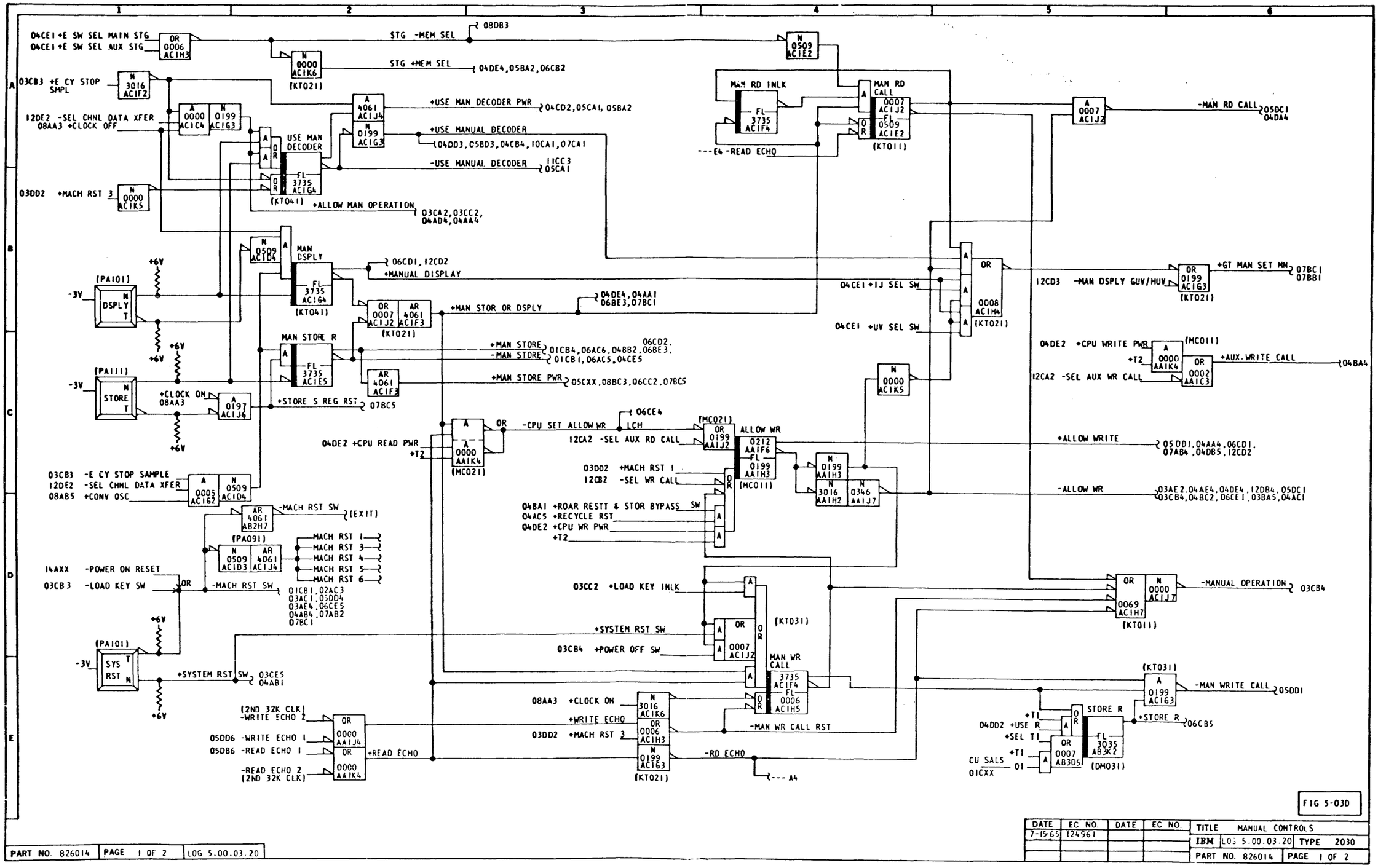


FIG 5-03D

DATE	EC NO.	DATE	EC NO.	TITLE MANUAL CONTROLS	
7-15-65	124961			IBM LOG 5.00.03.20	TYPE 2030
				PART NO. 826014	PAGE 1 OF 2

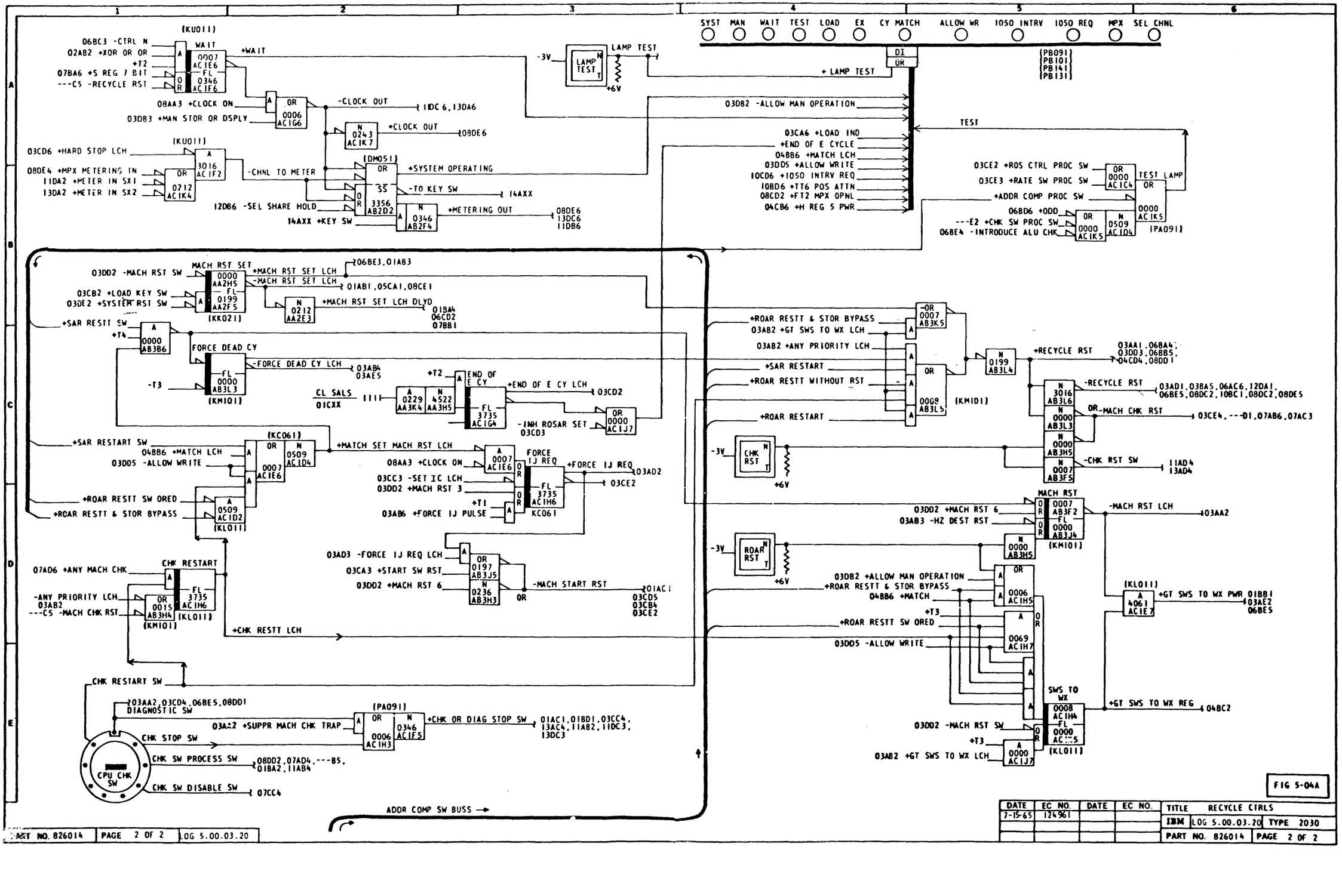


FIG 5-04A

DATE	EC NO.	DATE	EC NO.	TITLE RECYCLE CTRLS
7-15-65	124961			IBM LOG 5.00.03.20 TYPE 2030
				PART NO. 826014 PAGE 2 OF 2

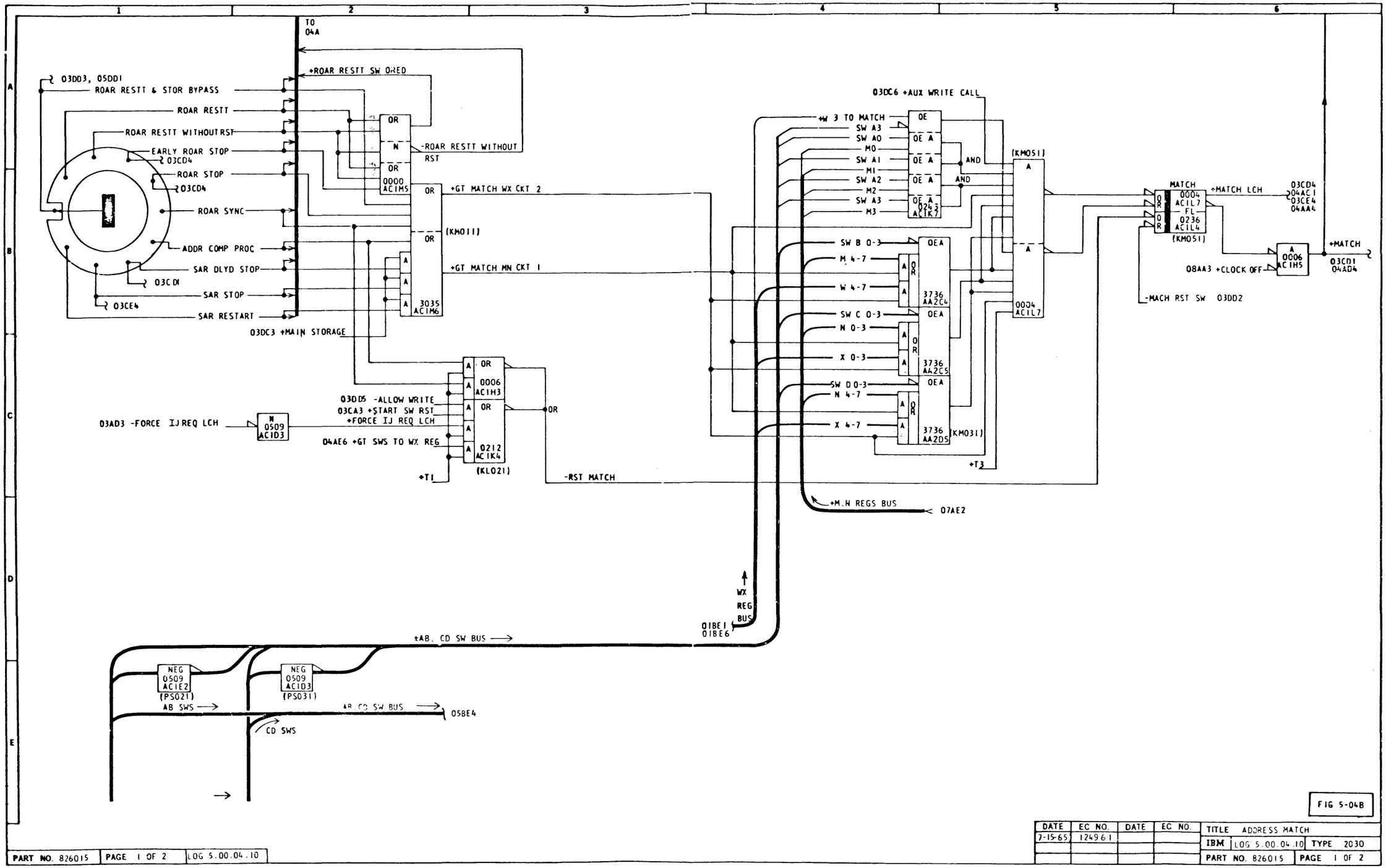


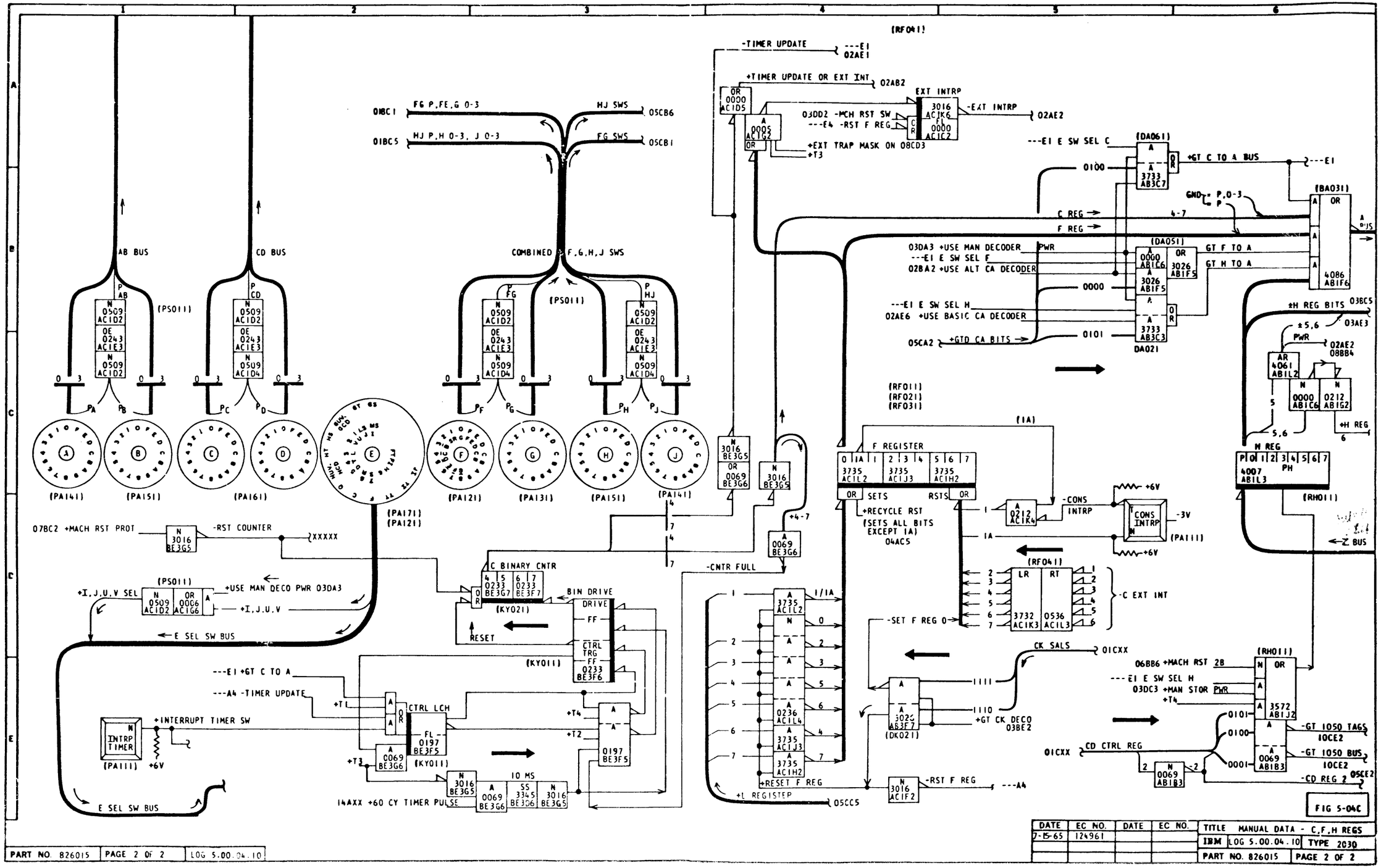
FIG 5-04B

DATE	EC NO.	DATE	EC NO.
7-15-65	124961		

TITLE ADDRESS MATCH

IBM LOG 5.00.04.10 TYPE 2030

PART NO. 826015 PAGE 1 OF 2



DATE	EC NO.	DATE	EC NO.	TITLE MANUAL DATA - C,F,H REGS
7-15-65	124961			IBM LOG 5.00.04.10 TYPE 2030
				PART NO. 826015 PAGE 2 OF 2

PART NO. 826015	PAGE 2 OF 2	LOG 5.00.04.10

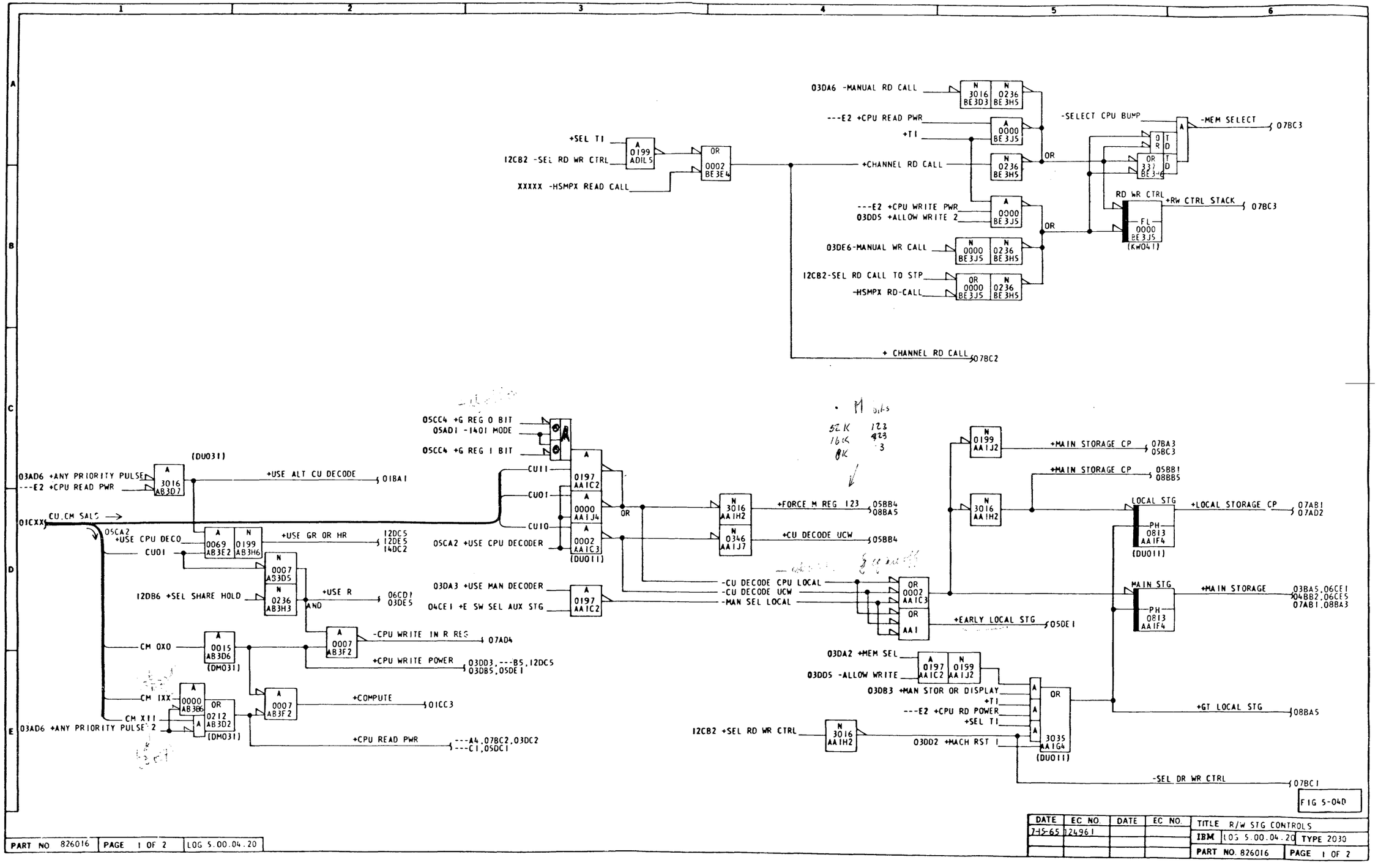


FIG 5-04D

DATE	EC NO.	DATE	EC NO.
7-15-65	124961		

TITLE R/W STG CONTROLS

IBM LOG 5.00.04.20 TYPE 2030

PART NO. 826016 PAGE 1 OF 2

MAIN STORAGE DATA REGISTER

7 6 5 4 3 2 1 0 P (PB021)

DI
OR
+TEST LAMP 04AA4

-R REG 4 PWR

N 0199 AA1E7
N 0199 AA1E7 +R5
N 3016 AA1L5 +R REG P-7 PWR TO (MB051)
N 3016 AA1K5
PC EVEN 3022 AA1K6 (MB021) +R REG PC 07AC4

R REG
-3
-1
-2
-0

+R0 +R1 OR
+R0 +R2 +R4 +R5 OR
+R4 +R6 OR
A 0006 AA1H6 (MB022)
+R REG VALID DEC DIGIT 02AC2

R REG BUS

+G REG 1
V REG +V REG 6,7 A 0006 AA1H6 (MB022)

-R REG 1
-R REG 2
-R REG 3
06CE4 -GM WM DETECTED
06AE3 +CARRY 1 LCHD
07BA6 -S REG 1
+G REG 1
+V67 EQUALS 00

A OR
3016 AB2B2

+1 BC OR R1 AND +S REG 1 OR R REG 2 AND +G REG 1 OR R REG 3 AND +V67-00 OR GM WM AND 02AC2

01BE6 +W3 TO MATCH
03CE2 -ROS SCAN
A 0000 AC1C4 (KM051)
-1401 MODE SET
1401 MODE
3016 AB2B2
FL 4061 AB1B3
3016 AB2C2 (DL031)
-T2
03AC3 -GT SW MACH RST

+1401 MODE
-1401 MODE

05BE3 06CE5 07AB1 01BB1 01BC4 04DC3 05BB4 07AD4 13CD1 13CE1

FIG 5-05A

DATE	EC NO.	DATE	EC NO.
7-15-65	124961		

TITLE R REG IND & CHKS-1401 STATS
IBM LOG 5.00.04.20 TYPE 2030
PART NO. 826016 PAGE 2 OF 2

PART NO. 826016 | PAGE 2 OF 2 | LOG 5.00.04.20

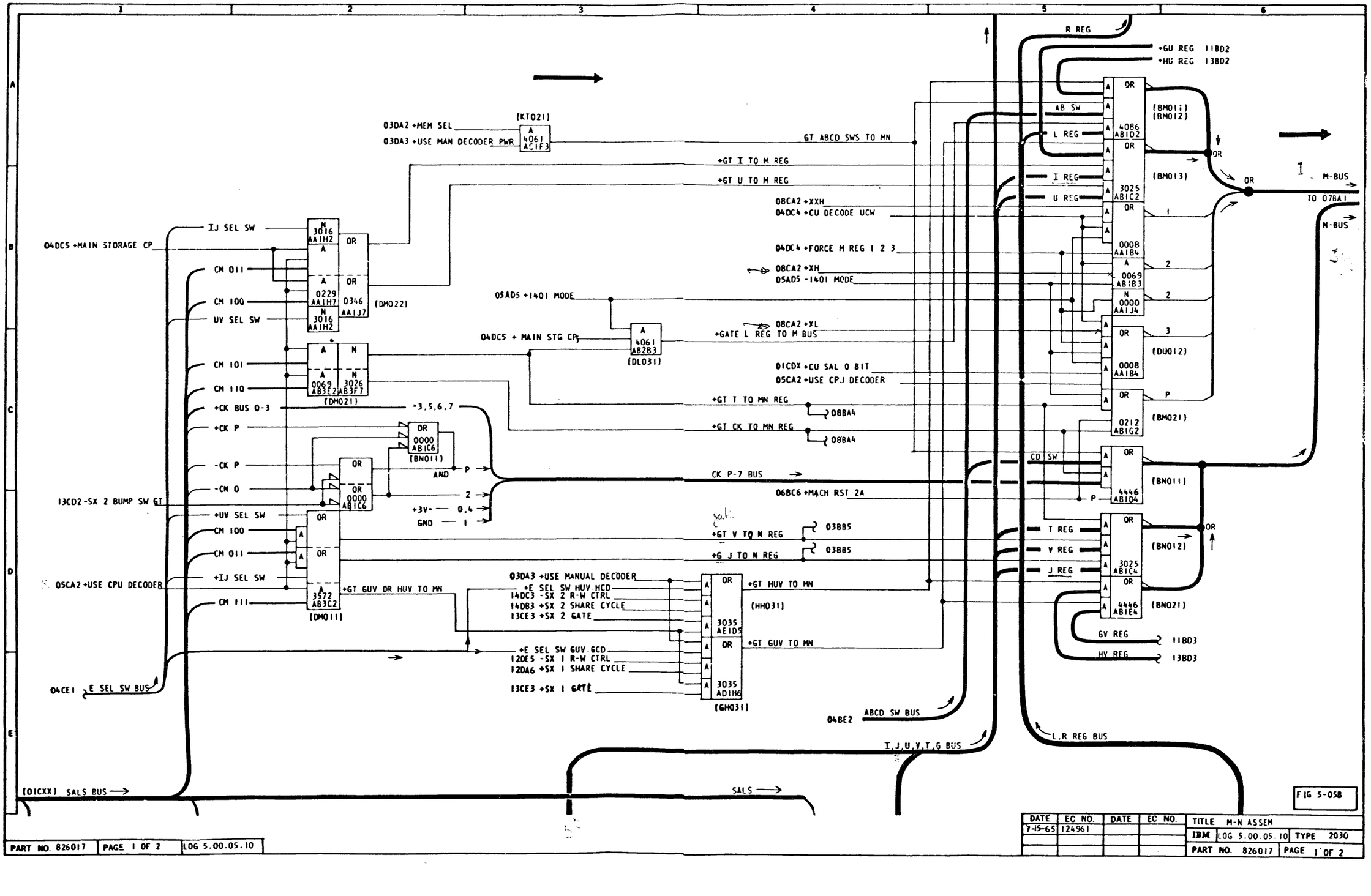


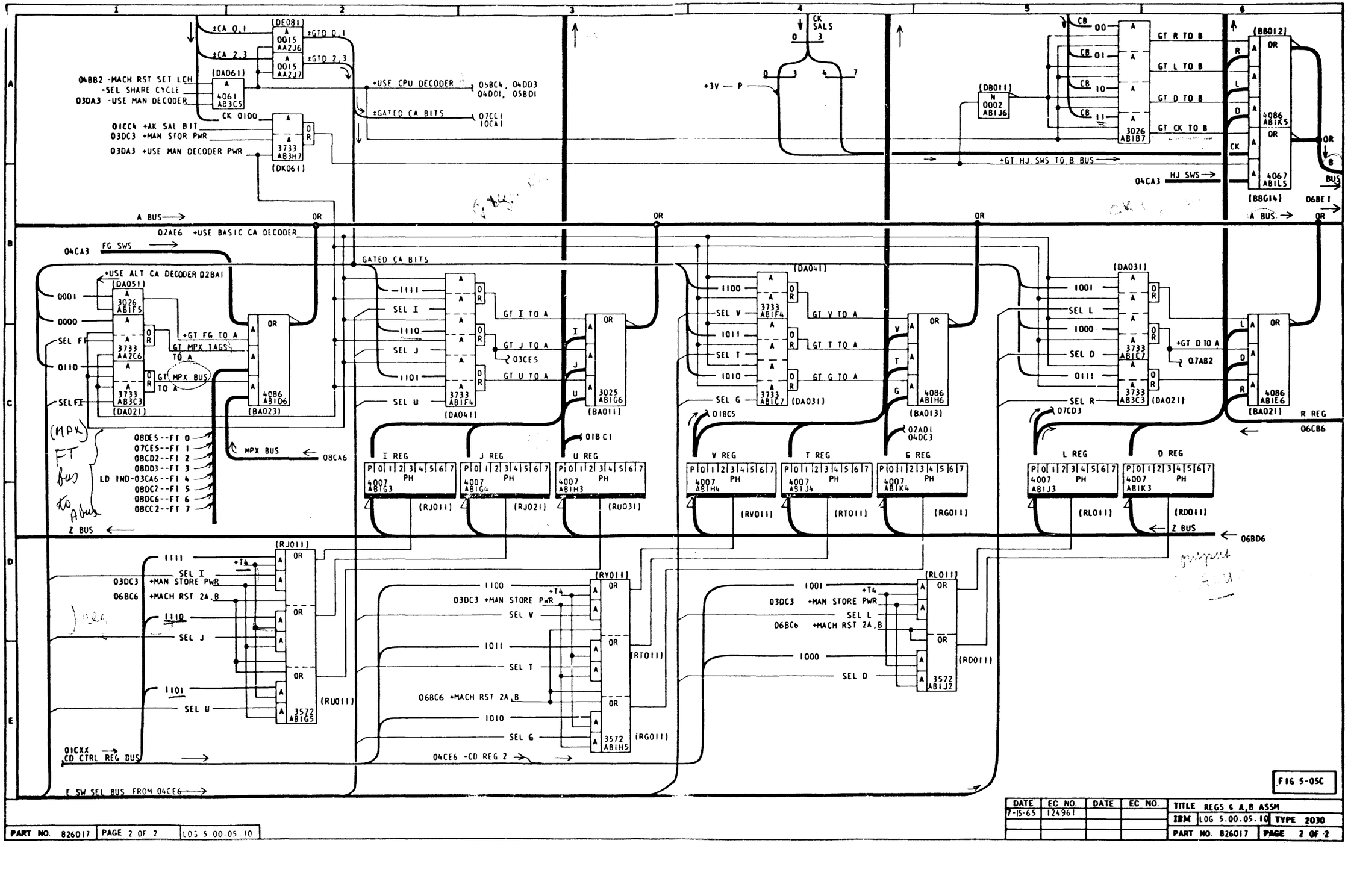
FIG 5-058

DATE	EC NO.	DATE	EC NO.
7-15-65	124961		

TITLE M-N ASSEM

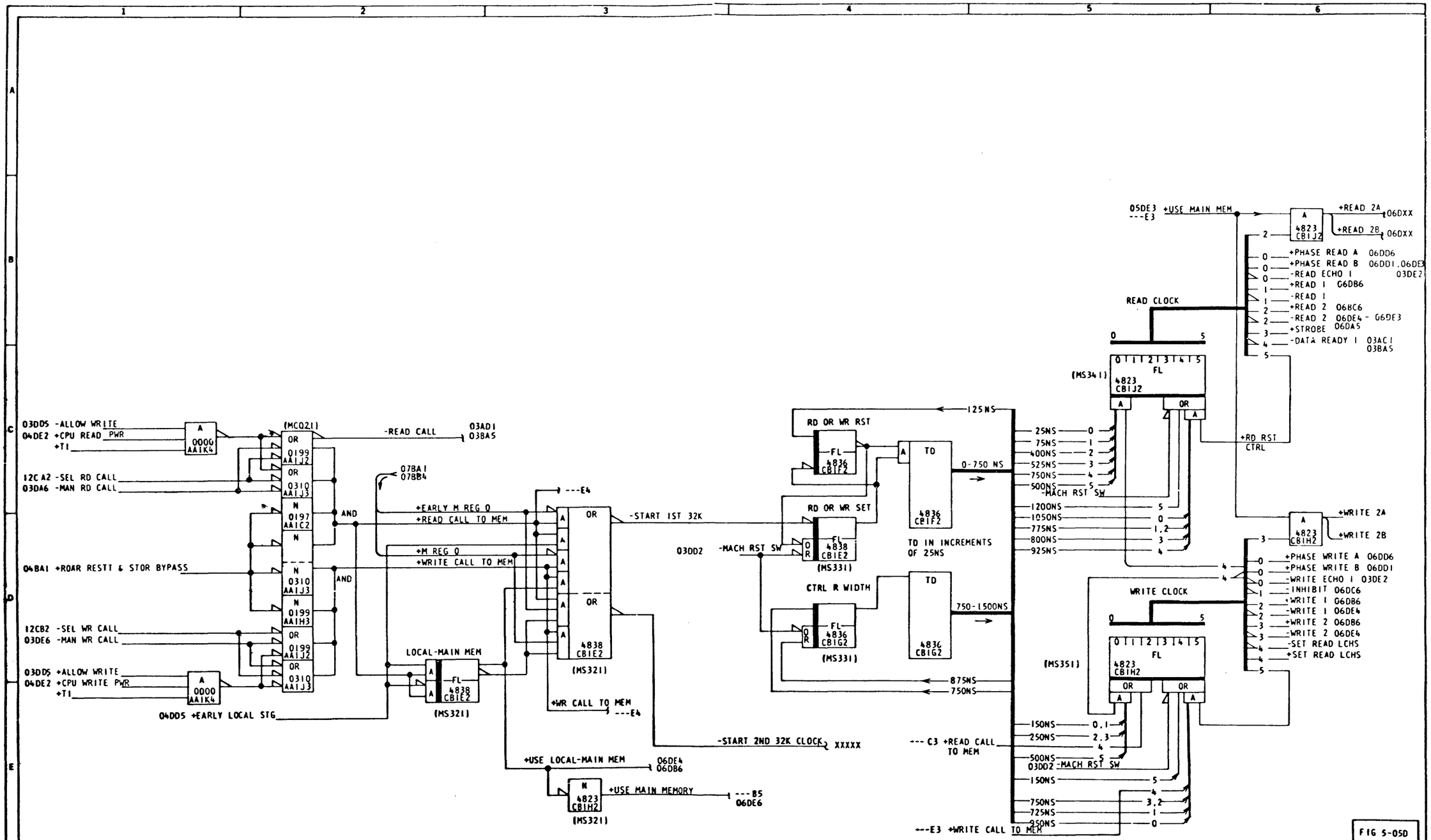
IBM | LOG 5.00.05.10 | TYPE 2030

PART NO. 826017 | PAGE 1 OF 2



DATE	EC NO.	DATE	EC NO.
7-15-65	124961		

TITLE REGS S A,B ASSM
IBM LOG 5.00.05.10 TYPE 2030
PART NO. 826017 PAGE 2 OF 2



DATE	EC NO.	DATE	EC NO.	TITLE R/W STG CLOCK 1ST 32K
7-15-65	12496!			IBM LOG 5.00.05.20 TYPE 2030
				PART NO. 826018 PAGE 1 OF 2

PART NO. 826018 | PAGE 1 OF 2 | LOG 5.00.05.20

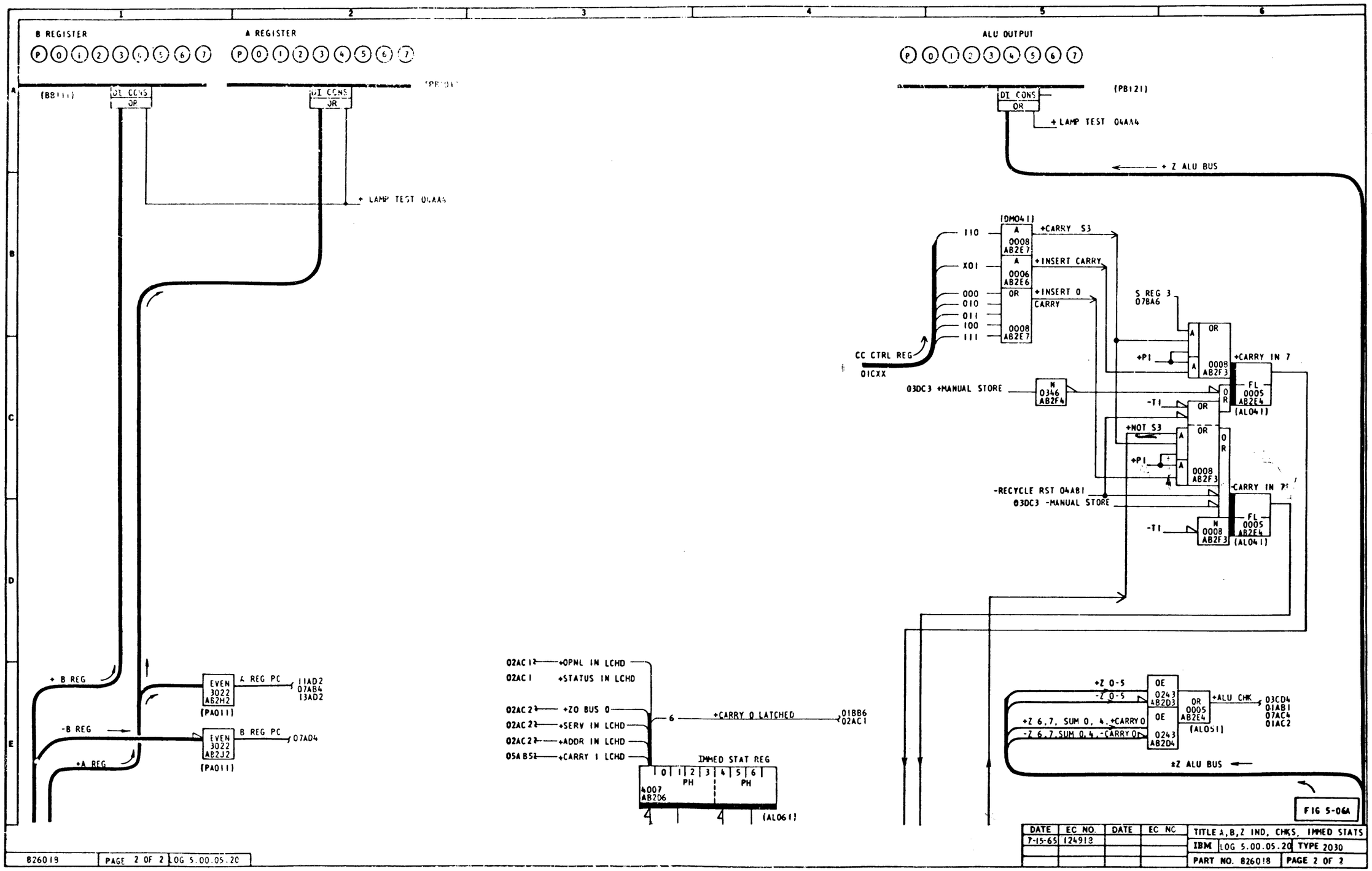


FIG 5-06A

DATE	EC NO.	DATE	EC NO	TITLE A, B, Z IND, CHKS, IMMED STATS
7-15-65	124918			IBM LOG 5.00.05.20 TYPE 2030
				PART NO. 826018 PAGE 2 OF 2

+B REG 0-3
-B REG 0-3
01CB6 +GT B REG HI
01CB6 -GT B REG HI
+B REG 4-7
-B REG 4-7
01CB6 +GT B REG LO
01CB6 -GT B REG LO
07BA6 -S REG Q
07BA6 +S REG Q
01CC5 CTRL REG
CV
CC
(AL031)
SPEC
4444 AB2L5
4444 AB2K5
(AL021)
SPEC A1-ADDS HEX 6 (0110) TO INPUT & INVERTS RESULT
SPEC A2-INVERTS INPUT BITS
SPEC A3-NON INVS INPUT BITS
SPEC A4-ADDS HEX 6 (0110) AND INVERTS RESULT
SPEC A5-INSERTS HEX 15 (1111) & INVERTS
(AL081)
TRUE
03BD4
COMPLEMENT
03BD4
HEX
DECIMAL
02AB1
08DB3 +SERV IN SIG
108C6 -T REQUEST
08DB3 +STAT IN SIG
08DB3 -OPNL IN
08DA2 -ADDR IN
(AL061)
0199 AB2C5
0236 AB2D7
0000 AB2D5
+CARRY 0
+CARRY 1
+T4
+RECYCLE RST 04AC5
+T3
3035 AB2J7
4016 AB3D4
+CARRY IN 7
-CARRY IN 7
-Z 0
SP = INTRODUCE ALU CHECK FOR DIAGNOSTIC--FORCES + ALL -SUMS AND -CARRY 0 BUT ALLOWS NORMAL ALU +SUMS (FOR TEST OF ALU CHECK)
±CARRY 0,4
0346 AB2F4
03BD4 +CARRY 0
-CARRY 0
±CARRY 0-7
(DM051)
(DM061)
01X
X11
X0X
1XX
0236 AB2D7
0015 AB2F7
+CONNECT
02AB1
+CTRL N
02AB1 03AA2
-CTRL N
044A1
0X1X
X11
010
010
-CONNECT
-CTRL LM
02AB1
+CTRL LM
3035 AB2G7
4061 AB2H7
ALU SPEC
3013 AB2--
0 = J6
1 = H6
2 = G6
3 = F6
4 = J5
5 = H5
6 = G5
7 = F5
BIT POSTNS
±SUMS
-LM,-CONN,+N
-LM,+CONN,+N
-N,-LM,+CONN
-N,+LM,+CONN
(AL033)
(AL023)
-INTRODUCE ALU CHK
(AL011)
(AL012)
(AL013)
3025 AB2J3
4445 AB2K3
+4-7
+0-3
-0-3
-4-7
+GT A LO
+GT A HI
+CROSSED
+STRAIGHT
-GT A HI
-GT A LC
CTRL REG BUS
01CXX
B REG
A REG
4067 AB1L5
4007 AB1K7
PH
(RA012)
(RA021)
(RA011)
05CB6
A BUS
A BUS 2
07CC4
07CA5
A BUS 3
+MAN STOR OR DSPLY 03DB3
+MACH RST SET LCH 04BB2
+T1
+MAN STORE 03DC3
3035 AB1J5
3575 AB2L2
3575 AB2K2
0002 AB1J7
0002 AB1J6
+SUMS 0-3
-SUMS 0-3
+SUMS 4-7
-SUMS 4-7
+CARRY 4
-CARRY 4
+CARRY 0
-CARRY 0
HEX
DECIMAL
(AL037)
4075 AB2H3
4075 AB2G3
-SYSTEM RST PRIORITY LCH
03AE5
0236 AB3H5
+ODD
-INTPODUCE ALU CHK
04AB5
3026 AB3F7
3016 AB3F6
0000 AE3H5
+DIAG SW 04AE1
01CXX CC CTRL REG
(DM061)
+GT CARRY TO S3
0006 AB2E6
-CARRY 0
+T4
NOT S3
FL 0000 AB2E3
(AL041)
+S REG RST 07BC6
+CARRY 0
+Z3
+GT Z BUS TO S REG 07BC6
TOSREG SET 07BD3
-Z HI 0
+Z HI,Z LO
±Z 0
-Z LO 0
(AL061)
0000 AB2D5
0229 AB2E5
-Z BUS
-Z BUS
+Z 0
+MACH RST 2A,2B,2C
04AC5 +RECY RST
+EVEN
ODD PG 3022 AB3C4
AR 4061 AB3C5
(AL071)
+Z BUS 0
02AC2 03CD4
±Z BUS
N 0000 AB3B3 (AL071)
+Z BUS LO DIGIT PARITY 08BE3
Z BUS TO 06CD4 05CD6
*6 SPEC = SUBT HEX 6 (0110) FROM SUM
*ODD = DIAGNOSTIC CONTROL TO ALLOW ALU CHECK TEST ON SUM 0,4 BIT
EVEN
(DK041)
ODD-EVEN CTRL LCH
+ODD
04ABS
+T2
0212 AB3E5
FL 0007 AB3G2
(DK011)
03CB6 -RST LOAD
01CE5 +AK SAL BIT
01CDX CK SALS BUS
3732 AB3E7
+DIAG TEST BIT
+T1
04AC5 -RECYCLE RST
03CE2 +ROS SCAN
0000 AG3G7
04AD6 +GT SWS TO WX PWR
ALU CHK LAT
+ALU CHK LCH
01BA2 08D02

FIG 5-06B

DATE	EC NO.	DATE	EC NO.	TITLE A,B REGS, ALU
7-15-65	124961			IBM LOG 5.00.06.10 TYPE 2030
				PART NO. 826019 PAGE 1 OF 2

PART NO. 826019 | PAGE 1 OF 2 | LOG 5.00.06.10

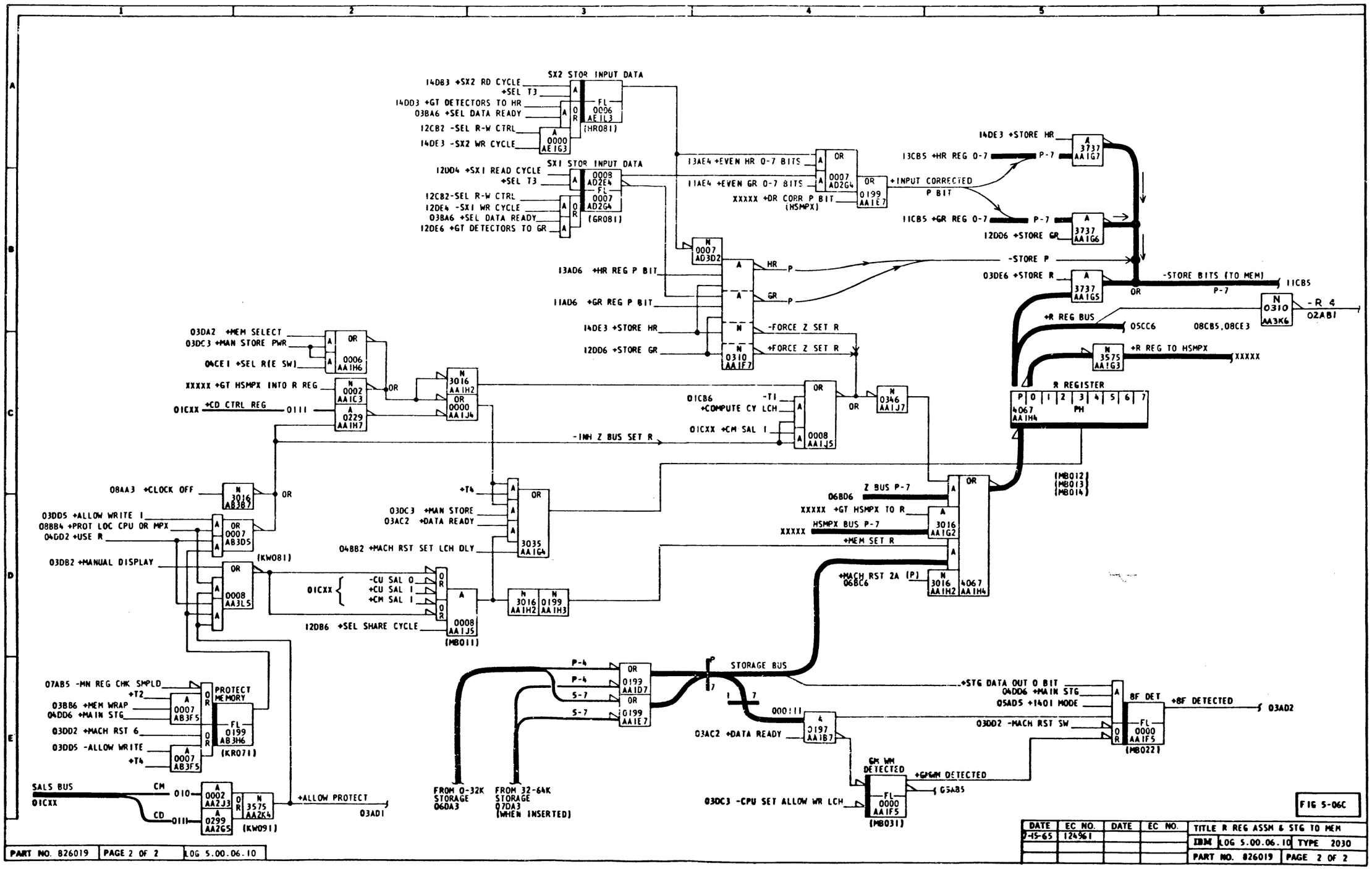


FIG 5-06C

DATE	EC NO.	DATE	EC NO.	TITLE R REG ASSM & STG TO MEM
9-15-65	124961			IBM LOG 5.00.06.10 TYPE 2030
				PART NO. 826019 PAGE 2 OF 2

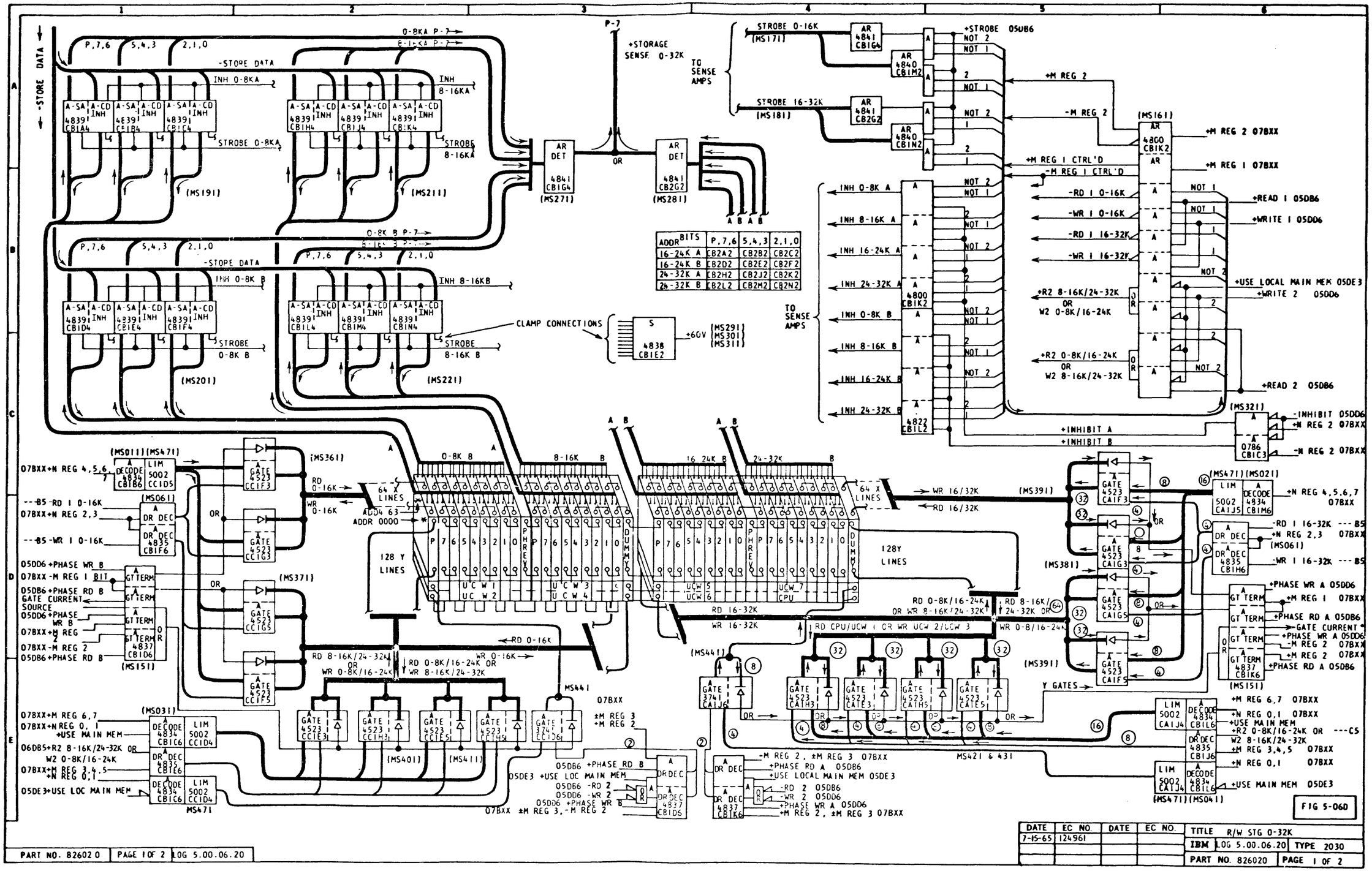


FIG 5-060

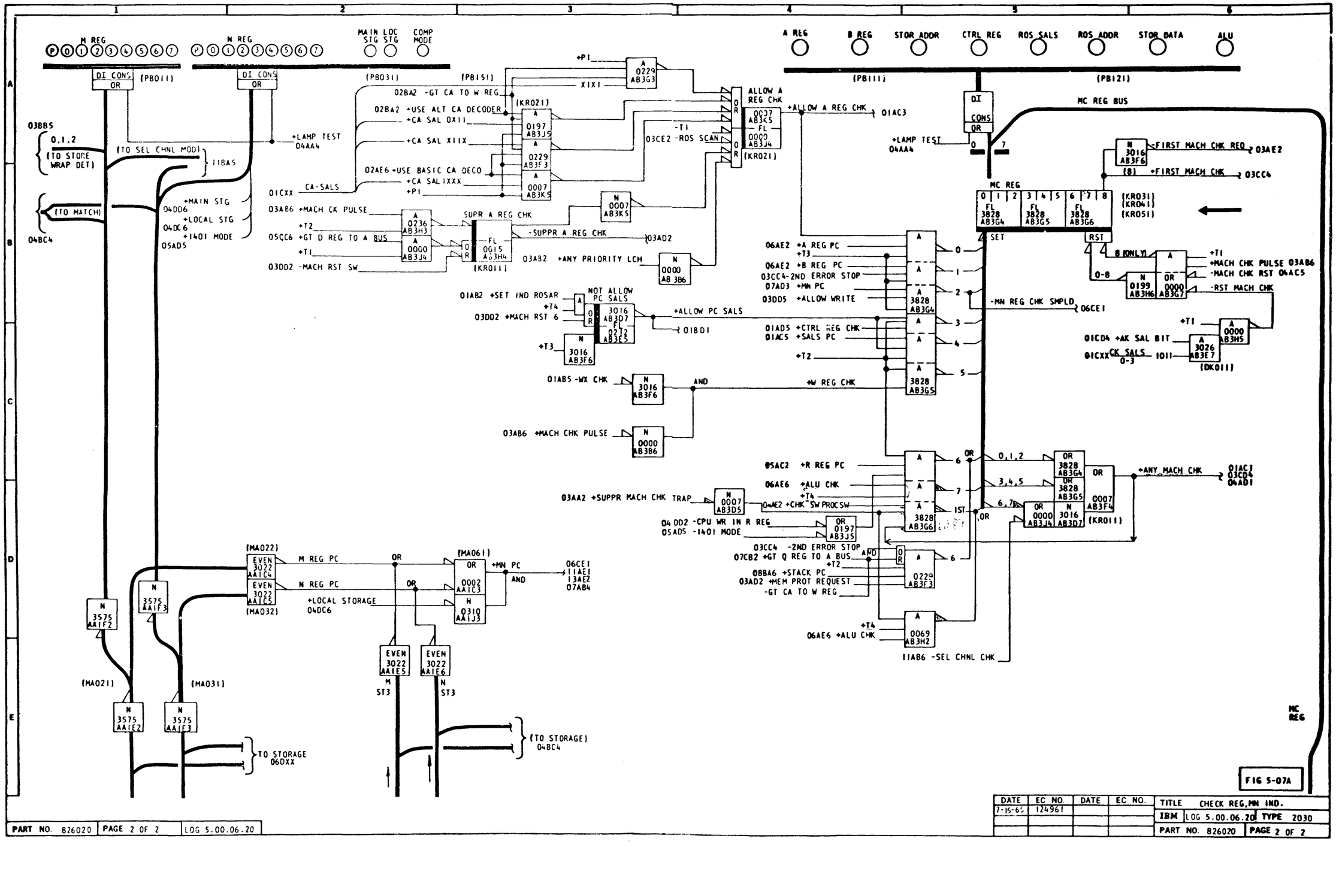
DATE	EC NO.	DATE	EC NO.
7-15-65	124961		

TITLE R/W STG 0-32K

IBM LOG 5.00.06.20 TYPE 2030

PART NO. 826020 PAGE 1 OF 2

PART NO. 826020 | PAGE 1 OF 2 | LOG 5.00.06.20



DATE	EC NO.	DATE	EC NO.	TITLE CHECK REG, MN IND.
7-15-65	124961			IBM LOG 5.00.06.20 TYPE 2030
				PART NO. 826020 PAGE 2 OF 2

PART NO. 826020 | PAGE 2 OF 2 | LOG 5.00.06.20

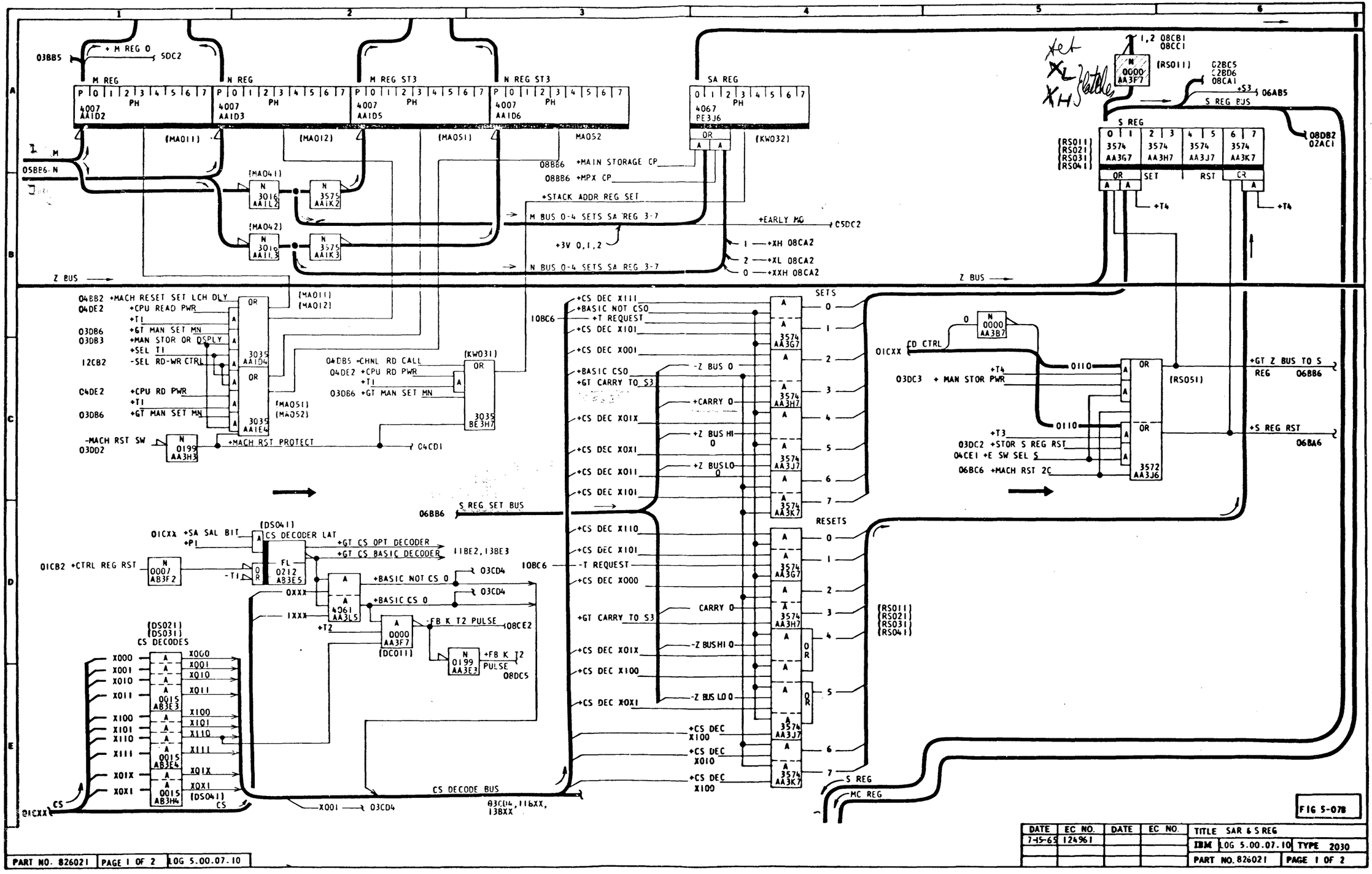
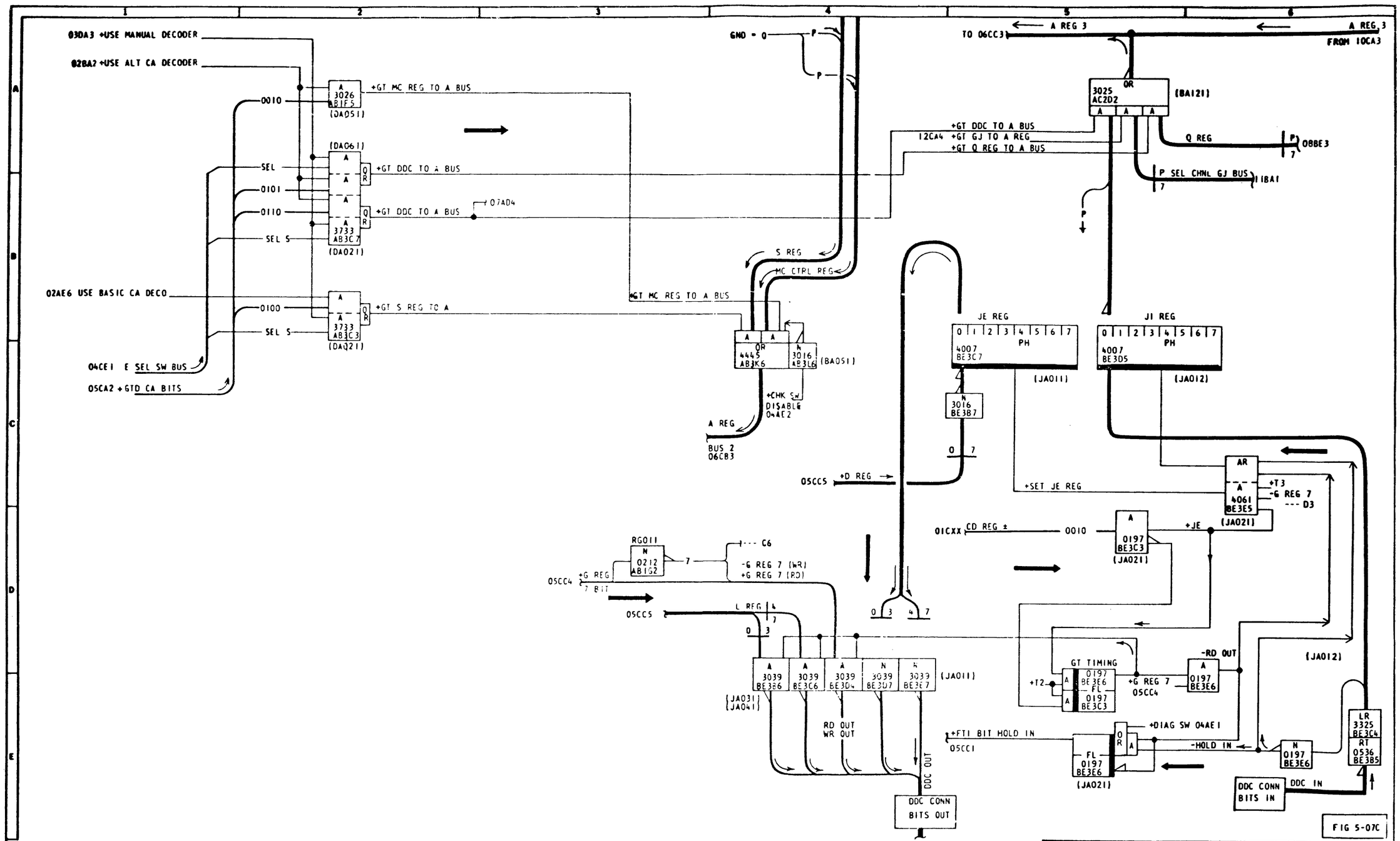


FIG 5-078

DATE	EC NO.	DATE	EC NO.	TITLE SAR & S REG
7-15-65	124961			IBM LOG 5.00.07.10 TYPE 2030
				PART NO. 826021 PAGE 1 OF 2

PART NO. 826021 | PAGE 1 OF 2 | LOG 5.00.07.10



DATE	EC NO.	DATE	EC NO.	TITLE DIRECT CONTROL
7-15-65	124961			IBM LOG 5.00.07.10 TYPE 2030
				PART NO. 826021 PAGE 2 OF 2

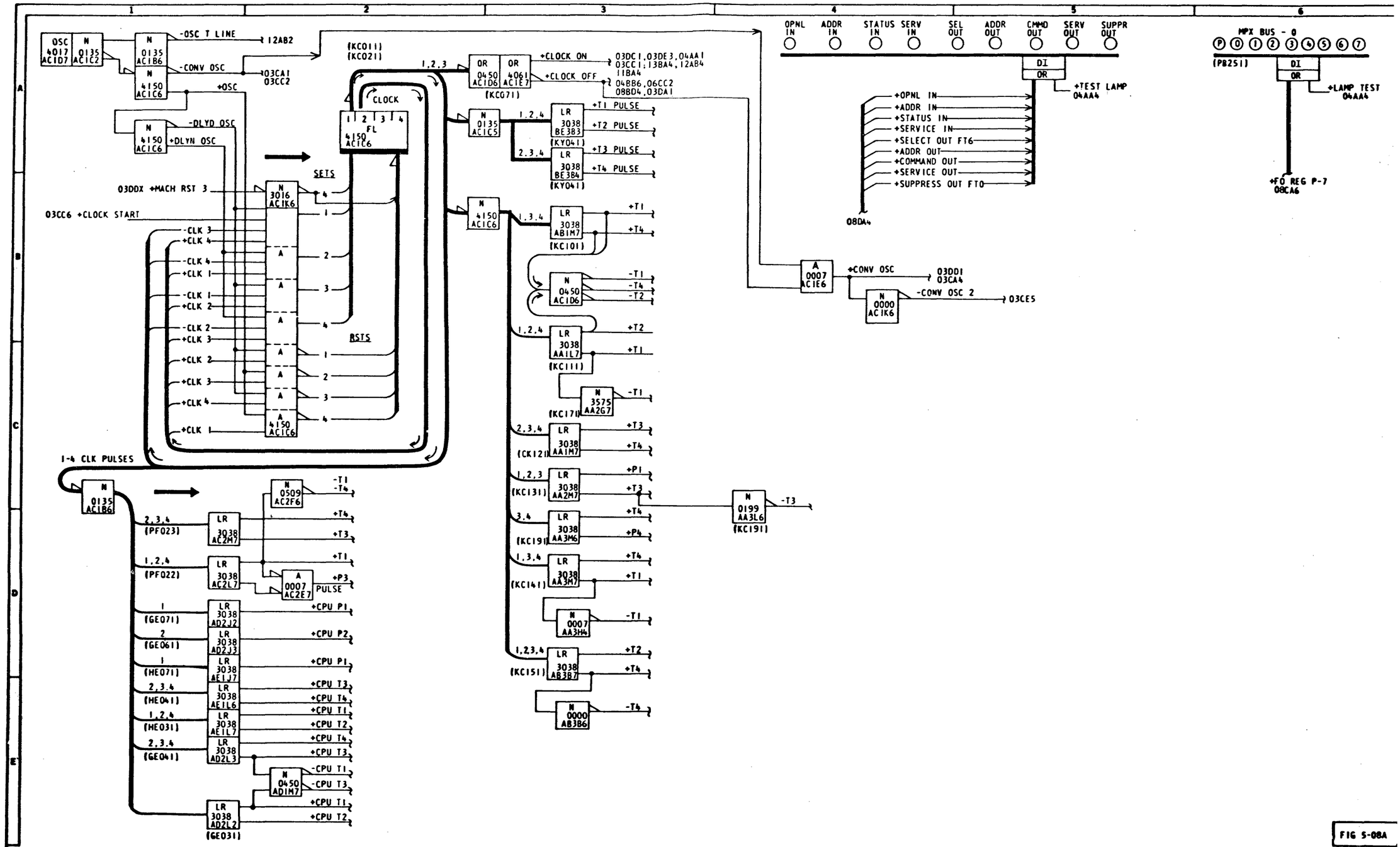


FIG 5-08A

DATE	EC NO.	DATE	EC NO.	TITLE CPU CLOCK & MPX IND	
7-15-65	124961			IBM LOG 5.00.07.20	TYPE 2030
				PART NO. 826022	PAGE 2 OF 2

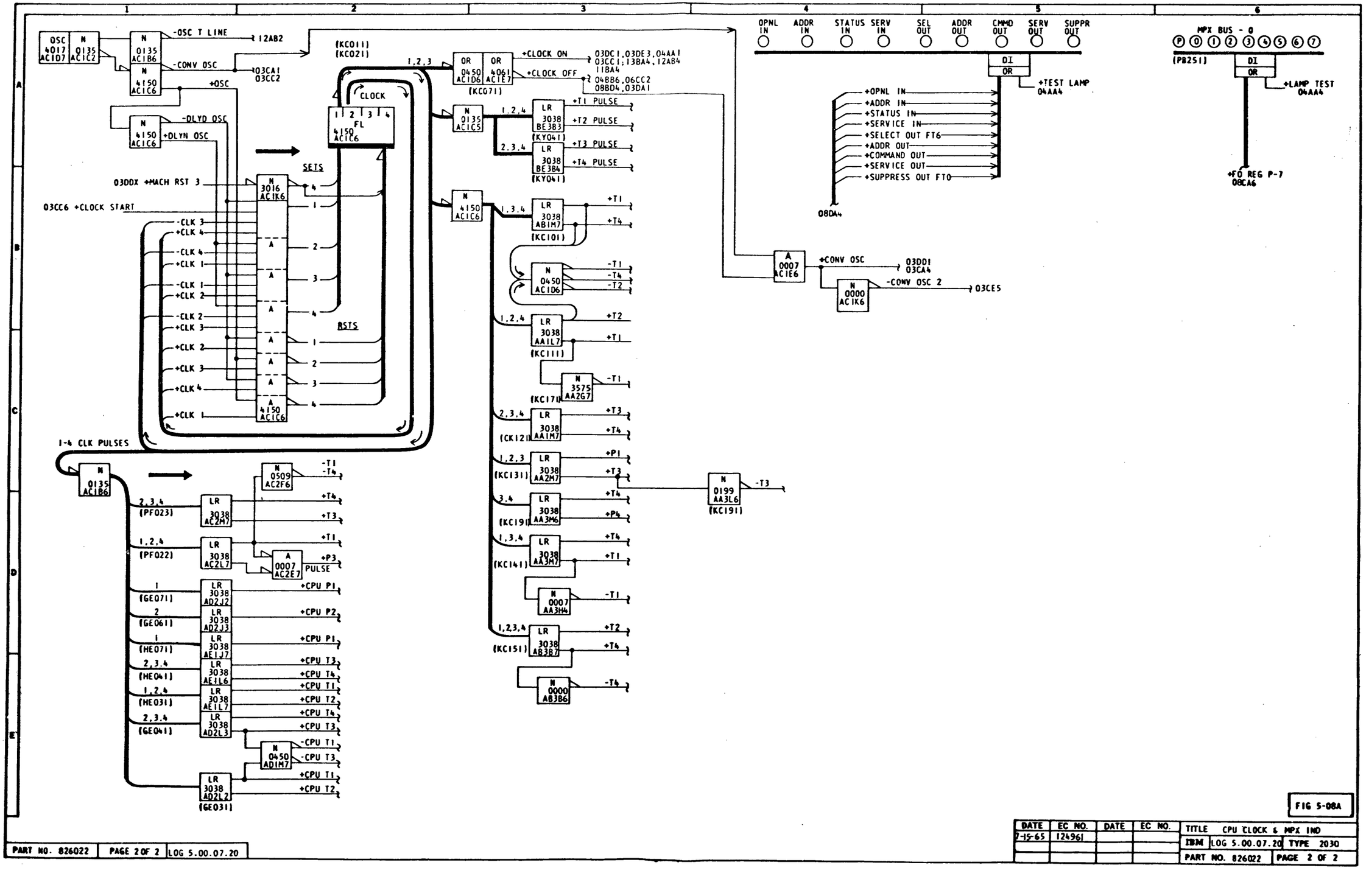


FIG 5-08A

DATE	EC NO.	DATE	EC NO.	TITLE CPU CLOCK & MPX IND
9-15-65	124961			IBM LOG 5.00.07.20 TYPE 2030
				PART NO. 826022 PAGE 2 OF 2

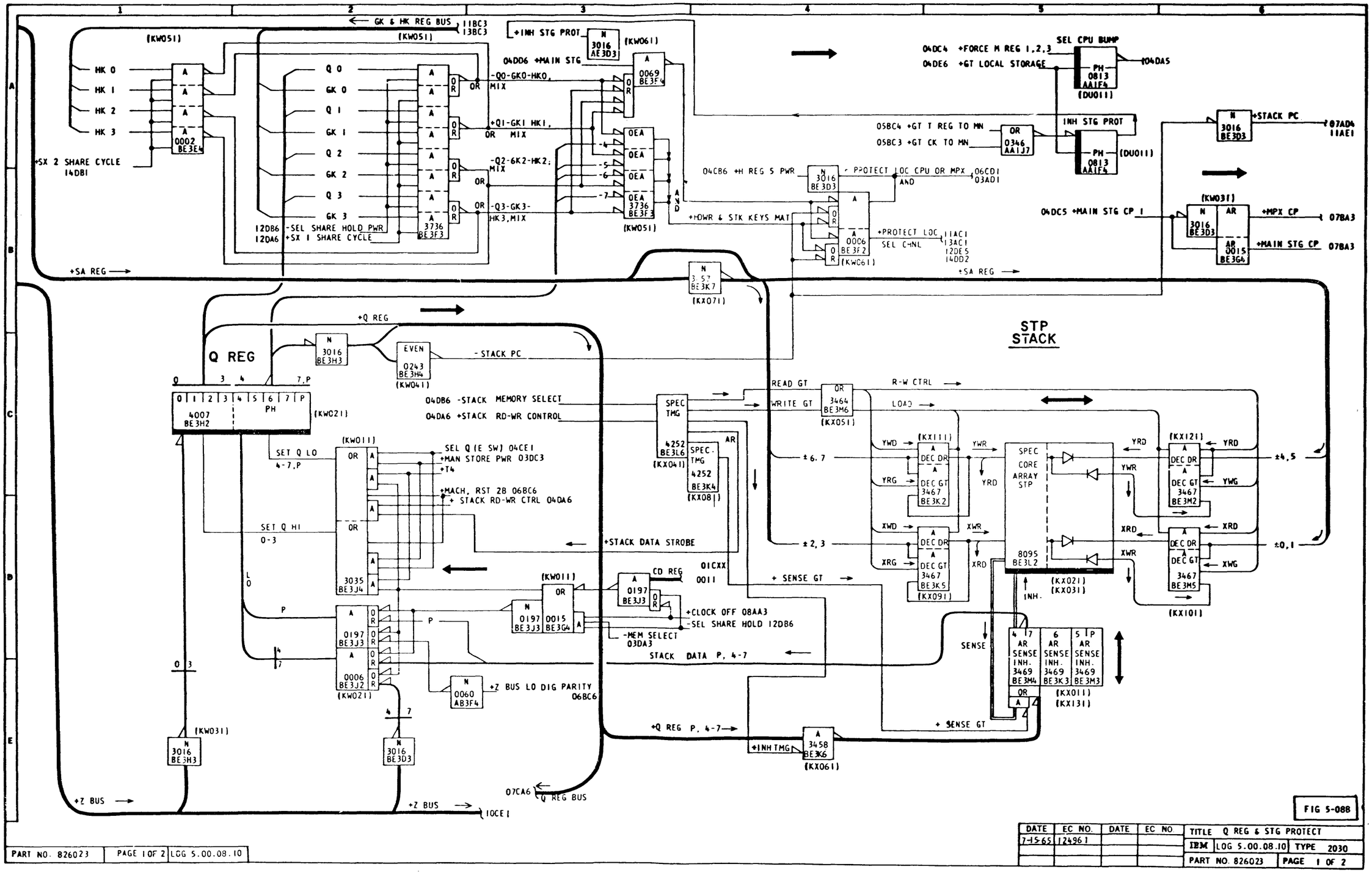


FIG 5-088

DATE	EC NO.	DATE	EC NO.	TITLE Q REG & STG PROTECT
7-15-65	124961			IBM LOG 5.00.08.10 TYPE 2030
				PART NO. 826023 PAGE 1 OF 2

PART NO. 826023 | PAGE 1 OF 2 | LOG 5.00.08.10

FB REGISTER

SPEC. FEATURE

02AD5 +MPX ROS LCH
07BA6 +S REG 0
02AD5 -MPX ROS LCH
01BE3 +SET FW

XXH BU — N 3016 AA3L4 — PH 4007 AA3H2 (FX011)
XH BU — N 3016 AA3L4 — PH 4007 AA3H2 (FX011)
XL BU — N 0000 AA3F3 — PH 4007 AA3H2 (FX011)

(FA091) A OR 0006 AA3K2
(FA051) XXH — PH 3832 AA3L3 — +XXH
OR 0355 AA3F4

(FA091) A OR 0006 AA3K2
(FA051) XH — PH 3832 AA3O3 — +XH
07BA6 -S REG 1
OR 3832 AA3D3

(FA091) A OR 0006 AA3K2
(FA051) XL — PH 3832 AA3C3 — +XL
07BA6 -S REG 2
OR 3832 AA3C3

+XXH → 05BC4, 05BB4, 07BB4

To address BUMP MPX.

OR — A 0236 AA3E6, A 0002 AA3D3
+T3
CK SALS P,0-3 01CXX → IXX1

A 0002 AA3D2 → IIXX
A 0002 AA3D2 → XIIX
A 3832 AA3D3 → IXIX
A 3832 AA3D2 → XIXI
AR 4061 AA3C2 → P
A 3832 AA3C3 → XXII

07BD2 +FBK T2

-MACH RST SET LCH 04B82 — AR 4061 AA3C2 — -MACH RST MPX → 01CC5

MPX CHNL — PH 3832 AA3D3 (FA051) — +ET 7 BIT MPX CHNL INTRPT → 05CC1, 08DD4
MPX OPN — PH 3832 AA3O3 (FA051) — +ET 2 BIT MPX OPN LCH → 04AB4, 05CC1
SUPPR CTRL — PH 3832 AA303 (FA051) — +SUPPR CTRL LCH → 08DE4
OP OUT CTRL — PH 3832 AA3D3 (FA051) — N 0000 AA3E2 — +OP OUT SIG → 08DB6, 08DE4
-MPX OPN LT GATE → 10BB4

OR 3832 AA3C3

(FA051) A 0199 AA3E3 — -MPX INTRPT → 02AE1

MPX MASK — PH 3832 AA3C3 (FA111) — 0
SX1 MASK — PH 3832 AA3C3 (FA111) — 1 — +SX1 MASK → 12DC1
EXT MASK — PH 3832 AA3C3 (FA111) — 7 — +EXT TRAP MASK ON → 04CB4
SX2 MASK — PH 3832 AA3C3 (FA111) — 2 — +SX2 MASK → 14DD4

R REG BUS 06CB5 — 0,1,7 — N 3016 AA3F2 — 2 — N 0000 AA3F3

TO SEL CHNL 1 & 2 11DD2 13DD2
TO CPU INDS 08AA6
TO MPX CHNL 08DD1 05CC2

MPX BUS 0 REG
P | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7
0000 AA3F7 | 0197 AA3J5 | 3573 FL AA3F6 | 3573 FL AA3D4
(FA071) (FA081)

from CPU
R REG 06CB5
with
SET BUS 0 CTRL
A 0000 AA3G4 — RST — +T1

01CXX +CK 0 PWR
A 3735 AA3E2
N 0195 AA3E2 — -SET BUS 0 CTRL LCH → 08DC4

01CXX SAL BUS — CS 111X
(DK031) A 0000 AB3G7, N 3016 AB3D7
+CS 3
+SA
A N 0000 AAE35 — 0069 AA3E2 (DK031)
+FAK → 08DC1
-FAK → 08DA4

Under control of MPX

FIG 5-08C

DATE	EC NO.	DATE	EC NO.
7-15-65	12496 1		

TITLE MPX CHANNEL F0 & FB REGS
IBM LOG 5.G0.08.10 TYPE 2030
PART NO. 826023 PAGE 2 OF 2

FA REGISTER

Wiring to do will be revised in later states in order to have high speed branch

+ADDR IN — N 0000 AA3F3 — -ADDR IN — 06BA3

---B5 -SERV-OUT
---B5 -CMD-OUT
A 0000 AA3F2
A 0000 AA3D7

+STATUS IN
+SERVICE IN

(FA041)
OR
OR 0000 AA3E2
OR 0236 AA3E6
AND
AND
+SERV IN SIGNAL — 06BA3
+STATUS IN SIGNAL — 06BA3

(FA091)
+OP IN — N 3016 AA3F2
-OPNL IN — 06BA3
N 0197 AA3F5
+OPNL IN — 06BA3

OP INLK
+T2
+T1
A FL 3735 AA3E4 (FA021)
A 0000 AA3F3
-ADDR OUT

TO INDICATORS — 09AB4

+ADDRESS IN
+SERVICE IN
+STATUS IN

08CC5 -FAK — N 0355 AA3F4
+T2 — A 0000 AA3B7
03AB2 -ANY PRIORITY LCH — N 0236 AA3E6
+FAK T2

+T3 — ADDR 0-2 — A FL 3735 AA3E4
+ADDR OUT 2 — ---C5

ADDR-0-1
01CXX +CK SALS PWR — 1
A 0000 AA3D7 FL 0006 AA3E7 (FA011)
-ADDR OUT — ---C5 10BD5
---C4

CMD-0
2
A A 3735 AA3E4 FL 0000 AA3E5 (FA021)
-COMMD OUT — ---B1

SRV-0
3
A A FL 3735 AA3C7 (FA031)
-SERV OUT — ---B1

FA
FA061
N N N N N 3068 AA3D5

CLAMP
CU BUSY INLK
---A6 +ADDR OUT 2
07BD2 +FBK T2
---A5 -ADDR OUT
N 0236 AA3E6
A 0000 AA3B7
FL 0197 AA3B5 (FA031)
+T2

+OP OUT SIG 08CE3 — OR 0000 AA3F7 — +RST STT SEL-0 ---C4

BUS-0-CTRL
-SET BUS 0 CTRL LCH 08CC5
---A5 -ADDR OUT
---A5 -CMD OUT
---B5 -SERV OUT
A 0000 AA3D7
FL 0197 AA3J5 (FA021)
---B6 +RST STT SEL OUT
N 0197 AA3F5
-1401 MODE
A 0236 AA3K3

+T2?
A 0236 AA3E6
START SEL-0
3016 AA3L4
FL 0006 AA3E7
OR 0000 AA3E5
A +SEL-0 FT6 — 05CC1

-1050 SEL-0
A 0002 AA3D2

+ADDR IN
+OP IN
10BC5 +1050 OP IN
10DB3 -1050 CE MODE
A OR A 0000 AA3B7
SEL 0 INLK
FL 3735 AA3C7 (FA031)

+T2
A OR SEL REQ FL 0355 AA3F4 (FA031)
-1050 INSTALLED
1050 ATTACH SEL-0, SEL IN PROPAGATION (SECT 10B)
+1050 SEL OUT — 10BA5

10BA5
+1050 SEL IN
10BE6 -1050 INSTALLED
A 0000 AA3E5
OR 0000 AA3E2
-1050 SEL IN

04AC5 -RECYCLE RST
-FBK T2 07BD2
OR 0000 AA3D7
OR 0006 AA3E7
+FT 5 BIT SEL IN — 05CC1

03CE2 -ROS SCAN
(like 'poll control' of SK channel)
01CXX CK P BIT
08CC5 +FAK
08DC5 +FAK
CMD STT
A 0000 AA3D7 FL 0006 AA3E7 (FA011)
+T1
A 0236 AA3E6
04AC5 +RECYCLE RST
N 0000 AA3E2
RST CMD RSTT
OR ADDR OUT
10BD6 -1050 REQ IN
+FT 3 BIT MPX SHARE REQ
AND
OR 0310 AA3K6
OR 0199 AA3E3 (FA041)
03AD2 03AC1 05CC1 12DA3

+MPX REQ IN
N 3016 AA3F2
06BE6 +ALU CHK LCH
04AE2 +CHK SW PROC SW
A 0000 AA3E5
+OP IN
N 0000 AA3G4
OR
N 3016 AA3F2 — -MPX SHARE REQ — 03CE5

08CA6 FROM BUS 0 REG
+DIAG SW 04AE5
0,4-7
A 3068 AA3B4
0 SELECT IN
4 STATUS IN
5 SERVICE IN
6 ADDRESS IN
7 OP IN
P
0-7
N 3068 AA3D6
AR 4070 AA3C4
(to display the bus in FI = lines)

(FA092)
LR 3325 AA3C5
TAGS IN
RT 0536 AA3B5
CONN
TAGS OUT

BUS OUT BITS
CONNECTOR
(FA082)
LR 3325 AA3C6
-MPX BUS IN — 05CC2
RT 0536 AA3B6

+MPX METERING IN — 04AB1
05DB1

(FA031)
08CC2 +FT7 MPX CHNL IN
-OPNL IN
A OR -SUPPR-0 — 10BC3
03CA6 +LOAD IND
N 0000 AA3E5
3735 AA3C7
+SUPPR-0-FT0 — 05CC1
08CD2 +SUPPR CTRL LCH
08CE3 +OP OUT SIGNAL
A 3068 AA3D6 -OP OUT
04AC5 -RECYCLE RESET
SS 3341 AA3G3

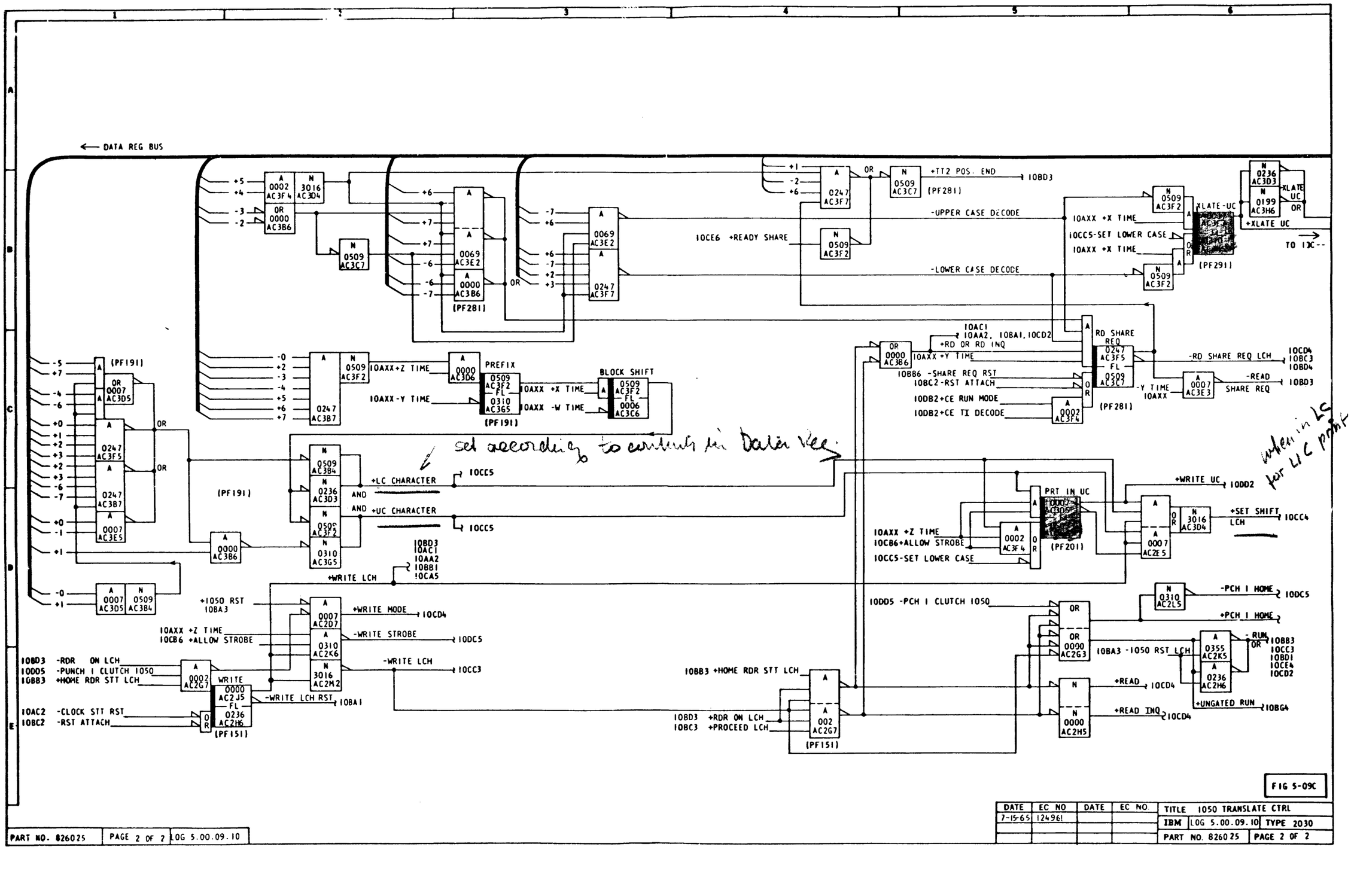
(FA101)
04AB3 +METERING OUT
04AA2 +CLOCK OUT
N N N N N 3068 AA3D6
SELECT OUT

TAGS OUT

FIG 5-080

DATE	EC NO.	DATE	EC NO.	TITLE MPX CHNL CTRLS
7-15-65	124961			IBM LOG 5.00.08.20 TYPE 2030
				PART NO. 826024 PAGE 1 OF 2

PART NO 826024 | PAGE 1 OF 2 | LOG 5.00.08.20



DATE	EC NO	DATE	EC NO
7-15-65	12496!		

TITLE 1050 TRANSLATE CTRL
IBM LOG 5.00.09.10 TYPE 2030
PART NO. 826025 PAGE 2 OF 2

PART NO. 826025 | PAGE 2 OF 2 | LOG 5.00.09.10

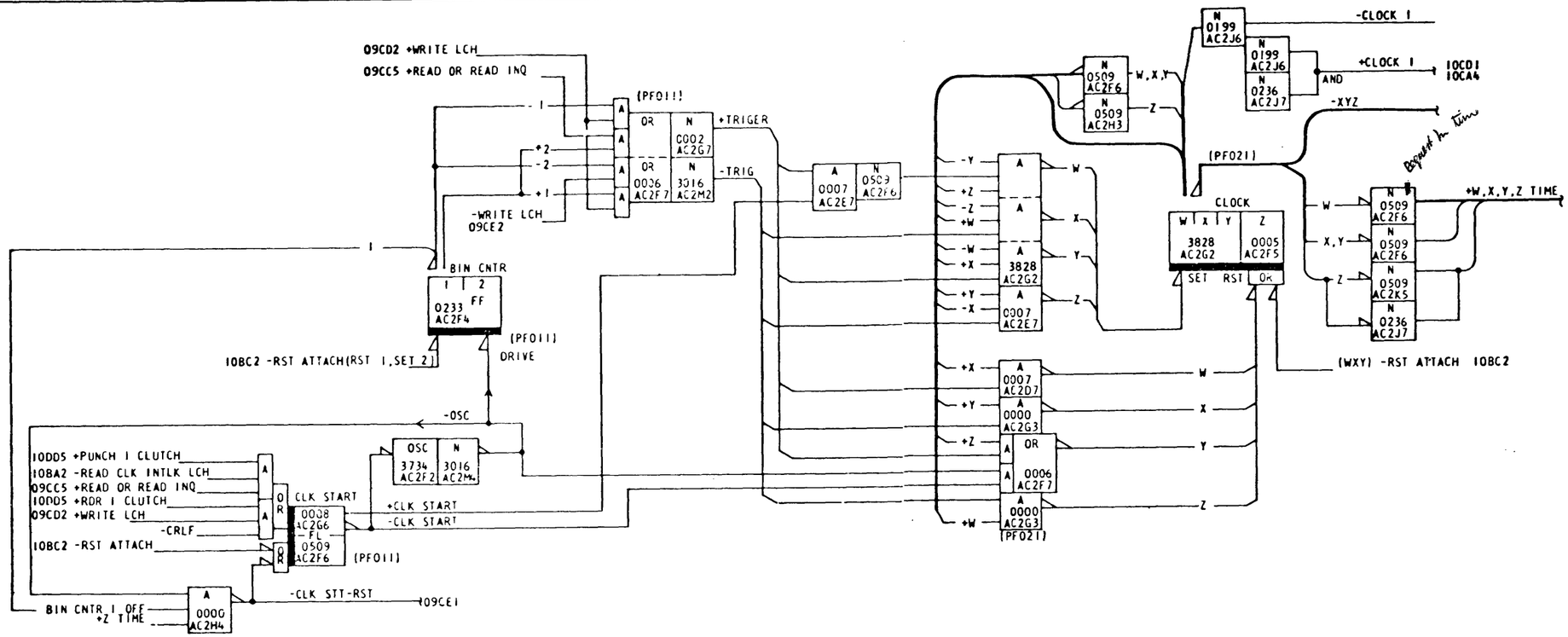
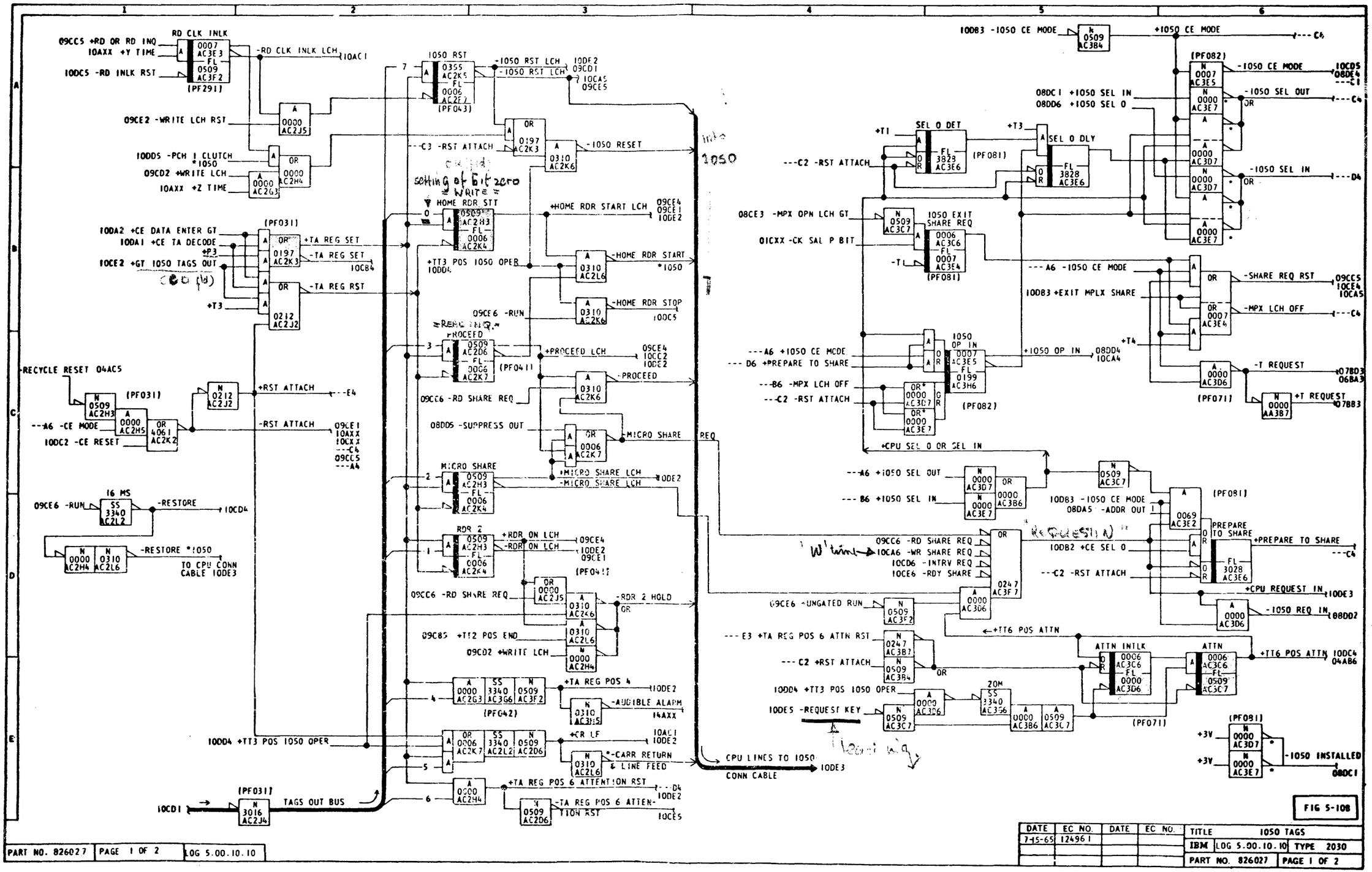


FIG 5-10A

DATE	EC NO	DATE	EC NO.	TITLE 1050 CLOCK
7-15-65	24961			IBM LOG 5.00.09.20 TYPE 2030
				PART NO. 826026 PAGE 2 OF 2



DATE	EC NO.	DATE	EC NO.	TITLE	1050 TAGS	
7-15-65	1249 61			IBM	LOG 5.00.10.10	TYPE 2030
				PART NO. 826027		PAGE 1 OF 2

PART NO. 826027 | PAGE 1 OF 2 | LOG 5.00.10.10

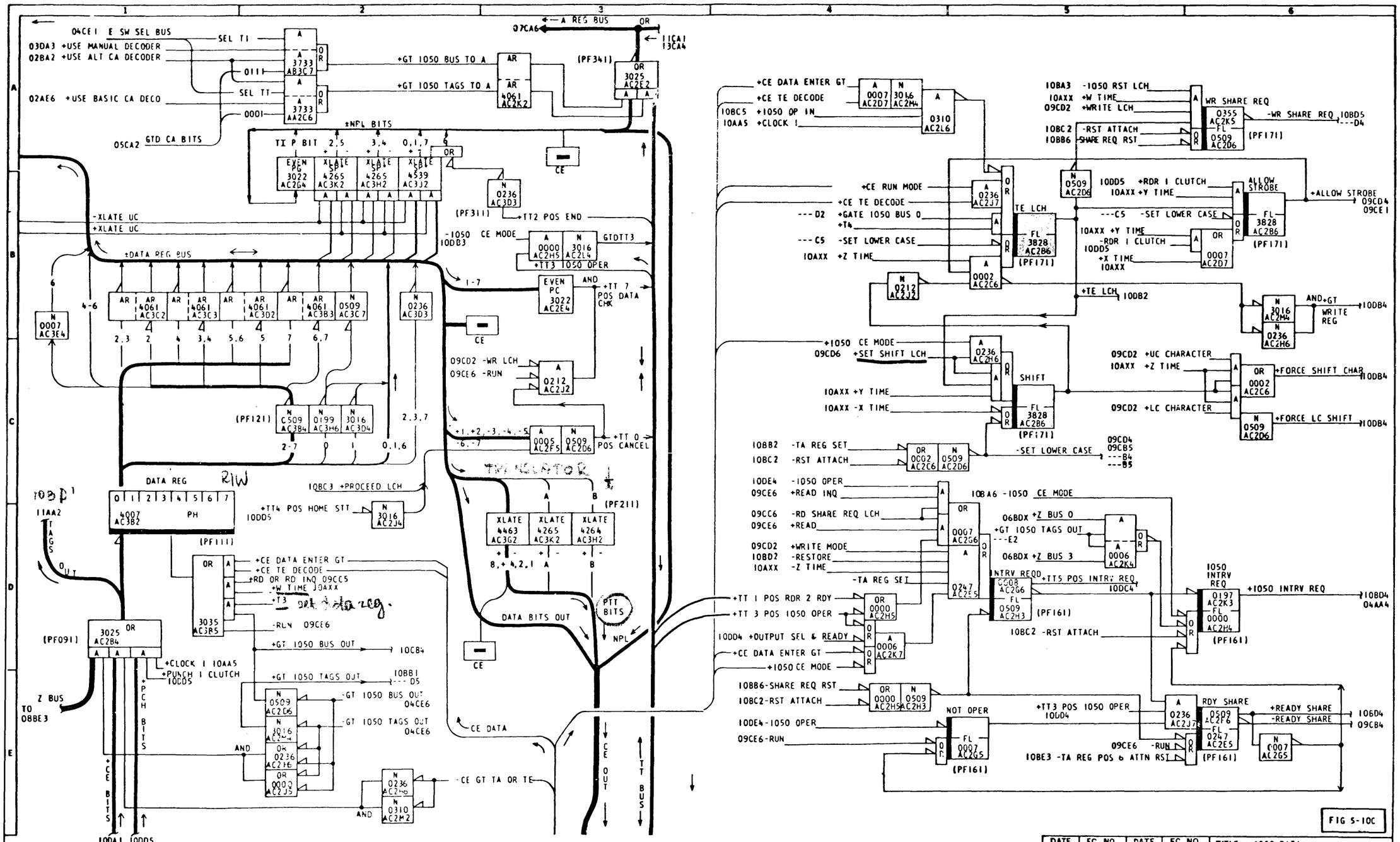


FIG 5-10C

DATE	EC NO.	DATE	EC NO.	TITLE 1050 DATA
7-15-65	124961			IBM | LOG 5.00.10.10 | TYPE 2030
				PART NO. 826027 | PAGE 2 OF 2

PART NO. 826027 | PAGE 2 OF 2 | LOG 5.00.10.10

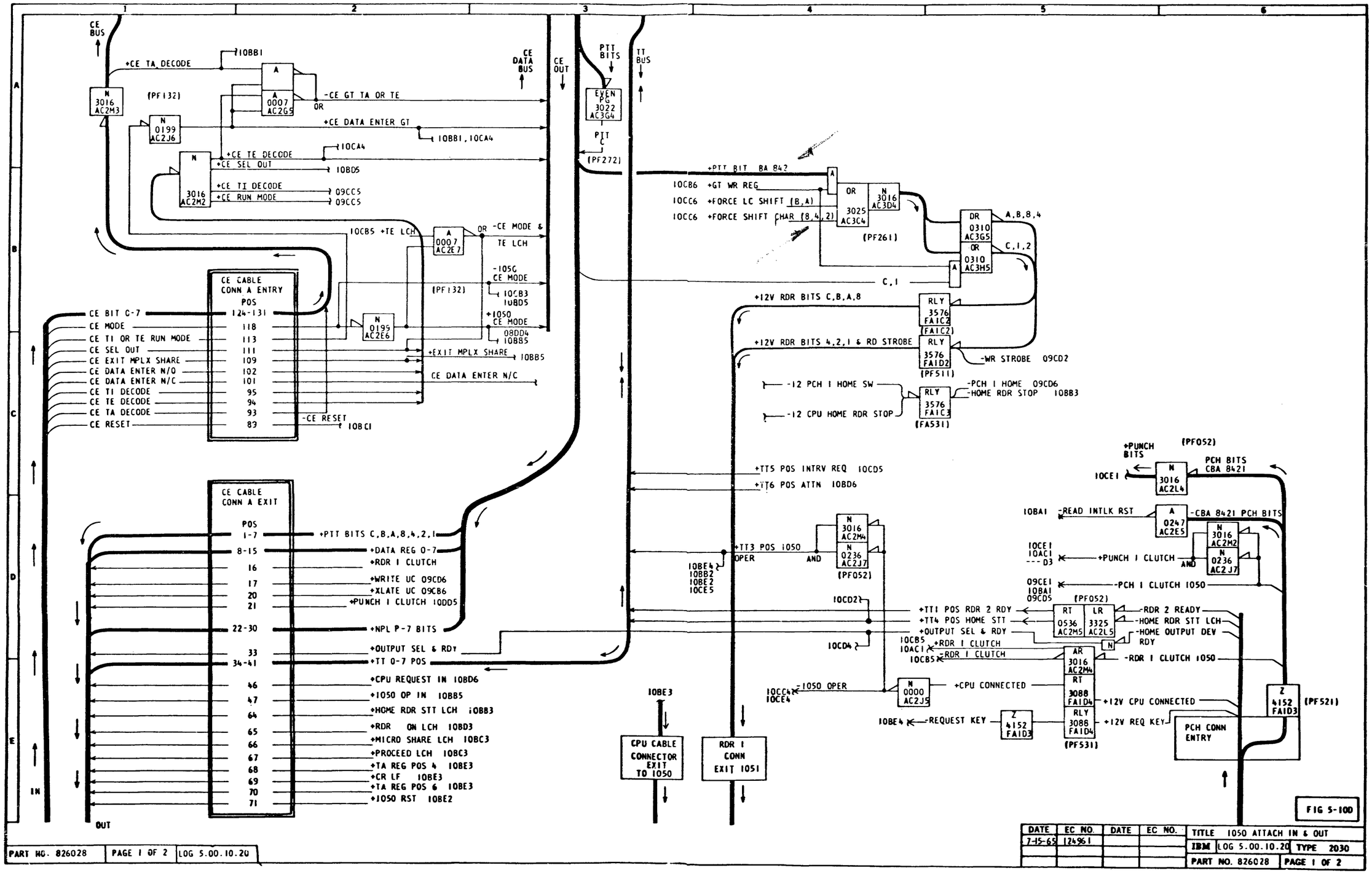


FIG 5-100

DATE	EC NO.	DATE	EC NO.
7-15-65	124961		

TITLE 1050 ATTACH IN & OUT

IBM LOG 5.00.10.20 TYPE 2030

PART NO. 826028 PAGE 1 OF 2

OP IN | ADDR IN | STAT IN | SERV IN | SEL OUT | ADDR OUT | CMD OUT | SERV OUT | SUPP OUT (PB18I)

GE REG (PB18I) (PB16I) KEY | PB17I COMMAND | PB17I FLAGS | PB16I GR REG | GHY (PB19I) | GHZ (PB20I)

CD CC SLI SKIP PCI

DI CONS OR — LAMP TEST — TAGS OUT 10CD1

11DA3 -WLR SAMPLE
11DA3 -STATUS IN
(GB041) OR 0000 AD3G2

11CB2 +SX 1 CNT RDY AND NOT ZERO
12DC2 -GR FULL
A-OR / A-OR 0007 AD3H7

11BE6 +COM BIT 7 OUTPUT
12DC2 +GR FULL
11CC2 +COUNT READY AND ZERO
11DB3 +SERV IN NOT SERV OUT GT 1
11DD4 -SERVICE SIGNAL
12DC2 -GR FULL
11BB5 -CD
A 0004 AD3D4 — OR

-LONG RECORD COND 11CD4

+CHK OR DIAG STOP SW 04AE3
-CNT RDY AND NOT ZERO 11CB2
A 0002 AD3F3 / A 0000 AD3G2

-SX 1 DATA CHK STOP
-1,2,3,5,6
OR 0247 AD3D3 / OR 0069 AD3E2

-5,6

11BB5 +SLI
A 0000 AD3G2 — -SLI NOT CDA 11CE4

12BD5 +GHY OVERFLOW
12DE4 +SX 1 WR CYCLE
+SEL T4
A — 64K WRAP — -FL- 3735 AD3C2 (GB041)

11AD4 -SX 1 STAT RST

12DD4 +SX 1 RD CYCLE
+SEL T3
03BB6 +MEMORY WRAP
(GB04) A OR / A 0007 AD3D2

A 3735 AD3C2 — 1
OR 0000 AD3J7 — 2

11CA2 +DECODE K 0
11CE3 +GATE K TO GB AND P1
A 0006 AD3F2

08BB4 +PROT LOC SEL CHNL
12DE5 +SX 1 R-W CTRL
11BD6 +INPUT
11BB5 -SKIP
(GB051) A 0069 AD3E2 / N 0212 AD3G3 — +PROT LOC SX 1 SHARE CYCLE ---E1

12DE4 +SX 1 WR CYCLE
+SEL T3
+GR PC
A 3735 AD3C3 — 3
A 3735 AD3C3 — 4

11CA4 +GT GJ TO A BUS
01CXX -CK SAL 1 BIT
+CPU T2
11CA4 +GT GR OR HR TO A BUS
A / A — OR — (GR031) CHK A REG
-CPU T1 — 0008 AD2E4 — FL 0346 AD2H4 — +CHK A REG PARITY 13AD2

06AE2 +A REG PC
13CE3 +SX 1 GT
+CPU T4
A 0069 AD3F4 / A 0006 AD3F2 — OR

11CA2 +DECODE K5
11CE3 +GT K TO GB AND P1

+CPU T3
+GR PC
12DD6 +STORE GR
12DD4 +SX 1 RD CYCLE
07AD3 +MN PC
+SEL T3
+SEL T1
08BA6 +STACK PC
---C2 +PROT LOC SX 1 SHARE CYCLE
A / A / A — OR — 0008 AD3J3

-SX 1 MODIFIER CHK
(GB051) OR 0000 AD3E4 — 5

11CE3 +GT GI TO GR
+CPU T1
+BUS IN PC
A 0247 AD3D3 — OR — A 3575 AD3C3
11CE3 +GT K TO GB AND P1
11CA2 +DECODE K15

6
(GB061)

11CD6 +DEVICE INTRP COND
11DA3 +STATUS IN
11CD6 -INH DEVICE INTRP COND
11AE4 +BUS IN PC
(GB061) A / A / OR — 0008 AD3J3 — N 3575 AD3L2 — +INTRP COND GS3 11CA5 12CE4

04AE2 +CHK SW PROC SW
N 0509 AD3F7 — -INTRP COND 11CE4 12CD4

12DB2 +CHNL BUSY GT 3
A 0000 AD3G5 — N 0355 AD3K5 — +SX 1 STATUS STOP COND 11DC3
-SX 1 STATUS STOP COND 11CB1 11DE3 12DE4

+4

13AB4 +SX 2 HDWE CHECKS
XXXXX +HSMPX CHK
03CE2-ROS SCAN
AND (GB061) A 0069 AD3C4 / A 0000 AD3C4 — -SEL CHNL CHK 07AE5

+SX 1 HDWE CHECKS 11DC3

LAMP TEST 04AA4

(GB041)
(GB051)
(GB061)
1=INCORRECT LENGTH GE 1
2=PROG CHK GE 2
3=PROT CHK GE 3
4=CHNL DATA CHK GE 4
5=CHNL CTRL CHK GE 5
6=INTRF CTRL CHK GE 6

GE REGISTER
3 4 6 | 1 | 2 5
FL 3735 AD3C3 | FL 3735 AD3C2 | FL 0006 A 3F2

Channel Status Register. (bit 0 = GF bit 4 (11B))

+GE REG 11BC1
BUS

+GR BITS PWR 06CB3 11BD1 11BA5

04AC5 -CHK RST SW
12DB2 -SEL CHAN 1 RST
OR 0000 AD3C4 / N 0346 AD3J5 — -SX 1 STATUS RST 11AC1
Reset Channel

(GB031) EVEN 3022 AD3D6 / EVEN 3022 AD2E5
11AB3 +BUS IN PC
+GR PC
+EVEN GR 0-7 BITS 06CB4

N 0004 AD3F5 (GB031)
12BE5 -CARRY ERROR
11BE2 +SET GU
11BE3 +SET GV

N 3575 AD2D5 (GR031)
+BUS IN BITS 11CC4
-GR REG BITS 11CB5

EVEN 3022 AD1F5 (GZ031) — EVEN 3022 AD1D5 (GY031)
OR OR / A 0000 A IC3 (GU011)
13BD3 +MODIFIER CHECK
-SX 1 MODIFIER CHK

N 3016 AD1C5 (GY031) — GHY 12BC6
N 3016 AD1E5 (GZ031)

←SX 1 CHECK BUS

F16 5-11A

DATE	EC NO.	DATE	EC NO.
7-15-65	124961		

TITLE SX 1 CHECKS, IND
IBM LOG 5.00.10.20 TYPE 2030
PART NO. 826028 PAGE 2 OF 2

1 2 3 4 5 6

A B C D E

OR → OR GJ BUS TO ABUS 10CA6

P-3 4-7 {GR072} OR 0002 AD2G2 OR 0002 AD2G3 +HJ BUS 13CA3

+SX1 GATE 14CE4 13CE3

OR 4086 AD2D2 {GD021} +SO REG BUS 11CA3

+DECO K7 +DECO K6 +DECO K8 11DB6 A A A 0015 AD2C3

GJ assembler {GR061} OR 3025 AD2F2 A 0236 AD2H6 P-3

TAGS USED WITH FAULT LOCATING TEST

---D6 +INPUT 0 → 0 +SX1 CNT RDY & NOT ZERO 11CB2
11DD5 +SUPPRESS 0 → 1 +SLI
12CC6 +SX1 ROS REQ → 2 +COM 7 BIT OUTPUT---D6
11DB5 +ADDR OUT → 3 +CNT RDY & ZERO 11CC6
11DC5 +COMD OUT → 4 GND
11DD5 +SERV OUT → 5 +CC
11DE4 +BUS OUT CTRL → 6 +SX1 RD BKWD---D6
11DE6 +OP OUT → 7 +SKIP

CONTROLS FAULT LOCATING TEST

12DE4 +SX1 WR CYCLE
14DE3 +SX2 WR CYCLE
04CE1 +E SW SEL GUV-GCD
12AB5 +SEL & BASIC CLK OFF
12DD4 +SX1 RD CYCLE
08AA3 +CLOCK ON {GQ031}

{GP031} OR 3035 AD1H6 OR OR 3035 AD1H7 N 0007 AD1G4

12DA2 +MACH RST DLY

{GP031} +GT GR TO GU ---E1 +GT GR TO GV ---E1

+CS DECODES 07BE3 X010 X011 A 0015 AD2L7 01CXX +CS REG 0 ---E3 +DECODE SEL GT {GK031}

{GP011} OR 3025 AD1G6 OR 3025 AD1J6 -GP BUS → 12B01 -GQ BUS → 12BE1

+M REG 07AA1 +GR REG PWR 11AD5 +N REG 07AA1

P

11AA4 TO INDS → ::AA4

0 +CD GS4 → 11CD5, 12CD4, 11CA5
0 -CD → 11AB1, 11CD5, 11CE5
1 +CC → 11CE5, 12CD4, 11CD5
2 +SLI → 11AB2
3 +SKIP → 12DE5
3 -SKIP → 11AD1
4 +PCI GEO → 12DC1

GF REG 0509 FL AD2F5 SET RST {GF011} FLAG REGISTER.

11AC5 GE REG BUS

11BD6 +DECODE K4
13CE3 14CE4 +SX1 GATE
+DECODE K3
11BD6 +DECODE K1
+DECODE K2
07BE3 +CS DECO X110
01CXX -CS REG 0
A 0015 AD2J6 A A A 0015 AD2L7
GT GUV TO GCD

+GT GE TO GJ
+GT GC TO GJ
GT GD TO GJ
GT GK TO GJ

TO INDS. 11AA3 09BA2

GC REG P 0 1 2 3 4 5 6 7 PH 4007 AD1C6 {GC011}
GD REG P 0 1 2 3 4 5 6 7 PH 4007 AD1C7 {GD011}
GK REG P 0 1 2 3 FL 0509 AD2L4 SET RST {GK011}

PROT. KEY (CAW)

N 0509 AD1B6 N 0509 AD1B7

+CPU T4
12DE5 +SX1 R-W CTRL
+SEL T1
12DA2 +MACH RST
OR A A 3035 AD1H3

+GR BITS PWR 11AD6 3
P-2 A 0006 AD2E6
12DA2 +MACH RST
+CPU T2
A OR A 0006 AD2F6

P-2 → P-2
3 → 3

+GT GR TO GK & P2

07BE3 +CS DECODE X111
01CXX -CS REG 0
+CPU P2
---E3 +DECODE SEL GT
A 0069 AD2H5 N 0346 AD2H4 {GK031}

05BA6 05BE6

GU REG P 0 1 2 3 4 5 6 7 {GU011}
GV REG P 0 1 2 3 4 5 6 7 {GV011}

+SET GU 11AD5
-GHY BUS 12BC6
-GHZ BUS 12BD1
+SET GV 11AD5

---B5 +GT GR TO GU
+CPU T3
+SEL T4
12DE4 +SX1 WRITE CYCLE
12DD4 +SX1 READ CYCLE
12DA2 +MACH RST
OR A A A OR A A A 3035 AD1D3
+CPU T3
---B5 +GT GR TO GV

07BD2 +GT CS OPT DECODER
14CE4 +SX1 GATE
A 0015 AD2K5 +DECODE SET GT ---B4 ---C4 ---E1

0-2 A 0006 AD2E7 0-2
11CB5 +GR REG BITS PWR 3-4 A 0006 AD2F7 3,4
{GK031} 0-3
01CXX +CS REG 0
+CPU P2
---E3 +DECO SEL GT
07BE3 +CS DECODES X000
A 0069 AD2H5 N 0346 AD2H4 +GT GR TO GF & P2
+CPU T2
12DB2 +SEL CHNL 1 RST
A OR A 0006 AD2E7 OR A 0006 AD2F7 4

11DB6 +DECODE K3
11CE3 +GT K TO GB & P1

→ TO INDS. 11AA4

XX10 XX10 OR 0000 AD2J4 N 0199 AD2K4 +INPUT ---B2 11AD1 12DC1
N 0509 AD2F5 +SX1 READ BKWD ---B3 12BD2
-SX1 READ BKWD
11100 A 0069 AD2H5

+COM 7 BIT OUTPUT 11AB1, 11DE3, 12DC1
-OUTPUT 12DE5

GG REG 4 5 6 7 0509 FL AD2F5 0199 AD2K4 SET RST {GG011}

13CB5 +HR REG PWR 4-7 A 0006 AD2G6
12DB2 +SEL CHNL 1 RST OR A 0006 AD2F7
+CPU T2
07BE3 +CS DECODE X001
01CXX +CS REG 0
+CPU P2
{GK031} A 0069 AD2H5 N 0346 AD2H4 +GT GR TO GG & P2

FIG 5-11B

DATE	EC NO.	DATE	EC NO.
7-15-69	1249 61		

TITLE SX1 REGS & BUS ASSM
IBM LOG 5.00.11.10 TYPE 2030
PART NO. 826029 PAGE 1 OF 2

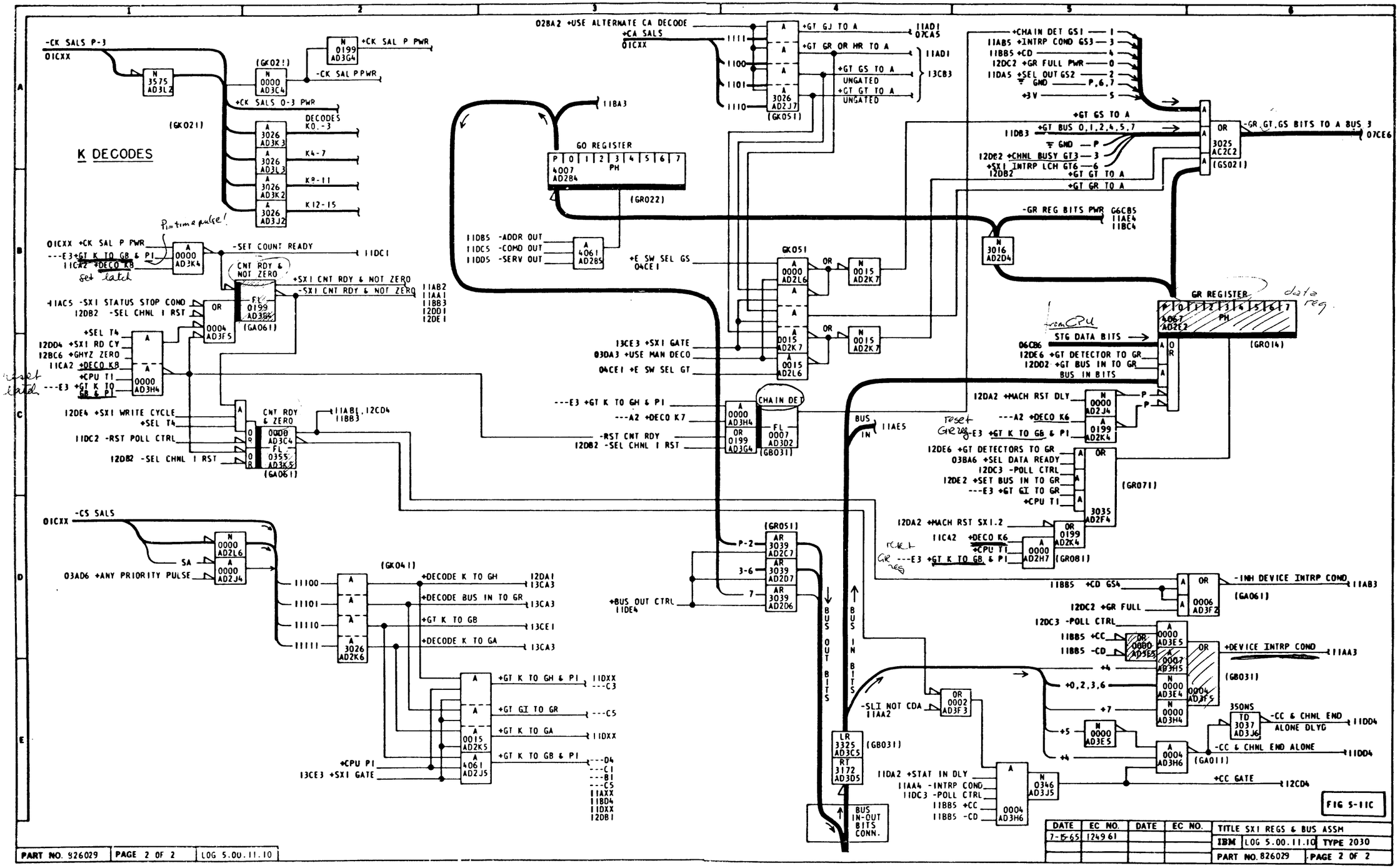


FIG 5-11C

DATE	EC NO.	DATE	EC NO.	TITLE SX1 REGS & BUS ASSM
7-15-65	124961			IBM LOG 5.00.11.10 TYPE 2030
				PART NO. 826029 PAGE 2 OF 2

PART NO. 826029 | PAGE 2 OF 2 | LOG 5.00.11.10

+METERING IN SX1 CHNL
+REQUEST IN
+SERVICE IN
-SELECT IN
-OP IN
-ADDR IN
04AB1
N 0000 AD3E5
+SERV IN
-SERV OUT
+STATUS IN
-SERV OUT
TD 3037 AD3E6
+SERV IN NOT SERV OUT DLY
+STATUS IN DLY
12DE1
11CE4, 12CD4
+SERV IN
+STATUS IN
N 0000 AD3K4
-SERVICE IN
-STATUS IN
11CE3 +GT K TO GA
11CA2 +DECO K4
A 0002 AD3L6
-WLR SAMPLE
11AA1
Alt. CS field
11CE3 +GT K TO GB & P1
11CA2 +DECO K14
HALT I-0
A 0006 AD3F2 FL 0222 AD3J6
(GA031)
+HALT IO
-HALT IO
---B4
12CC4
12DD1
12DB2 -SEL CHNL I RST
-STATUS IN
N 3575 AD3L2
+STATUS IN
11AA1
11AA3
-SERV IN
-ADDR IN
-ADDR OUT
---B5
A 0002 AD3L6
-RST BUS-0
---E4
(GB011)
IR 3325 AD3C6
4
RT 3172 AD3D5
11CE3 +GT K TO GB & P1
12CD5 -CC CHAIN REQ
12CD5 -CD CHAIN REQ
12DB2 -SX1 INTRP LCH
12DA5 +SEL OUT GS2
OR 0069 AD3F4
OR 0007 AD3H7
A 0000 AD3G5
11CA2 +DECODE K11
01CXX +CK SAL P PWR
11CE3 +GT K TO GB & P1
12DA2 -MACH RST SX1.2
11CB2 -SET COUNT RDY
POLL CTRL
FL 0355 AD3K6
(GA031)
12DB2 +SEL CHNL I RST
01CXX +CK SAL P PWR
01CXX -CK SAL P PWR
11CA2 +DECO K 11
11CE3 +GT K TO GB & P1
A 0000 AD3C4
A 0000 AD3J7
-RST POLL CTRL
11CC1
---DS
-SERV OUT
+SERV IN
A 0000 AD3F6
N 0002 AD3F3
+SERV IN NOT SERV OUT GT1
---E3
11AB1
12DD1
+OP IN GT 7
+STATUS IN GT5
+ADDR IN GT4
+SELECT IN GTO
+POLL CTRL GT2
+GT BUS
11CA5
N 0355 AD3K6
N 0346 AD3J5
-POLL CTRL
12DD1
11CE4
11CD5
-POLL CTRL PWR
---DS -SERV OUT
A 0000 AD3J7
-STATUS IN
NOT SERV OUT
11AA1
11AC5 +SX1 STATUS STOP COND
A 0069 AD3F4
04AE3 +CHK OR DIAG STOP SW
11AB5 +SX1 HDWE CHKS
OR 0000 AD3F6
DIAG TAG LINES IN
0 -SELECT IN
1 -SERV IN
2 -OP IN
3 -ADDR IN
4 -STATUS IN
5 -REQUEST IN
OR
TAGS IN
MPX BUS OUT REG
08CA6
(DD25)
A 3039 AD3B6
A 3039 AD3M6
A 0009 AD3L4
6
SX1 DIAG TAG CTRL
0199 AD3G4 FL 0000 AD3L4
(GD024)
11CA2 +DECO K2
11CE3 +GT K TO GB & P1
SX1 DIAG MODE
11CA2 +DECO K1
03CA4 -RST SEL CHNL DIAG LCHS
FL 0000 AD3L4
(GD024)
12CC5
12DE1
13CD1
CONN
TAGS OUT
12DC2 +GR FULL
11BE6 +COM 7 BIT OUTPUT
---B3 +SERV IN NOT SERV OUT
11AC5 -SX1 STAT STOP COND
A 0004 AD3D4
(GA031)
+SERV SIGNAL
12DC1
-SERV SIGNAL
11AB1
N 0000 AD3J7
TD 3037 AD3J6
12DE2 -SET BUS INTO GR
(ALT. CS FIELD) F
11CE3 +GT K TO GA
+CPU T1
12DA2 +MACH RST
A 0000 AD3H4
OR
---B3 -RST BUS-0
+CK SAL 0 PWR
01CXX
BUS-0-CTRL
FL 0355 AD3J1
(GA031)
+BUS OUT CTRL
11B83
11CD3
(Not) +CPU T3
12C82 -CHANNEL BUSY
12C82 -SX1 INTRP ICH
+REQUEST IN
-OP IN
-SELECT IN
A 0004 AD3J46
A 0002 AD3F3
GA REGISTER
= TAGS OUT
11CE3 +GT K TO GA & P1
11CA2 +DECO K12
+CPU T4
12CD5 -CC CHAIN REQUEST
12DA2 -MACH RST SX1.2
11CE3 +GT K TO GB & P1
11CA2 +DECO K12
+SEL IN GT 0
OR 0069 AD3E2
A OR 0007 AD3H5
SEL-0
FL 0199 AD3G4
(GA011)
+SEL OUT
GS2
11CA5
---C1
TO INOS.
11AA2
A 0007 AD3H7
A 0007 AD3H5
OR
+OP IN GT7
-OP IN
14
01CXX +CK SAL P PWR
+CPU P2
11CE3 +GT K TO GA
(ALT. CS FIELD) F
---A3 +HALT I-0
11AA2 -LONG RECORD COND
ADDR-0
FL 0355 AD3K7
(GA041)
11BB2
+ADDR OUT
---B2
11CB3
CMD-0
FL 0000 AD3J7
(GA041)
11BB3
+COMMAND OUT
11CB3
12CE4
+CPU T2
01CXX +CK SAL 2 PWR
-ADDR IN
-SERV IN
-STAT IN
A 0002 AD3L6
01CXX +CK SAL 3 PWR
12DE2 -SET BUS INTO GR
-CC & CHNL END ALONE DLYD
11CE6
-GA REG RST
SRV-0
FL 0000 AD3J7
(GA041)
+SERV OUT
---B2
---B3
11BB3
11CB3
12CD4
11CE6 -CC & CHNL END ALONE
12CD5 -CC CHAIN REQUEST
01CXX -CK SAL P PWR
11CE3 +GT K TO GB & P1
11CA2 +DECO K10
+CPU T1
12DB2 -SEL CHNL I RST
SUPPR-0
FL 0199 AD3K4
(GA011)
+SUPPR OUT
11BB3
(GB011)
+DECO K12
11CA2
+GT K TO GA
11CE3
OR 0000 AD3G5
AND
AR 3039 AD3C7
04AB3 +METERING OUT
04AA2 +CLOCK OUT
AR 3039 AD3B6
+SELECT OUT
(GB011)
+SEL OUT GS2
SS 3341 AD3K7
A 3039 AD3B7
HOLD OUT
AR 3039 AD3B7
11CA2 +DECO K2
11CE3 +GT K TO GB & P1
12DA2 +MACH RST
OR 0006 AD3K7
SS 3341 AD3K7
+OP OUT
11BB3
TAGS OUT
FIG 5-11D

DATE	EC NO.	DATE	EC NO.
7-1-65	124961		

TITLE SX1 TAGS & INTRF
IBM LOG 5.00.11.20 TYPE 2030
PART NO. 826030 PAGE 1 OF 2

PART NO. 826030 | PAGE 1 OF 2 | LOG 5.00.11.20

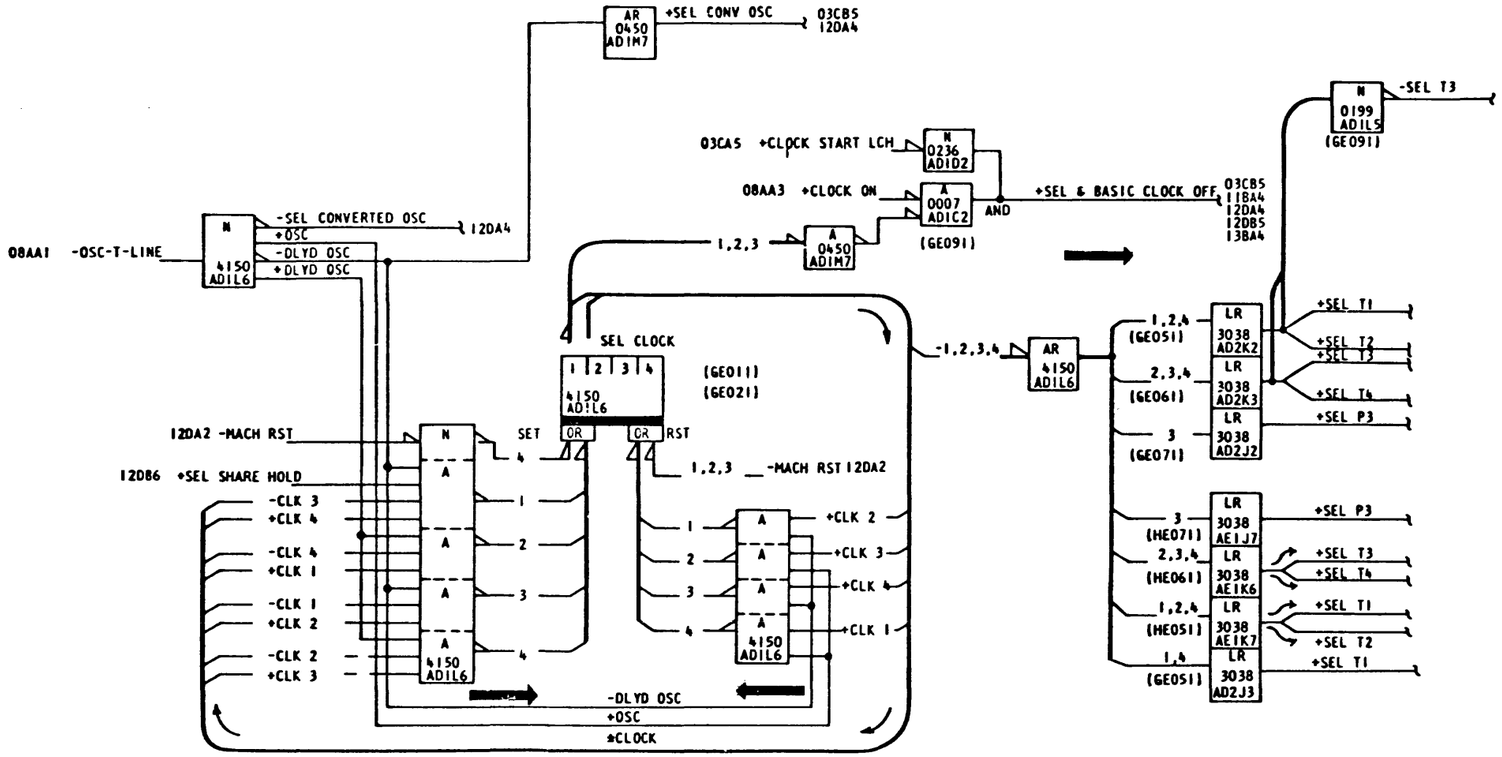


FIG 5-12A

DATE	EC NO.	DATE	EC NO	TITLE SX CLOCK & DISTR
7-15-65	124961			IBM LOG 5.00.11.20 TYPE 2030
				PART NO. 826030 PAGE 2 OF 2

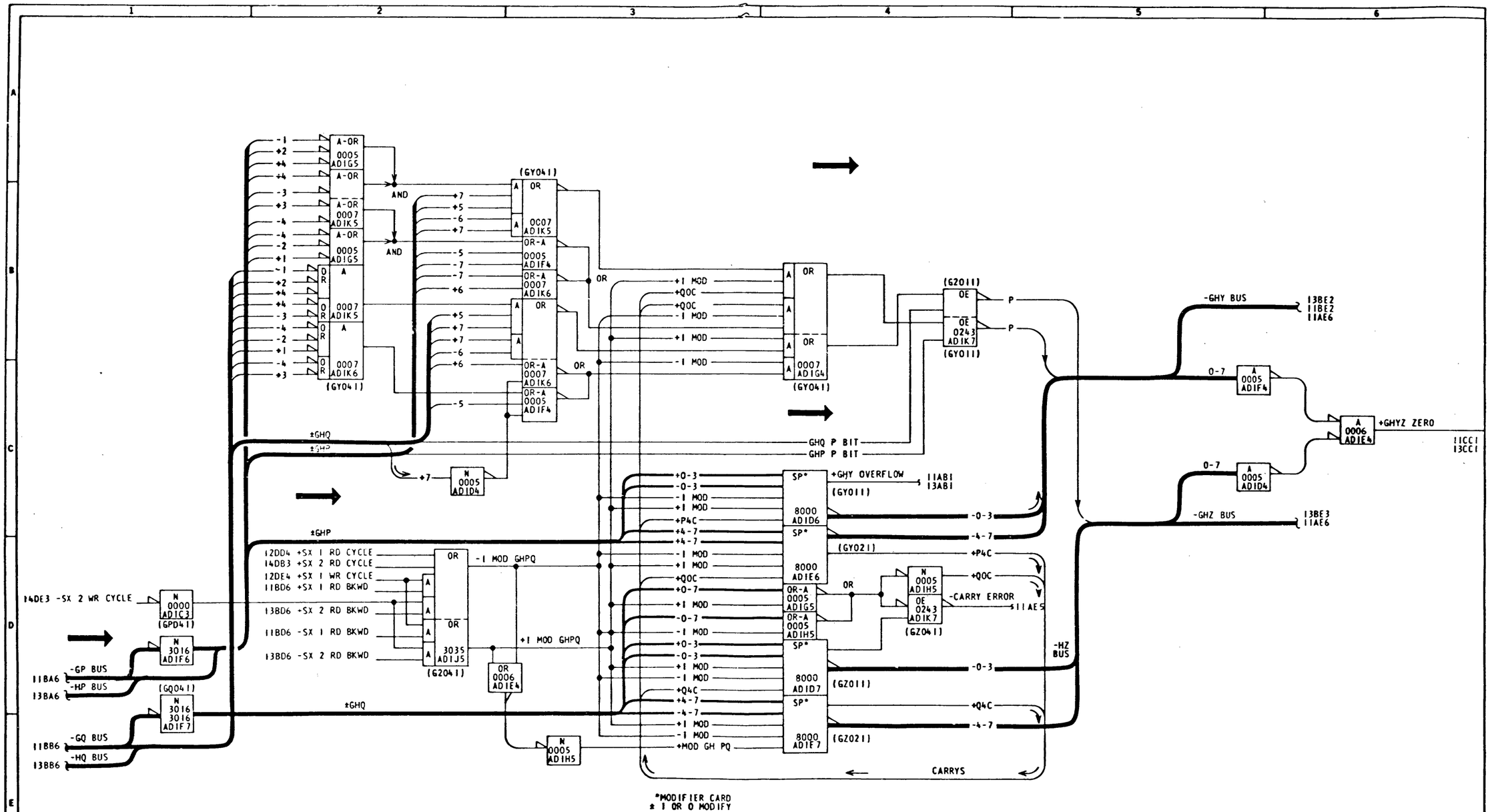


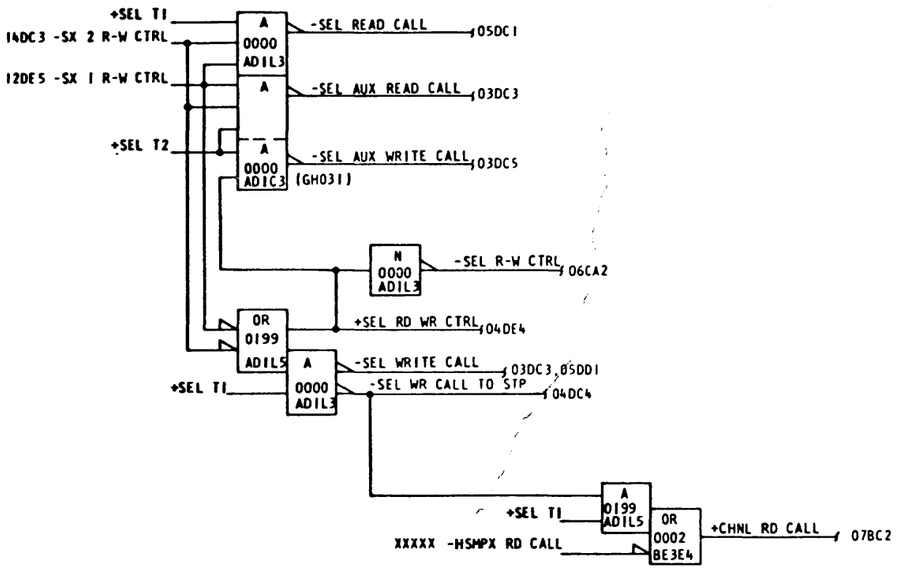
FIG 5-12B

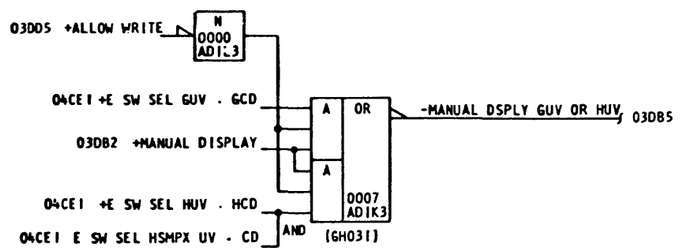
DATE	EC NO.	DATE	EC NO.
7-15-65	124961		

TITLE SX MODIFIER

IBM LOG 5.00.12.10 TYPE 2030

PART NO. 826031 PAGE 1 OF 2





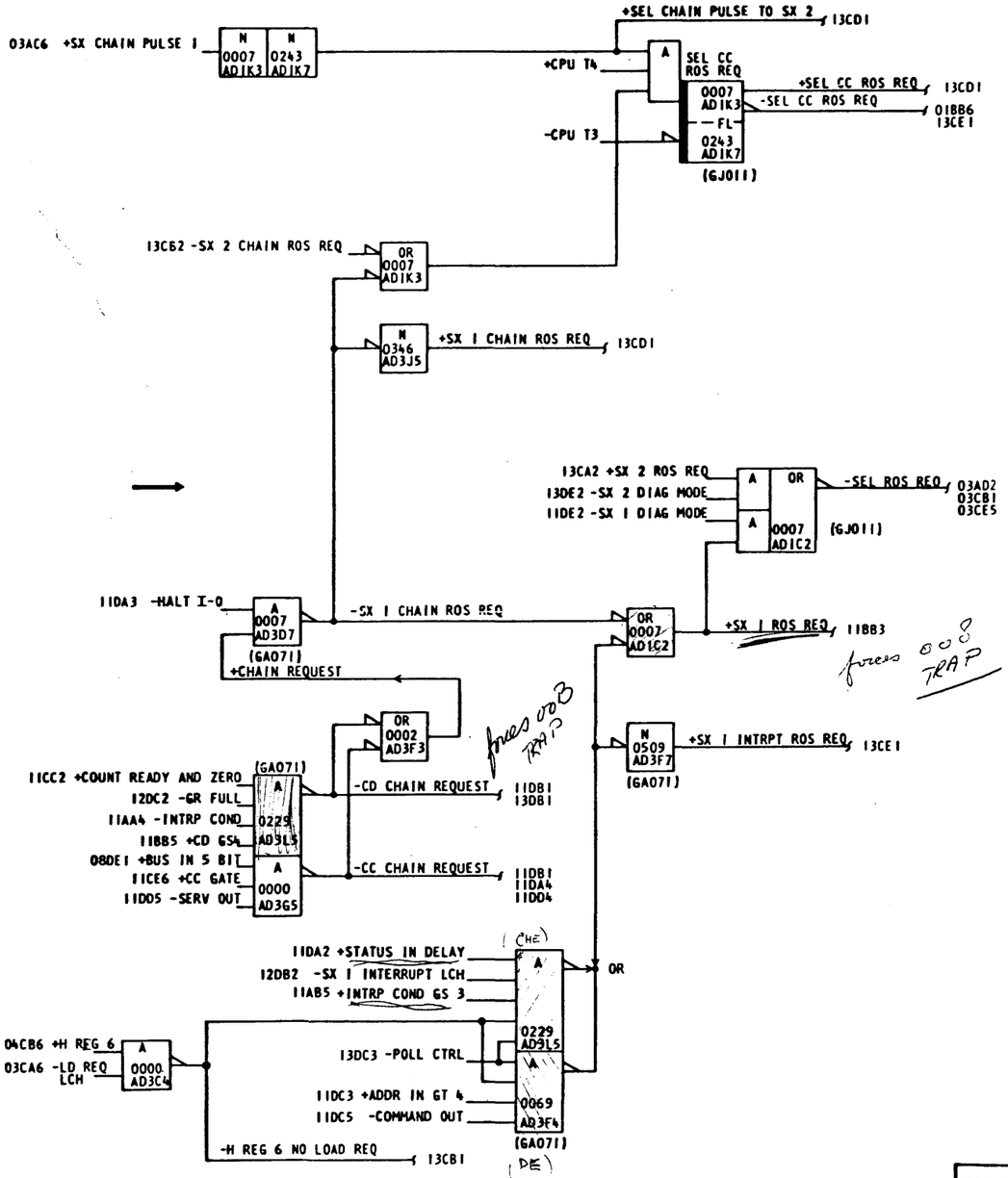
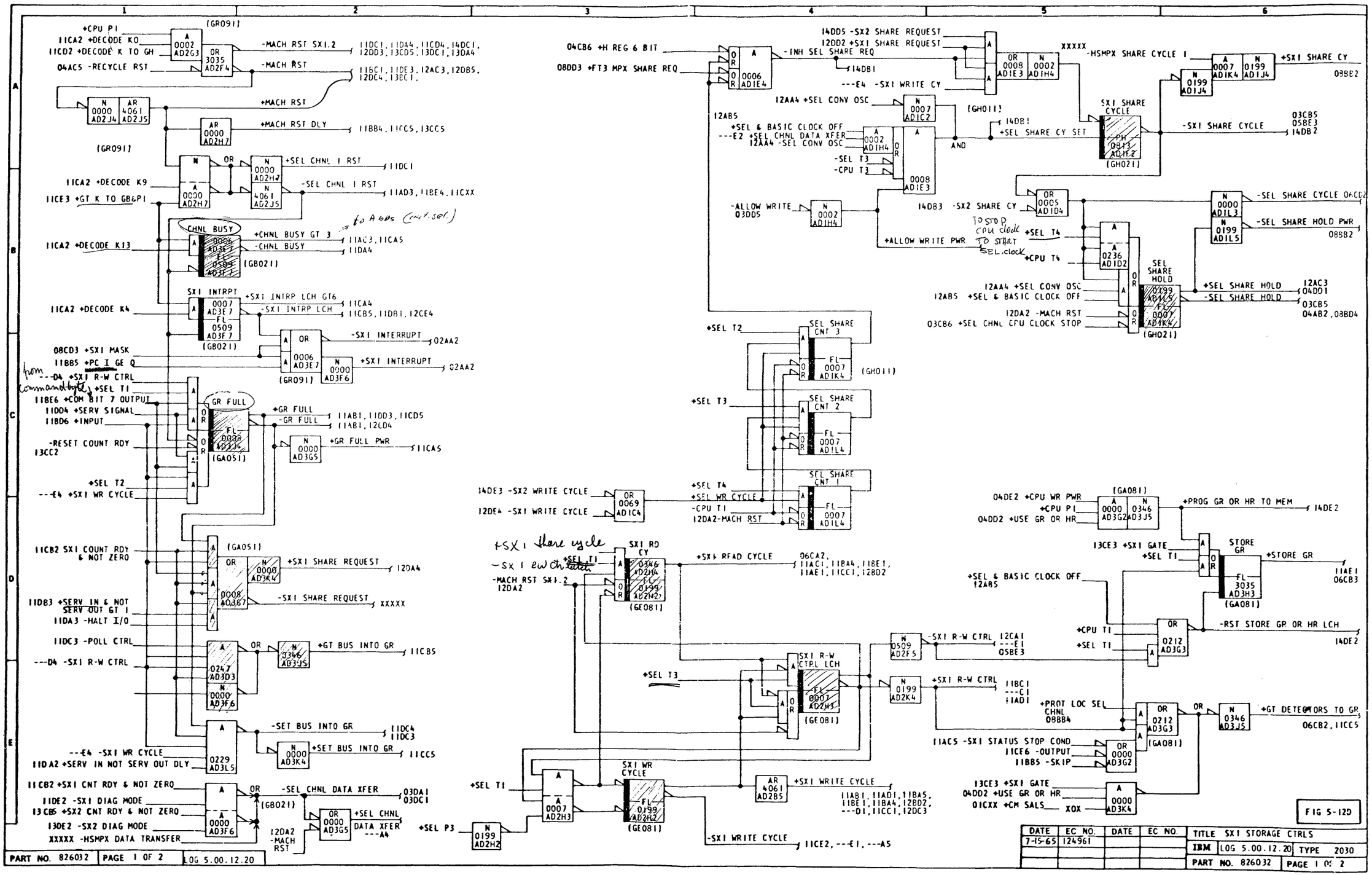


FIG 5-12C

DATE	EC NO.	DATE	EC NO.	TITLE CHNL & SEL ROS REQS	
7-15-65	12496!			IBM LOG 5.00.12.10	TYPE 2030
				PART NO. 826031	PAGE 2 OF 2

PART NO. 826031 | PAGE 2 OF 2 | LOG 5.00.12.10



PART NO. 826032	PAGE 1 OF 2	LOG 5.00.12.20

DATE	EC NO.	DATE	EC NO.	TITLE SX1 STORAGE CTRLS	
7-15-65	124961			IBM LOG 5.00.12.20	TYPE 2030
				PART NO. 826032	PAGE 1 OF 2

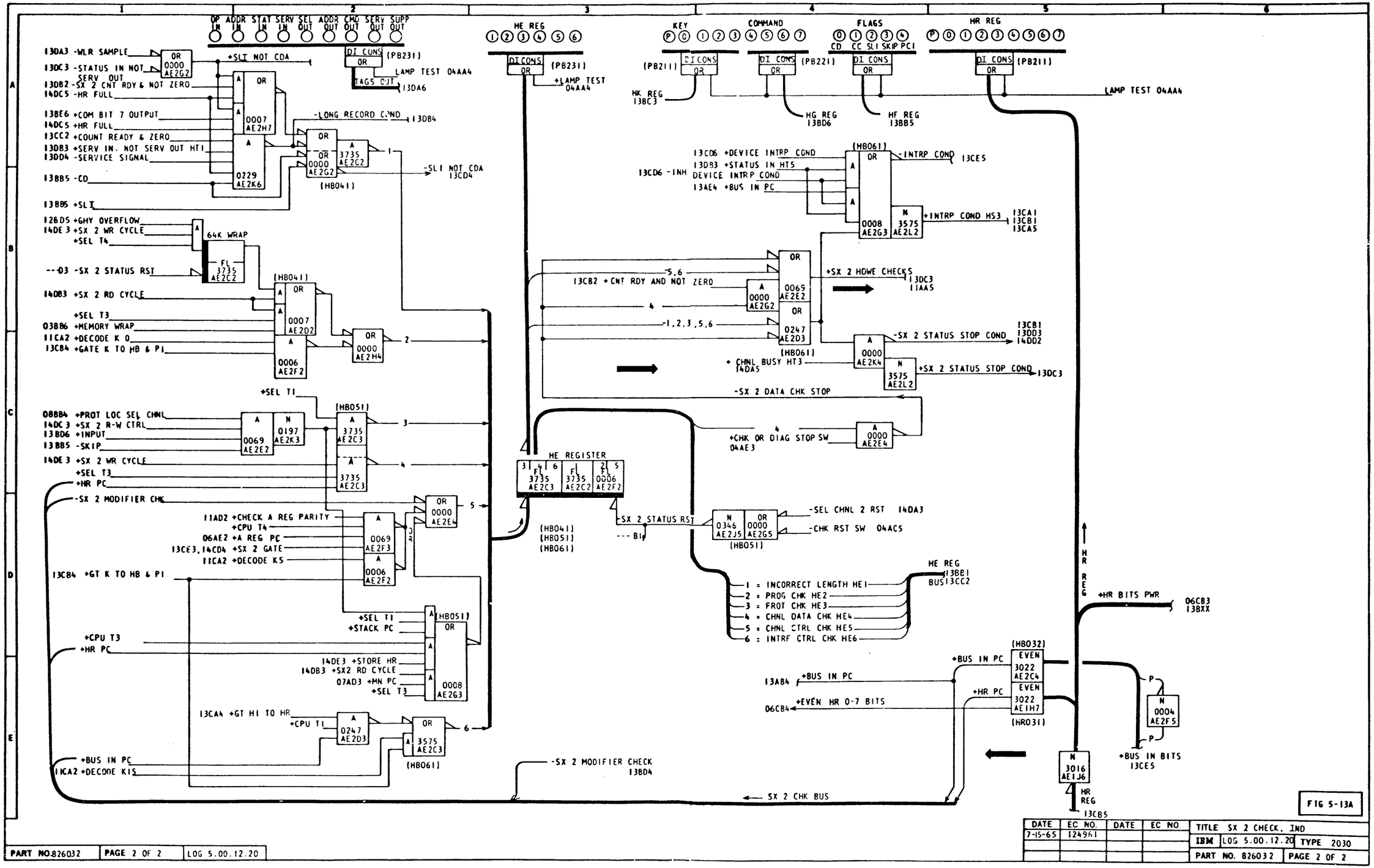


FIG 5-13A

DATE	EC NO.	DATE	EC NO.	TITLE SX 2 CHECK, IND
7-15-65	124961			IBM LOG 5.00.12.20 TYPE 2030
				PART NO. 826032 PAGE 2 OF 2

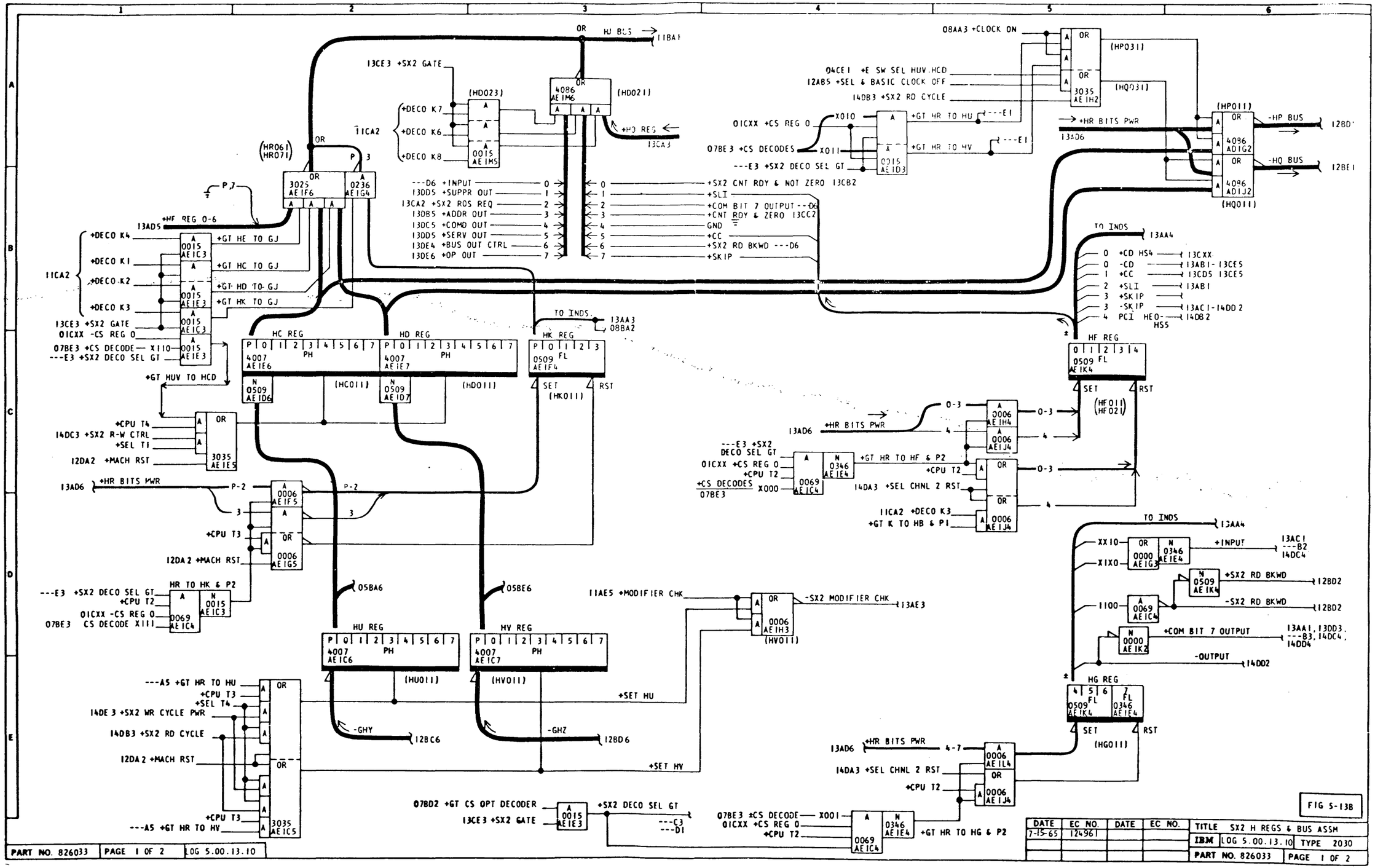


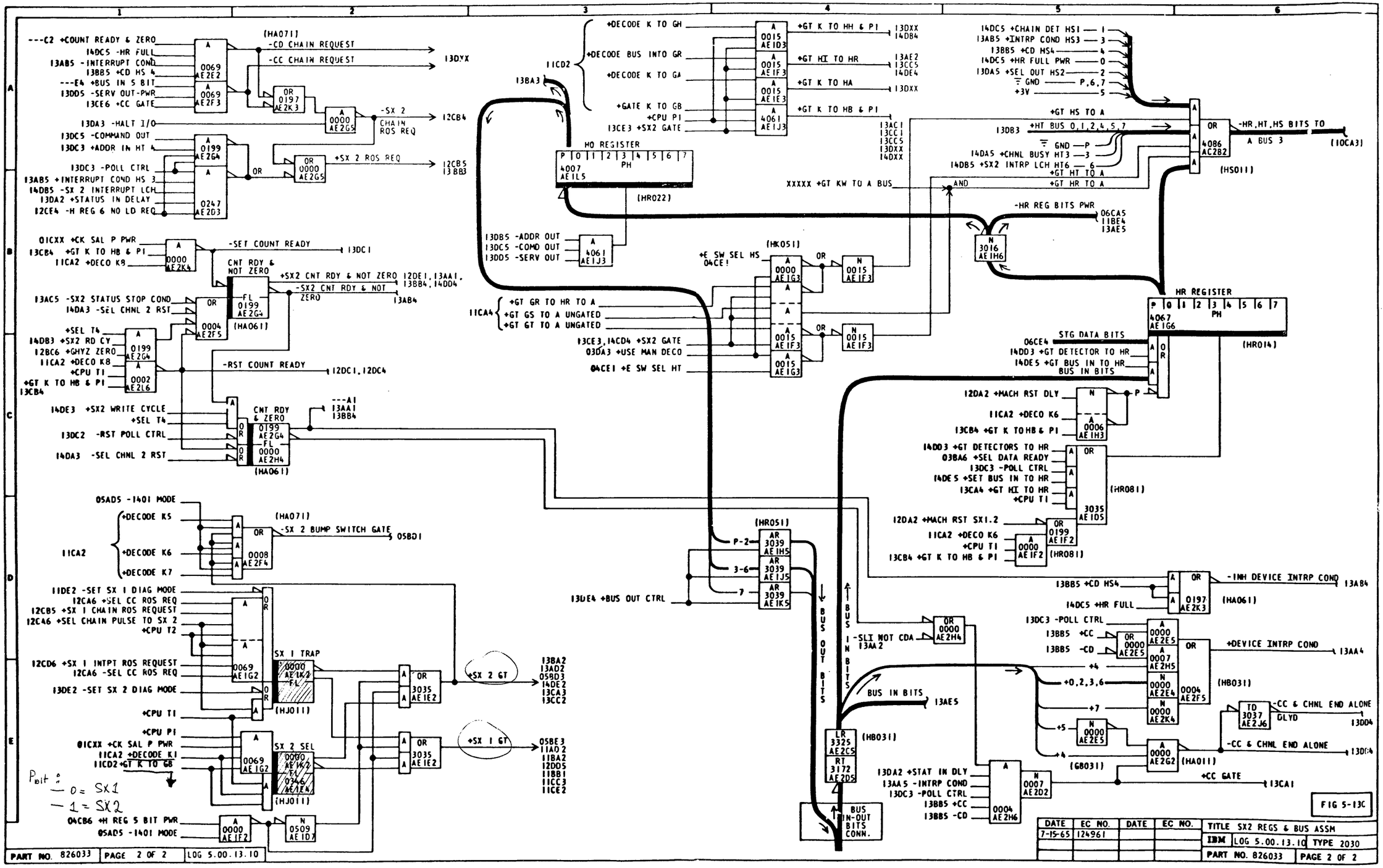
FIG 5-13B

DATE	EC NO.	DATE	EC NO.
7-15-65	124961		

TITLE SX2 H REGS & BUS ASSM

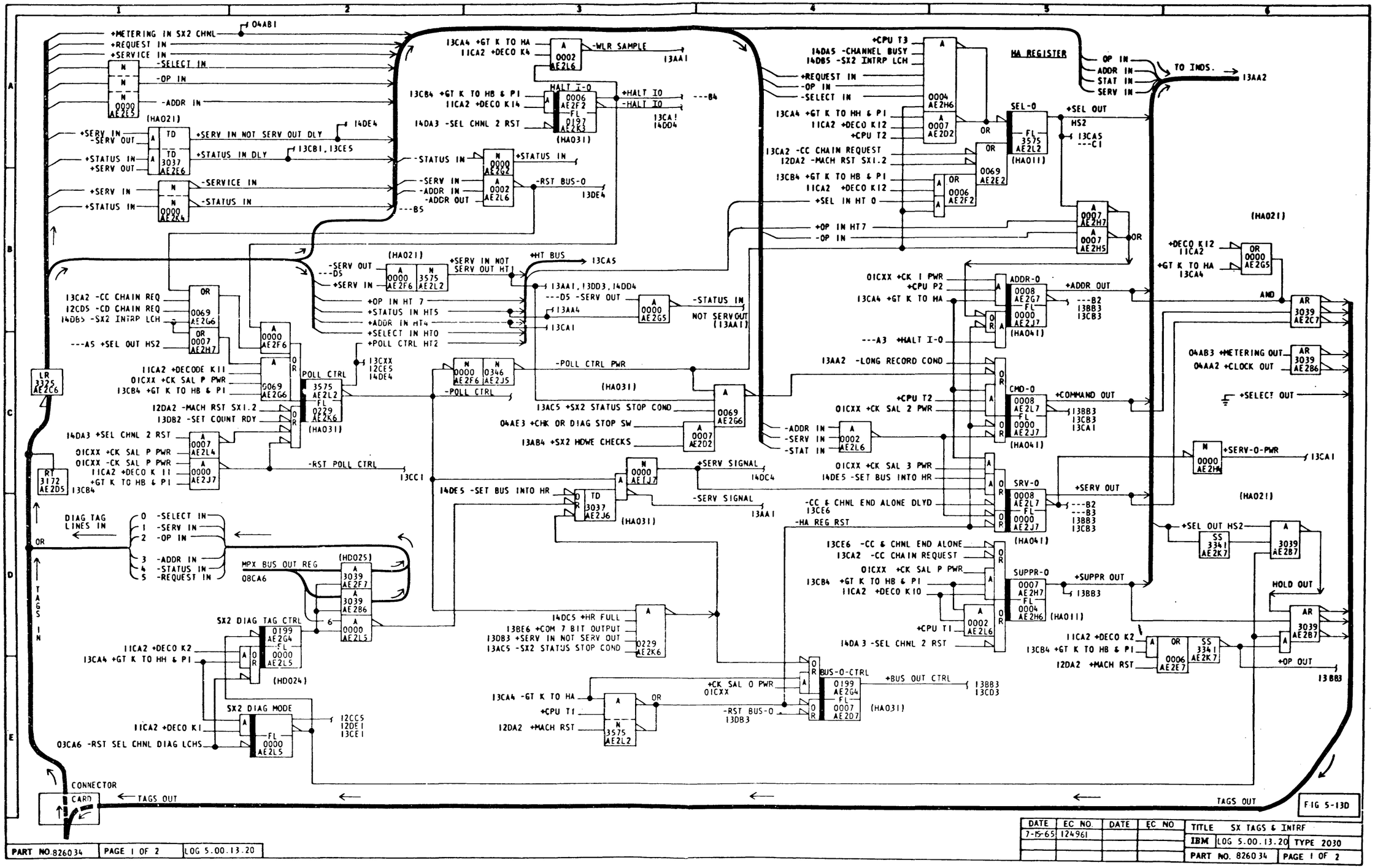
IBM LOG 5.00.13.10 TYPE 2030

PART NO. 826033 PAGE 1 OF 2



DATE	EC NO.	DATE	EC NO.	TITLE SX2 REGS & BUS ASSM
7-15-65	124961			IBM LOG 5.00.13.10 TYPE 2030
				PART NO. 826033 PAGE 2 OF 2

PART NO. 826033 | PAGE 2 OF 2 | LOG 5.00.13.10



DATE	EC NO.	DATE	EC NO
7-15-65	124961		

TITLE	SX TAGS & INTRF
IBM	LOG 5.00.13.20 TYPE 2030
PART NO. 826034	PAGE 1 OF 2

PART NO 826034 | PAGE 1 OF 2 | LOG 5.00.13.20

2030 POWER SUPPLY

MAIN LINE FILTER
BOND STUD
SHIELDS
BOND STUD
FRAME BOND
208/230V 01
AC 30 FROM WALL RECEPTICAL 03
CB 15 AMP
CONV. OUTLETS
DUPLEX #1
#2
4.0 AMP
BOND SCREW
PWR SUPP BLD.
COL. 1
COL. 2
TB7-1
TB3-10
TB3-11
TB3-9
TB3-8
TB3-7
TB1C
BOND SCR
F3
F4
K1 1
K1 3
K2 1
K2 2
K2 3
F1
0.5 AMP
F2
TB1-8
TB1-6
TB1-1
[T1]
TB2-7
28VAC
TB2-4
CB2
TB3-1
EC1-7
EPO
TB3-6
24 DC
TB3-5
-COM
CR1
CR3
RECT
CR2
CR4
TB2-8
TB2-1
24VDC
EC1-8
TB3-3
TB3-2
TB3-4
RY3
EC1-6
3.6K 1/2W
R1
COM
EC3-5A
INV
CONV
TB6
TB5-2 (-)
TB5-1 (+)
25V DC O/C TRIP
TB8-2
TB8-1
TB8-3
SHIELD
28V AC SEQ
OSC
COM
EC1-5
EC1-4
75K 1/2W
R2
D1
EC1-2
EC1-1
+L TO GATE B
BOARD E3 CARD
LOC D6-B10
P1
2K 2W
+60V PS ADJ
PS1
+60V AT
R/W CCROS
PS2
+18V AT
C1
DC GND BUS
MAIN LOGIC OPT FEATURES
TB20
L&2 TB15
CCROS TB14
C2
R/W CONSOLE
PS3
+6V AT
+6V SENSE
VDC
C3
K3-4
EC2-4
RY4
EC2-1
RY6
RY3
GATE A&B
PS4
+6M AT
C4
SYSTEM
PS8
-3V AT
C5
LBA1
LBA2
K3-2
-3V SEQ FOR STORAGE PROTECT BUFFER ONLY
GATE A
PS7
-3V AT
C6
R/W
PS6 (+)
AT
GATE B
PS5
+3V AT
K3-1
C7
K3-3
CB
LBB1
LBB2
TB15-2
1 UF
5.1K
9.5K
THERMISTOR
R/W ONLY
TB15-1
+24V O/V-O/C TRIP SENSE
EC3-6A
AUDIBLE ALARM CIRCUIT
TB17-1
RY17-BL
ALARM
(TB17)
PS9
7.25V AC 25AMP
F8
3.0AMP
F9
208V AC
230VAC
3 15
MFD (2)
COM
BUS DIST
7.25V
DIST TO IND LTS.
24V DC IN
2.7K
RR1-1
RY17-AL
RY17
TDR2-A
RY17-AU
TDR2
COM
TB17-2
RR1
P
H
EC2-8
TB20-1
END OF PROGRAM SIGNAL FROM 01F-A1F6007 (AUDIBLE ALARM 10BE3)

CONV OUTLET
K1
POWER ON HOLD
K2
2 SEC DLY
TDR1
COM
EC4-5
EC3-6C
O/C TRIP LT #1
EC4-1A +24VDC
RY3
EC4-1C
THERMAL TRIP LT #2
RY1
RY2
O/C SENSE
THERM. SENSE
EC2-5
EC2-6
RY-7
EC5-3
THERMAL R SW
THERMAL SW SENSE CIRCUIT
[TB-9]
THRU GT-A
THRU GT-B
CCROS #1
PWR SUPP
SW 1
SW 5
SW 2
R/W MEM 1
R/W MEM 2
PWR ON PICK
EC4-3A
PWR ON SW A
EC4-4A
EC5-1
RY6
RY3
READY
RY5
TDR1-A
EC4-2C
RY2
RY1
+40V SEQ ON
K3
EC4-6
PWR OFF SW A
PWR OFF
EC5-2
RY7
THERM INLK
EC4-1B
EC4-2A
DUMMY PLUG EC5-4
SYSTEM PWR ON
EC3-8A
EPO J12/18/24
PWR ON
RY8
RY9
EC4-3C
EC4-2B
J27-1
1050 EPO CTRL CONN
J27-3
EC3-7C
EC3-5B
EC4-4C
RY10
RY11
EC3-8C
EC4-3B
RY12
RY13
EC3-7B
EC4-4B
RY14
RY15
EC3-8B

ELAPSED TIME METER CIRCUIT
TFMR
2.7K
[TB18]
RR1
208V
115V
24V
COM
TB18-5
CE METER
METER SELECT SW
PROC METER
BOND SCREW
TB20-8 GND
TB20-10 FROM (ALD)-01D-CC620 KU011
TB20-9
TB6-2
AIR PUMP MOTOR
+3V TB20-4
C CROS LOW PRES. AIR PUMP
PRESSURE REG SW OPEN 6.0 LBS. CLOSE 3.1 LBS.
TB6-4
SW A
SW B
+6V
-3V
LOW PRESSURE IND
7.25V AC
LAMP TEST 04AA4

TBA2-1
TBA1-1
GT "A"
TBA2-2
TBA1-2
TBB2-1
TBB1-1
GT "B"
TBB2-2
TBB1-2
TB13-1
TB12-1
R/W MAIN STOR #1
R/W MAIN STOR #2
TB13-3
TB12-3
TB13-2
TB12-2
F10
F11
F12
CCROS #1

FIG 5-14A

DATE	EC NO.	DATE	EC NO.
7-15-65	124961		

TITLE PWR SUPPLIES
IBM LOG 5.00.13.20 TYPE 2030
PART NO. 826034 PAGE 2 OF 2

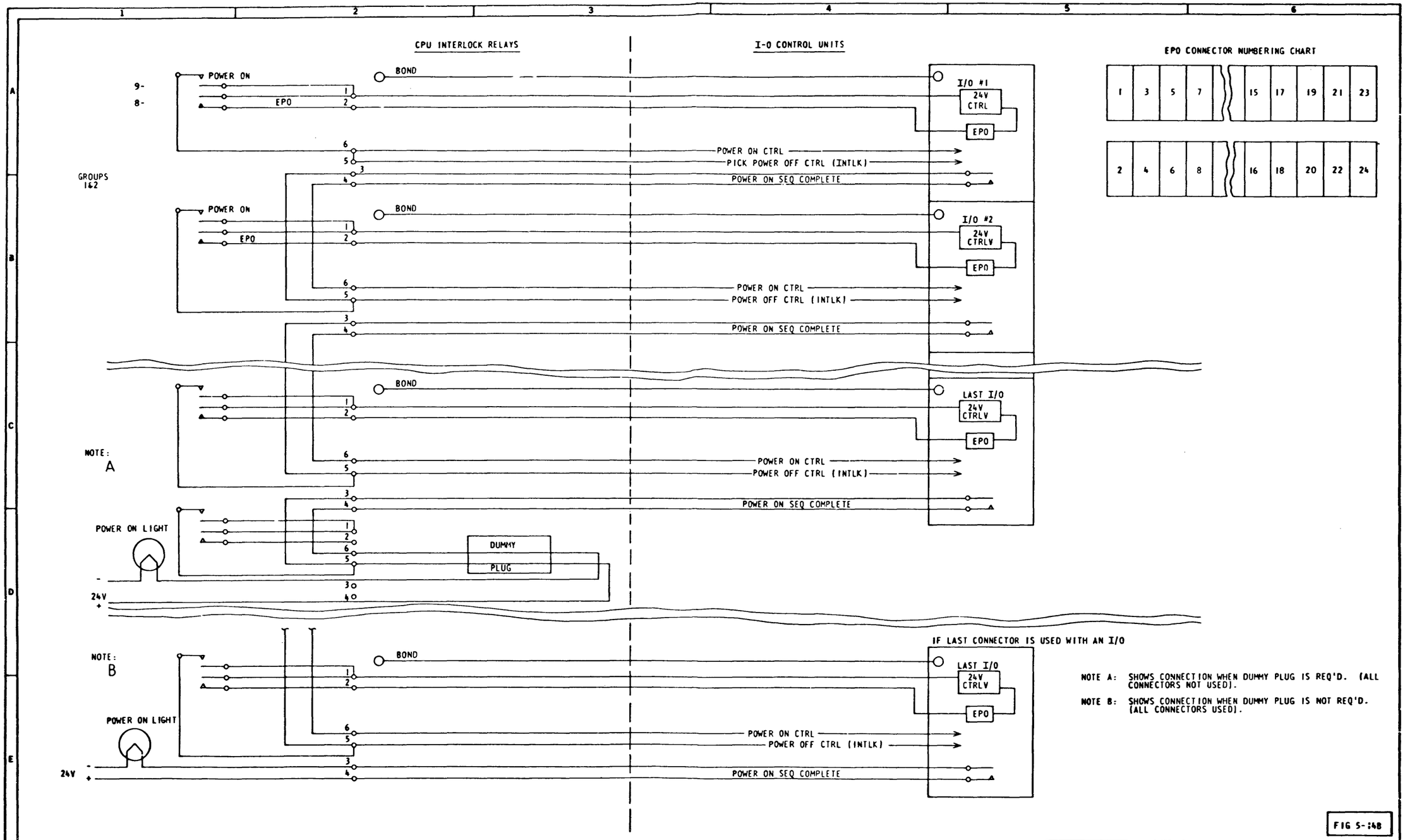


FIG 5-:48

DATE	EC NO.	DATE	EC NO.
7-15-65	124961		

TITLE TYPICAL EPO, POWER CONTROL

IBM LOG 5.00.14.10 TYPE 2030

PART NO. 826035 PAGE 1 OF 2

FIG 5-14C

DATE	EC NO.	DATE	EC NO.
7-15-65	124961		

TITLE RESERVED

IBM LOG 5.00.14.10 TYPE 2030

PART NO. 826035 PAGE 2 OF 2

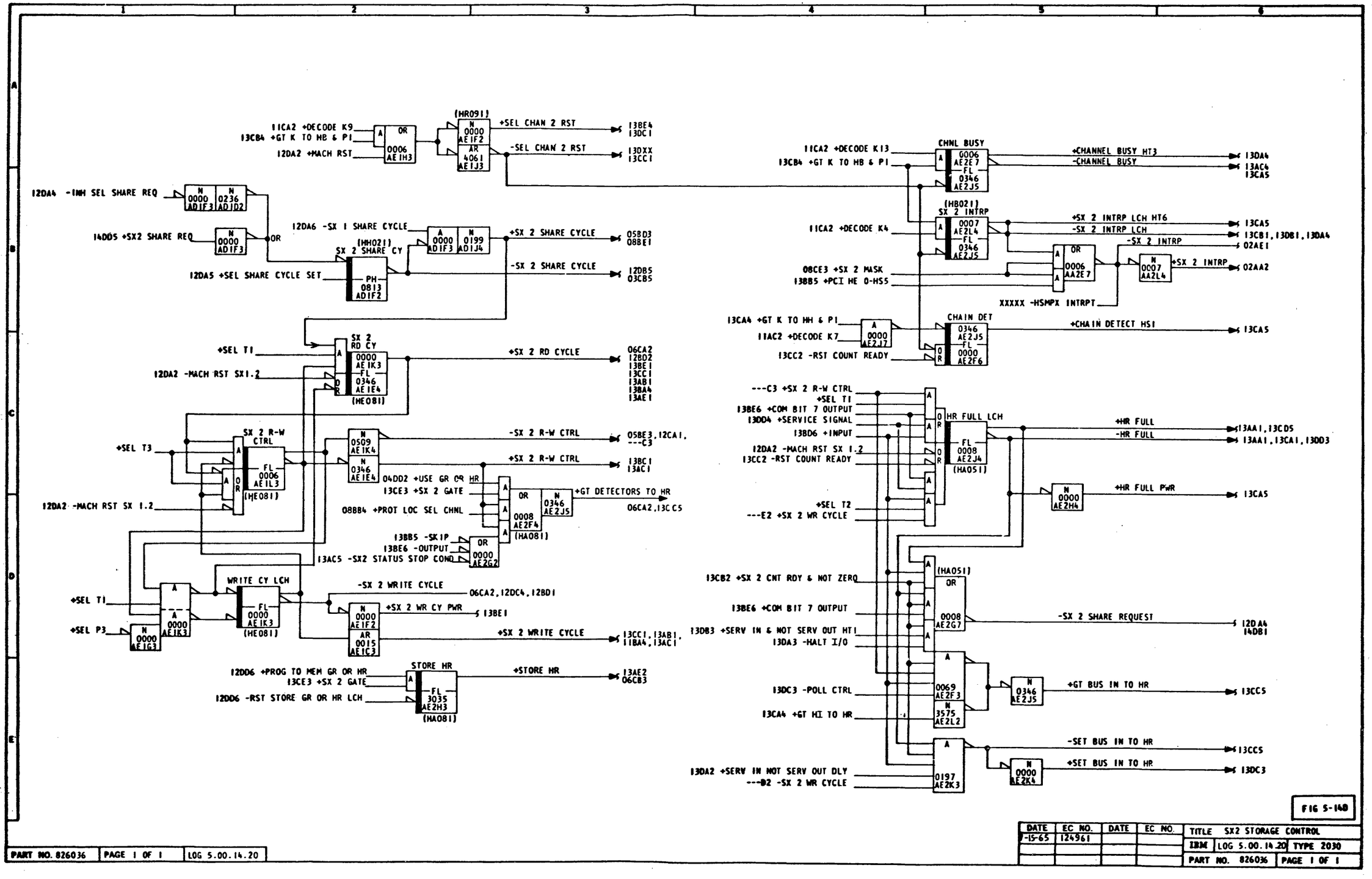
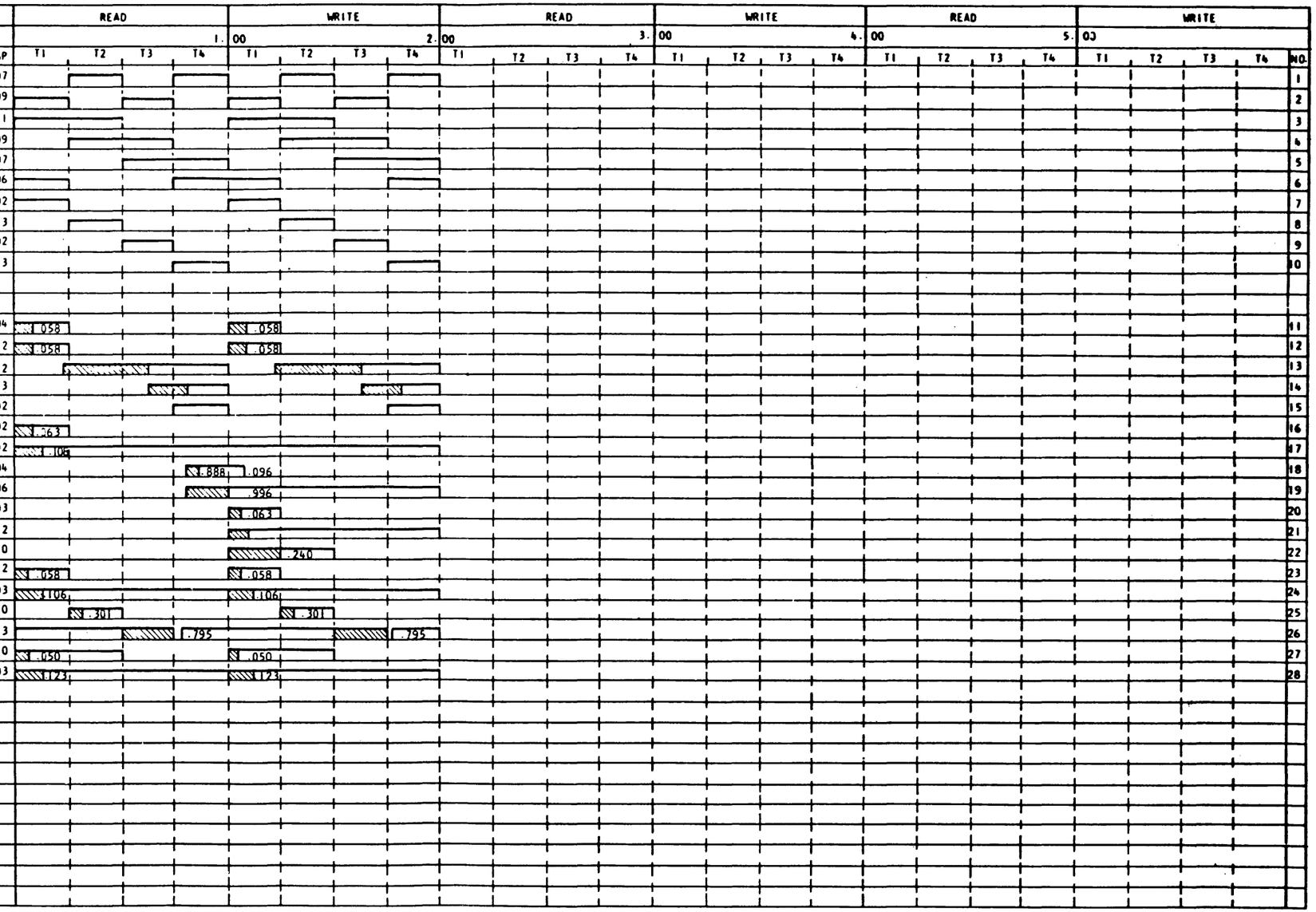


FIG 5-14D

DATE	EC NO.	DATE	EC NO.
7-15-65	124961		

TITLE SX2 STORAGE CONTROL
IBM LOG 5.00.14.20 TYPE 2030
PART NO. 826036 PAGE 1 OF 1

NO.	LEVEL	SIGNAL NAME	LOGIC	LOC	SP
1		-DELAYED OSC	KC011	AC1C6	D07
2		+OSC	KC011	AC1C6	D09
3		+P1 PULSE T LINE	KC011	AC1C6	J11
4		+P2 PULSE T LINE	KC011	AC1C6	J09
5		+P3 PULSE T LINE	KC021	AC1C6	J07
6		+P4 PULSE T LINE	KC021	AC1C6	J06
7		+T1 PULSE A1	KC111	AA1L7	D02
8		+T2 PULSE A1	KC111	AA1L7	B13
9		+T3 PULSE A1	KC121	AA1M7	D02
10		+T4 PULSE A1	K0121	AA1M7	B13
11		+SET A REG	RA011	AB1J5	B04
12		+SET B REG	RA012	AB1J5	B12
13		+Z BUS 0 BIT	AL038	AB2H3	G12
14		+Z BUS P BIT	AL071	AB3C4	B13
15		+T4 PULSE A3	KC191	AA3H6	D02
16		+READ CALL TO MEMORY	MC021	AA1A3	B02
17		+N REG 0 BIT	MA012	AA1D3	B02
18		+DATA READY	KL107	AA1K7	D04
19		+R REG 0 BIT	MB012	AA1H4	D06
20		+ WRITE CALL TO MEMORY	MC021	AA1A3	B03
21		-STORE 0 BIT	MB041	AA1A6	D12
22		+X REG 7 BIT (BR ON R REG)	RX011	AA2D3	D10
23		+SET X REG	KK021	AA2D4	B12
24		+X REG 0 BIT	RX011	AA2D3	B03
25		+CROS GO PULSE	KK021	AA2C2	D10
26		+CM SAL 1 BIT	DE021	AA2B5	B13
27		+SET CTRL REG	DD021	AA2C7	D10
28		-CD REG 0 BIT	DD011	AA2C6	B03

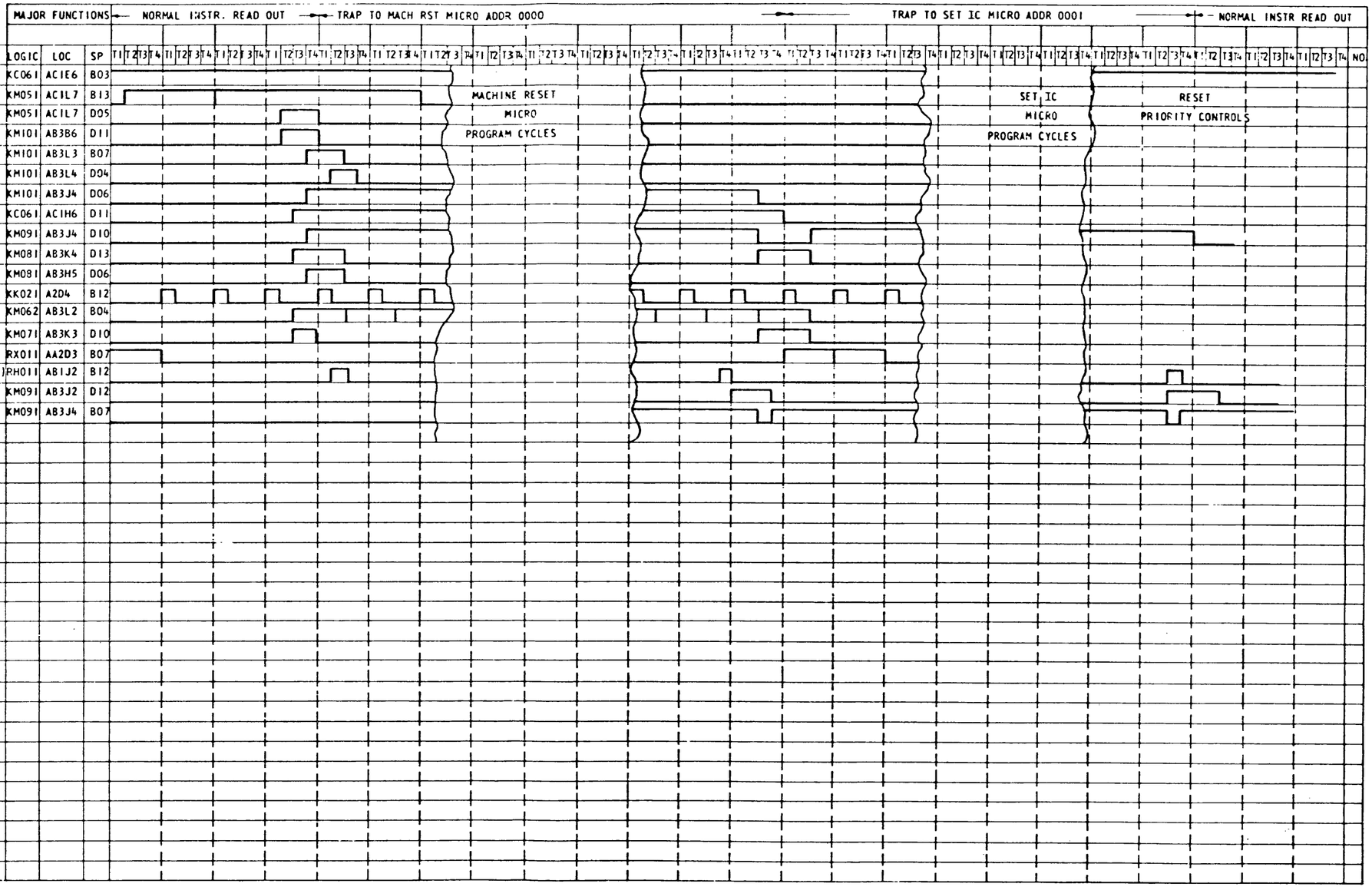


DATE	EC NO.	DATE	EC NO.
7-15-65	124961		

TITLE GENERAL CPU TIMINGS
IBM LOG 7.00.01.00 TYPE 2030
PART NO. 826037 PAGE 1 OF 1

PART NO. 826037 | PAGE 1 OF 1 | LOG 7.00.01.00

NO.	LEVEL	SIGNAL NAME	LOGIC	LOC	SP
1		+SAR RESTART SW +12 VOLTS	KC061	AC1E6	B03
2		+GATE MATCH CIRCUIT 1	KM051	AC1L7	B13
3		+MATCH LATCH	KM051	AC1L7	D05
4		+MATCH LATCH MCH RST LATCH	KM101	AB3B6	D11
5		+FORCE DEAD CYCLE LATCH	KM101	AB3L3	B07
6		+RECYCLE RST	KM101	AB3L4	D04
7		+MACHINE RESET LATCH	KM101	AB3J4	D06
8		+FORCE IJ REG	KC061	AC1H6	D11
9		+PRIORITY LATCH	KM091	AB3J4	D10
10		+ANY PRIORITY PULSE	KM081	AB3K4	D13
11		+XP PRIORITY BIT	KM081	AB3H5	D06
12		+X REG SET PULSE	KK021	A2D4	B12
13		+FORCE IJ REG LATCH	KM062	AB3L2	B04
14		+FORCE IJ PULSE (X7)	KM071	AB3K3	D10
15		+X REG 7 BIT	RX011	AA2D3	B07
16		+CD CTRL REG 0101 (H REG DEST)	RH011	AB1J2	B12
17		+PRIORITY RST CONTROL	KM091	AB3J2	D12
18		-HZ DEST RST	KM091	AB3J4	B07



METHOD OF CHART DEVELOPMENT:

1. LOAD ADDRESS 0400,0401 AND 0402 WITH 07 (HEX)
2. SET COMPARE SWITCHES TO 0401
3. SET INSTRUCTION ADDRESS SWITCHES TO 0400
4. SET ADDRESS COMPARE SWITCH TO SAR RESTART
5. SYNC ON +GATE MATCH CIRCUIT 1 A-C1L7 PIN B13

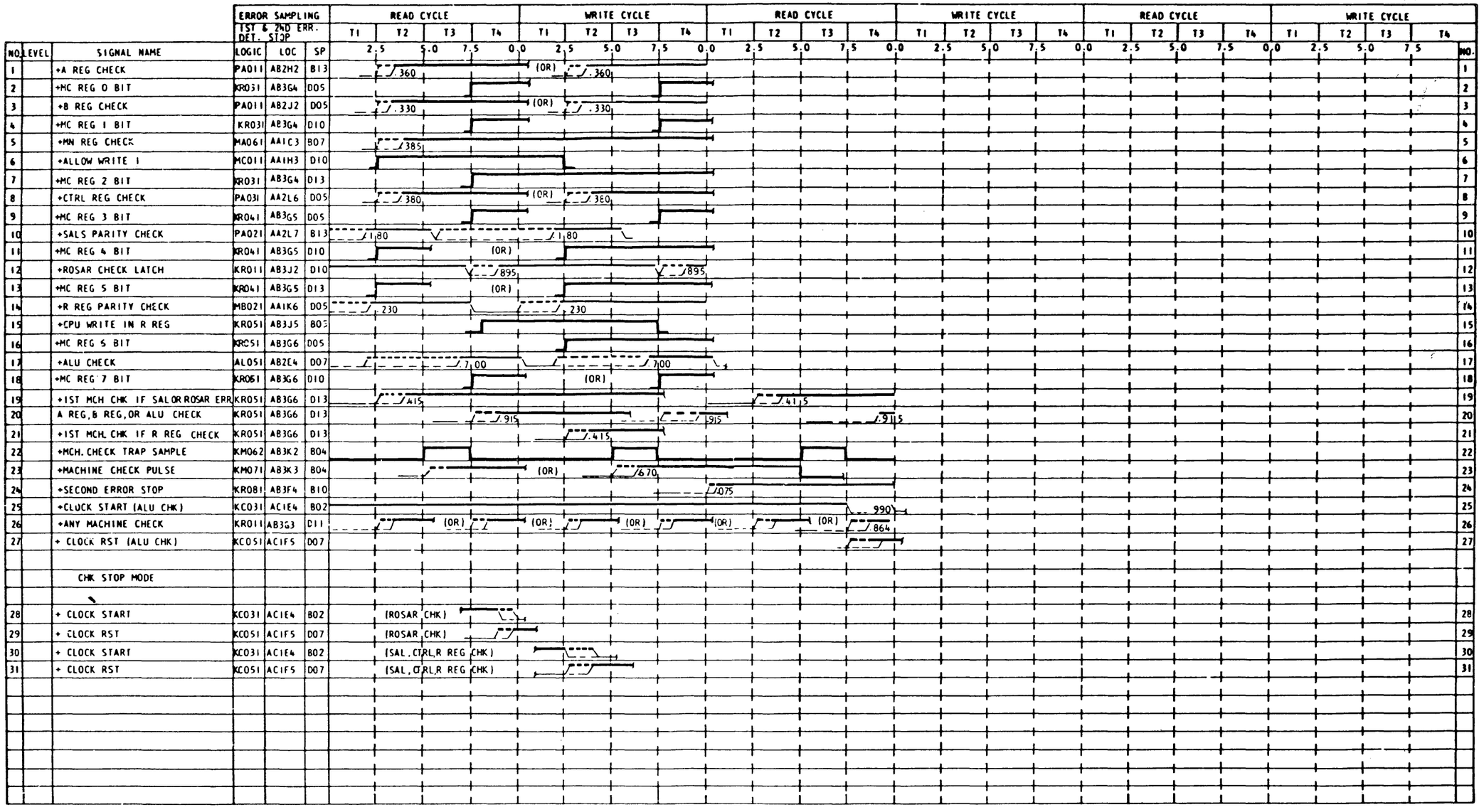
DATE	EC NO.	DATE	EC NO.
7-15-65	124961		

TITLE SAR RESTART

IBM LOG 7.00.02.00 TYPE 2030

PART NO. 826038 PAGE 1 OF 1

NO.	LEVEL	SIGNAL NAME	LOGIC	LOC	SP
1		+A REG CHECK	PA011	AB2H2	B13
2		+MC REG 0 BIT	KR031	AB3G4	D05
3		+B REG CHECK	PA011	AB2J2	D05
4		+MC REG 1 BIT	KR031	AB3G4	D10
5		+MN REG CHECK	MA061	AA1C3	B07
6		+ALLOW WRITE 1	MC011	AA1H3	D10
7		+MC REG 2 BIT	KR031	AB3G4	D13
8		+CTRL REG CHECK	PA031	AA2L6	D05
9		+MC REG 3 BIT	KR041	AB3G5	D05
10		+SALS PARITY CHECK	PA021	AA2L7	B13
11		+MC REG 4 BIT	KR041	AB3G5	D10
12		+ROSAR CHECK LATCH	KR011	AB3J2	D10
13		+MC REG 5 BIT	KR041	AB3G5	D13
14		+R REG PARITY CHECK	MB021	AA1K6	D05
15		+CPU WRITE IN R REG	KR051	AB3J5	B03
16		+MC REG 6 BIT	KR051	AB3G6	D05
17		+ALU CHECK	AL051	AB2E4	D07
18		+MC REG 7 BIT	KR061	AB3G6	D10
19		+1ST MCH CHK IF SAL OR ROSAR ERR	KR051	AB3G6	D13
20		A REG, B REG, OR ALU CHECK	KR051	AB3G6	D13
21		+1ST MCH. CHK IF R REG CHECK	KR051	AB3G6	D13
22		+MCH. CHECK TRAP SAMPLE	KM062	AB3K2	B04
23		+MACHINE CHECK PULSE	KM071	AB3K3	B04
24		+SECOND ERROR STOP	KR081	AB3F4	B10
25		+CLOCK START (ALU CHK)	KC031	AC1E4	B02
26		+ANY MACHINE CHECK	KR011	AB3G3	D11
27		+ CLOCK RST (ALU CHK)	KC051	AC1F5	D07
		CHK STOP MODE			
28		+ CLOCK START	KC031	AC1E4	B02
29		+ CLOCK RST	KC051	AC1F5	D07
30		+ CLOCK START	KC031	AC1E4	B02
31		+ CLOCK RST	KC051	AC1F5	D07



SYNC. - T1-KC111-AA1L7 D02

DATE	EC NO.	DATE	EC NO.
7-15-65	124961		

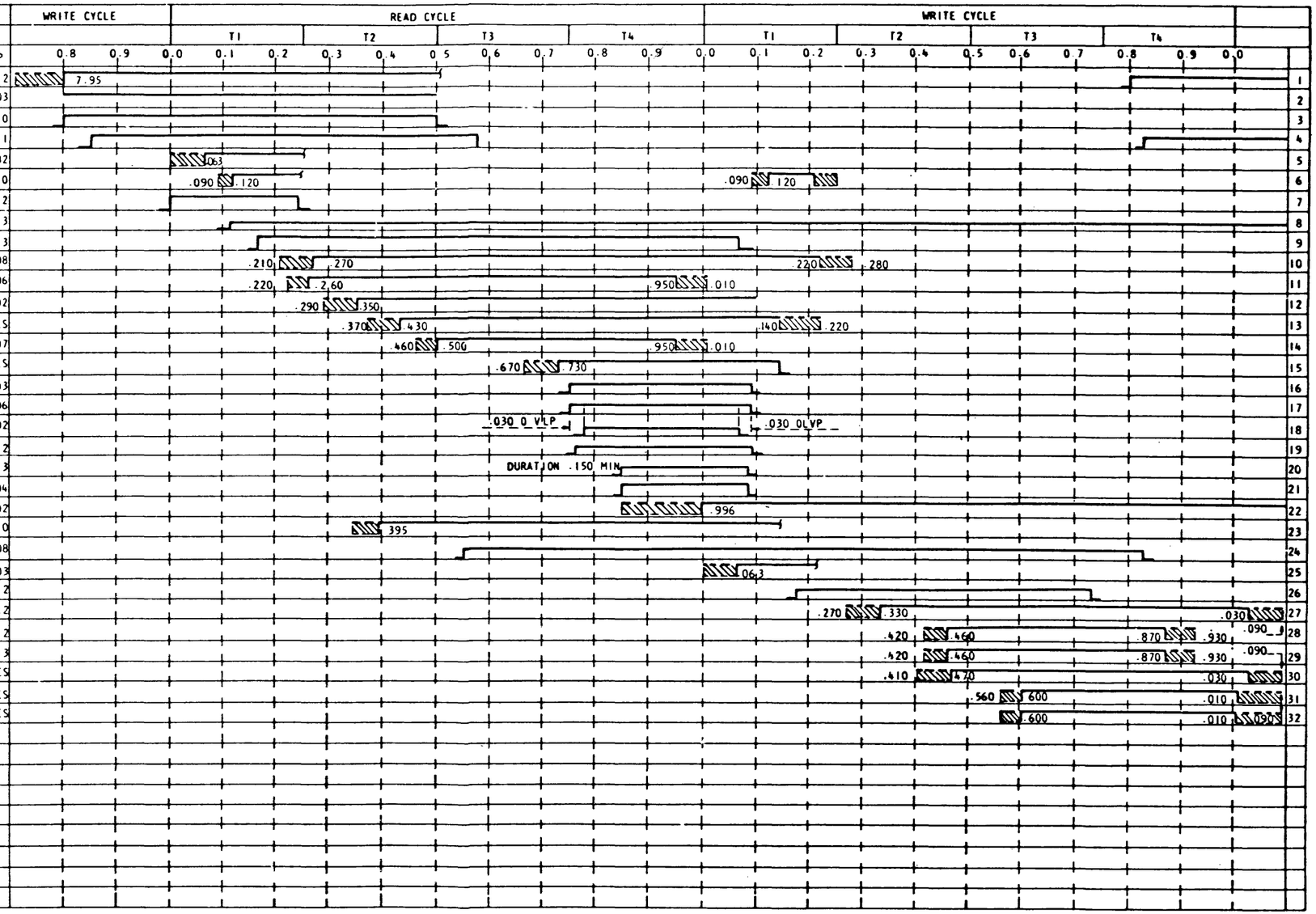
TITLE CPU CHECK TIMING

IBM LOG 7.00.03.00 TYPE 2030

PART NO. 826039 PAGE 1 OF 1

PART NO. 826039 PAGE 1 OF 1 LOG 7.00.03.00

NO.	LEVEL	SIGNAL NAME	STG CYCLE LOGIC	LOC	SP
1	+3	+CM SAL 0 BIT	DE021	AA2B5	D12
2	+3	+LOCAL OR MPX	MS321	CB1E2	G03
3	+3	+EARLY MO	MS321	CB1E2	G10
4	+3	+CPU READ	DM031	AB3D3	D11
5	+3	+READ CALL	MS451	CB1A2	B02
6	+3	+START 1ST 32K CLOCK	MS331	CB1F2	D10
7	+3	+SAR SET PULSE	MA012	AA1D4	B12
8	0.0	-SAR BITS (N7)	MS011	CB1B6	B13
9	+3	+GATE DECODE OUTPUT	MS011	CB1B6	D13
10	+3	+PHASE READ A (GT TERM INPUT)	MS151	CB1D6	G08
11	+3	+X DR DECODE INPUT (RD1)	MS051	CB1F6	J06
12	+3	+READ 0-16K (SEL GT TERM)	MS151	CB1D6	D02
13		X GATE CURRENT SOURCE (R1)	MS550	CB1	RES
14	+3	+Y DR DECODE INPUT (RD2)	MS101	CB1J6	G07
15		Y GATE CURRENT SOURCE (R2)	MS550	CB1	RES
16	+3	+STROBE 0-8 KA	MS191	CB1A4	B03
17		SENSE LINE (P BIT)	MS191	CB1A4	D06
18	0.0	-SENSE BIT (P BIT)	MS191	CB1A4	J02
19	0.0	-STORAGE DATA (P BIT)	MS271	CB1G4	G12
20	0.0	-DATA READY	MS341	CB1J2	D13
21	+3	+R REG SET PULSE	MB012	AA1H4	B04
22	+3	+R REG OUTPUT (P BIT)	MB012	AA1H4	G02
23	+3	+ALLOW WRITE 1	MC011	AA1H3	D10
24	+3	+CPU WRITE	DM031	AB3F2	B08
25	+3	+WRITE CALL	MS451	CB1A2	B03
26	+3	+INHIBIT 0-8K	MS191	CB1A4	D12
27	+3	+PHASE WRITE A (GT TERM INPUT)	MS151	CB1D6	J12
28	+3	+X DRIVE DECODE INPUT (WR 1)	MS051	C31F6	B12
29	+3	+Y DRIVE DECODE INPUT (WR 2)	MS091	CB1E6	B13
30		INHIBIT CURRENT (P BIT)	MS550	CB1	RES
31		X GATE CURRENT SOURCE (WR 1)	MS550	CB1	RES
32		Y GATE CURRENT SOURCE (WR 2)	MS550	CB1	RES

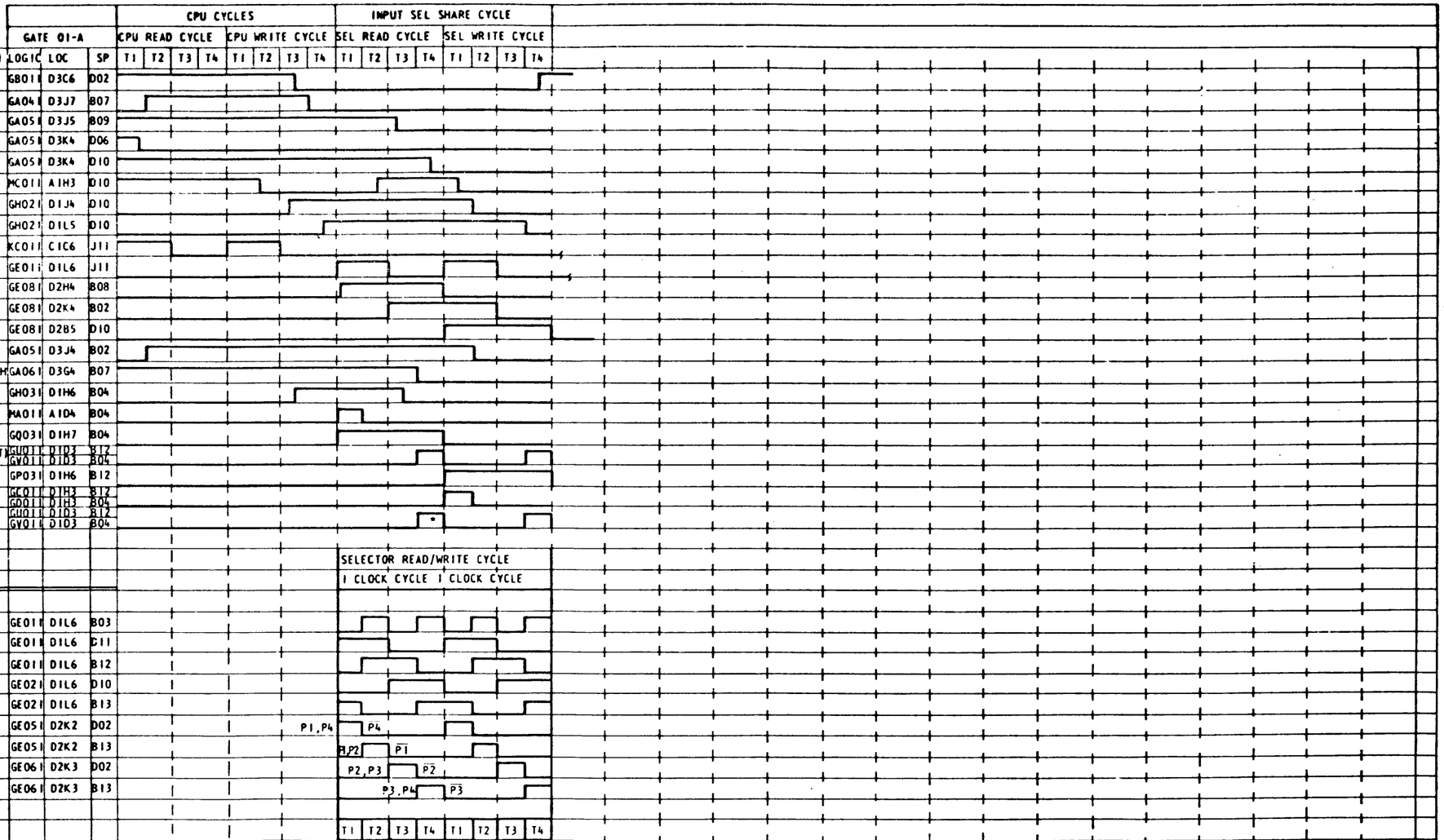


DATE	EC NO.	DATE	EC NO
7-15-65	124961		

TITLE R/W STG TIMINGS
IBM LOG 7.00.04.00 TYPE 2030
PART NO. 826040 PAGE 1 OF 1

PART NO. 826040 | PAGE 1 OF 1 | LOG 7.00.04.00

NO	LEVEL	SIGNAL NAME (ALL PLUS LEVELS)	GATE 01-A LOGIC	LOC	SP
1		SERVICE IN	GB01 I	D3C6	D02
2		SERVICE OUT	GA04 I	D3J7	B07
3		GATE BUS-IN INTO GR	GA05 I	D3J5	B09
4		SET BUS-IN INTO GR	GA05 I	D3K4	D06
5		SX 1 SHARE REQUEST	GA05 I	D3K4	D10
6		ALLOW WRITE LATCH	MC01 I	A1H3	D10
7		SX 1 SHARE CYCLE LATCH	GH02 I	D1J4	D10
8		SELECTOR SHARE HOLD LATCH	GH02 I	D1L5	D10
9		CPU CLOCK P1 PULSE	KC01 I	C1C6	J11
10		SELECTOR CLOCK P1 PULSE	GE01 I	D1L6	J11
11		SX 1 READ CYCLE LATCH	GE08 I	D2H4	B08
12		SX 1 R/W CONTROL LATCH	GE08 I	D2K4	B02
13		SX 1 WRITE CYCLE LATCH	GE08 I	D2B5	D10
14		GR FULL LATCH	GA05 I	D3J4	B02
15		COUNT READY AND NOT ZERO LATCH	GA06 I	D3G4	B07
16		GATE GUV INTO MN	GH03 I	D1H6	B04
17		SET MN (FROM GUV)	MA01 I	A1D4	B04
18		GATE GCD MOD ENTRY	GQ03 I	D1H7	B04
19		GU-GV SET PULSE (DECREMENT CNT)	GU01 L GV01 L	D1D3 D1D3	B12 B04
20		GATE MN MOD ENTRY	GP03 I	D1H6	B12
21		SET GCD (FROM GUV)	GC01 L GD01 L	D1H3 D1H3	B12 B04
22		SET GUV (FROM MOD DATA ADDR)	GU01 L GV01 L	D1D3 D1D3	B12 B04
		SELECTOR CLOCK TIMINGS			
		OSCILLATOR	GE01 I	D1L6	B03
		P1	GE01 I	D1L6	C11
		P2	GE01 I	D1L6	B12
		P3	GE02 I	D1L6	D10
		P4	GE02 I	D1L6	B13
		T1	GE05 I	D2K2	D02
		T2	GE05 I	D2K2	B13
		T3	GE06 I	D2K3	D02
		T4	GE06 I	D2K3	B13



NOTES
1. SYNC POINT-01-A-D3C6-D02 (+SERVICE IN)
2. TIMING CHART DEVELOPED USING THE FOLLOWING:
   A. SELECTOR CHANNEL #1, ANY I/O
   B. THREE CARD HEX LOADER.
   C. I/O EXERCISER
      1. 1 CCW WITH SENSE COMMAND AND 1 BYTE IN COUNT FIELD. (WILL GET IL CHECK, IGNORE)
      2. CARD (ADDRESS 0500) CHANGE TO 1 CCW IN COUNT FIELD.
      3. CARD (ADDRESS 0508) CHANGE DATA FIELDS TO SHOW (TAPE UNIT USED FOR THIS CHART) AND SEL CHAN ADDRESS

*3. IGNORE FOR THIS SIGNAL

SYSTEM 360 MOD 30

DATE	EC NO.	DATE	EC NO
7-15-65	124961		

TITLE INPUT SEL SHARE CYC & SEL CLK

IBM LOG 7.00.05.00 TYPE 2030

PART NO. 826041 PAGE 1 OF 1

						CPU CYCLE				SELECTOR SHARE CYCLES								CPU CYCLES										SELECTOR SHARE CYCLES								
			GATE 01-A			INITIAL SELECTION				SEL READ CYCLE				SEL WRITE CYCLE														SEL READ CYCLE				SEL WRITE CYCLE				
NO.	LEVEL	SIGNAL NAME	LOGIC	LOC	SP	T1	T2	T3	T4	T1	T2	T3	T4	T1	T2	T3	T4	T1	T2	T3	T4	T1	T2	T3	T4	T1	T2	T3	T4	T1	T2	T3	T4	T1	T2	T3	T4	NO
1		ALLOW WRITE LATCH	MC011	A1H3	D10																															
2		COUNT READY NOT ZERO _ATCH	GA061	D3G4	B07																															
3		SX #1 SHARE REQUEST	GA051	D3K4	D10																															
4		SX #1 SHARE CYCLE LATCH	GH021	D1J4	D10																															
5		SELECTOR SHARE HOLD LATCH	GH021	D1L5	D10																															
6		GATE GUV TO MN	GH031	D1H6	B04																															
7		SET MN REG	MA011	A1D4	B12																															
8		SX #1 READ CYCLE LATCH	GE081	D2H4	B08																															
9		GATE GCD MOD ENTRY	GQ031	D1H7	B04																															
10		SET GUV (DECREMENTED COUNT)	GU011 GV011	D1B4 D1B5	D10 D10																															
11		SX #1 R/W CONTROL LATCH	GE081	D2K4	B02																															
12		GATE DETECTORS TO GR	GA081	D3J5	B12																															
13		SELECT DATA READY	KW071	A1J4	B10																															
14		SET GR REG	GR014	D2E2	B04																															
15		GR REG DATA OUT	GR014	D2E2	G02																															
16		SET GO REG	GR022	D2B5	D04																															
17		GO REG DATA OUT	GR022	D2B4	B02																															
18		SX #1 WRITE CYCLE LATCH	GE081	D2K4	B02																															
19		SET GCD REGS	GC011 GD011	D1H3 D1H3	B12 B04																															
20		STORE GR LATCH	GA081	D3H3	B04																															
21		GR-FULL LATCH	GA051	D3J4	B02																															
22		SERVICE IN	GB011	D3C6	D02																															
23		BUS-OUT CONTROL LATCH	GA031	D3K6	B13																															
24		SERVICE SIGNAL	GA031	D3J7	D04																															
25		SERVICE OUT	GA041	D3J7	B07																															

2

3

18

SEE NOTE C

SEE NOTE C

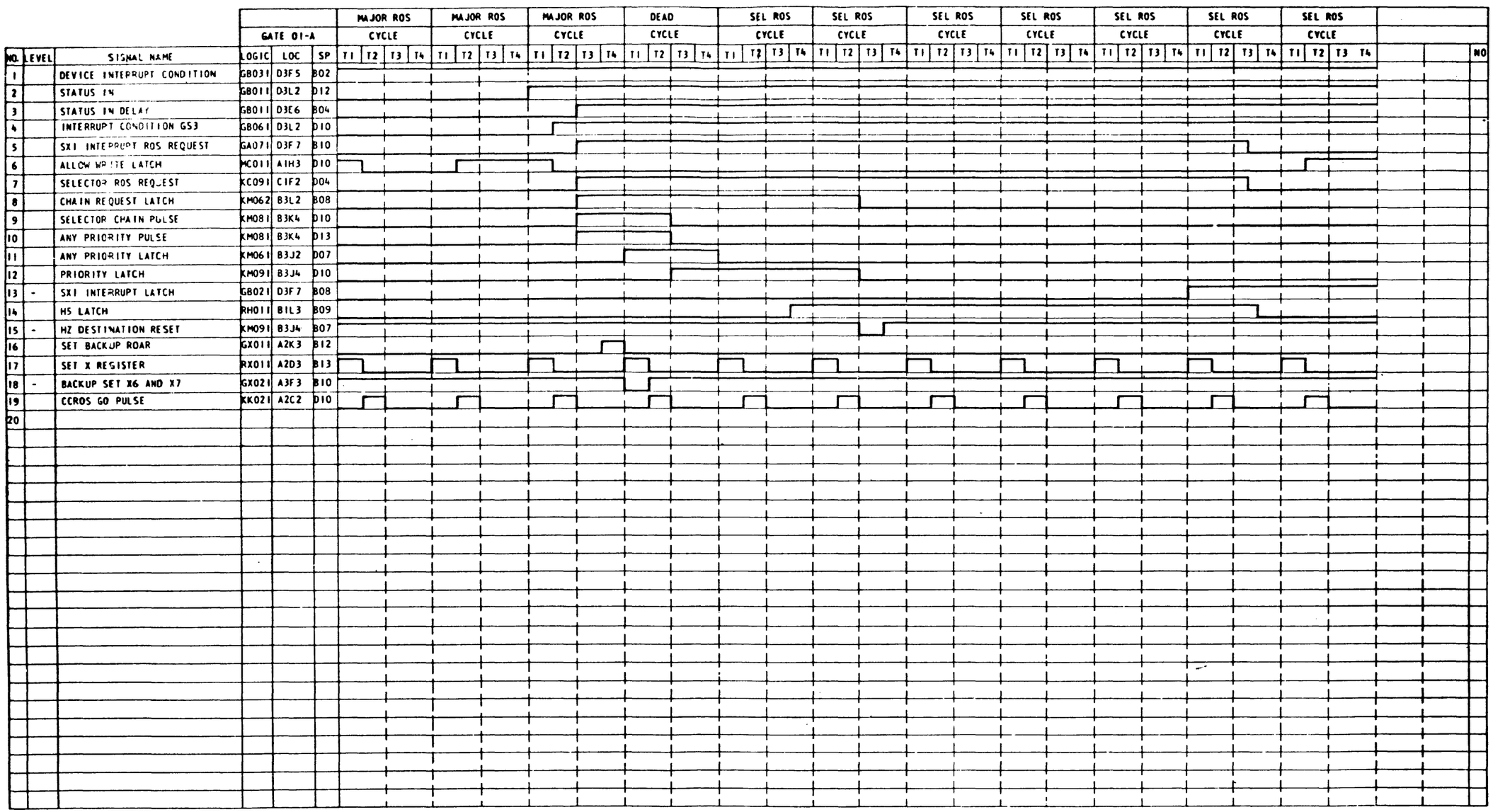
NOTES
A. SYNC POINT USED-01-A-D3-F5-D06
B. SYSTEM OPERATION USED FOR TIME CHART-
1. THREE CARD HEX LOADER
2. I/O EXERCISER
3. 1443 PRINTER (ONLY PARITY BIT PRINTING BLANK)
C. THESE SPIKES ON SCOPE TRACE DUE TO PH LATCHES
D. USING SELECTOR CHANNEL #1

DATE	EC NO.	DATE	EC NO.
9-15-65	124961		

TITLE OUTPUT SELECTOR SHARE CYCLE
IBM LOG 7.00.06.00 TYPE 2030
PART NO. 826042 PAGE 1 OF 1

PART NO. 826042 | PAGE 1 OF 1 | LOG 7.00.06.00

NO.	LEVEL	SIGNAL NAME	GATE 01-A LOGIC	LOC	SP
1		DEVICE INTERRUPT CONDITION	GB031	D3F5	B02
2		STATUS IN	GB011	D3L2	D12
3		STATUS IN DELAY	GB011	D3E6	B04
4		INTERRUPT CONDITION GS3	GB061	D3L2	D10
5		SX1 INTERRUPT ROS REQUEST	GA071	D3F7	B10
6		ALLOW WRITE LATCH	MC011	A1H3	D10
7		SELECTOR ROS REQUEST	KC091	C1F2	D04
8		CHAIN REQUEST LATCH	KM062	B3L2	B08
9		SELECTOR CHAIN PULSE	KM081	B3K4	D10
10		ANY PRIORITY PULSE	KM081	B3K4	D13
11		ANY PRIORITY LATCH	KM061	B3J2	D07
12		PRIORITY LATCH	KM091	B3J4	D10
13	-	SX1 INTERRUPT LATCH	GB021	D3F7	B08
14		H5 LATCH	RH011	B1L3	B09
15	-	HZ DESTINATION RESET	KM091	B3J4	B07
16		SET BACKUP ROAR	GX011	A2K3	B12
17		SET X REGISTER	RX011	A2D3	B13
18	-	BACKUP SET X6 AND X7	GX021	A3F3	B10
19		CCROS GO PULSE	KK021	A2C2	D10
20					



NOTES:
1. SYNC POINT-01-A-C1-F2-D04 (SELECTOR ROS REQUEST) DELAYED SWEEP 50 MICRO SEC., TIME/DIV .5 MICRO SEC.
2. TIMING CHART DEVELOPED USING FOLLOWING:
   A. SELECTOR CHANNEL #1, ANY I/O
   B. THREE CARD HEX LOADER
   C. I/O EXERCISER
      1. CARD (ADDRESS 1000), 1 CCW WITH SENSE COMMAND AND 1 BYTE IN COUNT FIELD (SLI BIT ON)
      2. CARD (ADDRESS 0500) CHANGE TO 1 CCW IN COUNT FIELD
      3. CARD (ADDRESS 0508) CHANGE DATA FIELDS TO SHOW TAPE UNIT (USED FOR THIS CHART) AND SEL. CHAN. ADDRESS.

TIMING CHART

DATE	EC NO.	DATE	EC NO.
7-15-65	124961		

TITLE SELECTOR CHAN. INTERRUPT TRAP
IBM LOG 7.00.07.00 TYPE 2030
PART NO. 826043 PAGE 1 OF 1

LATCH AND TRIGGER INDEX

LATCH NAME	FMD PAGE	ALD PAGE
1A01 MODE	5-05AD5	DL031
8F DETECTED	5-06CE6	ME022
ADDR-0 SX1	5-11DB5	GA041
ADDR-0 SX2	5-13DB5	HA041
ADDR OUT 1 MPX	5-03DA5	FA011
ADDR OUT 2 MPX	5-03DA6	FA111
ALLOW A REG CHK	5-07AA4	KF021
ALLOW PC SALS	5-07AB3	KF041
ALLOW STROBE 1050	5-10CB6	PF171
ALU CHECK	5-06BE6	DK011
ALLOW WRITE	5-03DC4	MC011
ANY PRIORITY	5-03AB2	KM061
ATTN 1050	5-10BE5	PF071
ATTN INTLK 1050	5-10BE5	PF071
ASC11	5-02AC5	DH031
BLOCK SHIFT 1050	5-09CC3	PF191
BUS OUT CTRL MPX	5-03DC4	FA021
BUS-0 CTRL SX1	5-11DE4	GA031
BUS-0 CTRL SX2	5-13DE4	HA031
C COUNTER CTRL	5-04CE2	KY011
C COUNTER DRIVE	5-04CD3	KY011
C COUNTER RST	5-04CE3	KY011
CARRY	5-06AE6	AL041
CHAIN DET SX1	5-11CC4	GB031
CHAIN DET SX2	5-14DC5	HE021
CHECK A REG SX 1	5-11AD2	GP031
CHECK RESET	5-04AC5	KL011
CHNL BUSY SX1	5-12DA2	SE021
CHNL BUSY SX2	5-14DB5	HE021
CLOCK 1050 W.X.Y	5-10AB4	PF021
CLOCK 1050 Z	5-10AB4	PF021
CLOCK 1,2 SX	5-12AC4	GE011
CLOCK 3,4 SX	5-12AC4	GE021
CLOCK START	5-03CB4	KC031
CLK STT CTRL	5-03CB2	KC041
CLOCK START 1050	5-10AC2	PF011
CMD OUT MPX	5-03DA5	FA021
CMD START MPX	5-03DD2	FA011
CMD-0 SX1	5-11DC5	GA041
CMD-0 SX2	5-13DC5	HA041
CNT RDY NOT 0 SX1	5-11CB2	GA061
CNT RDY NOT 0 SX2	5-13CB2	HA061
CNT RDY ZERO SX1	5-11CC2	GA061
CNT RDY ZERO SX2	5-13CC2	HA061
CODED STOP	5-03CE2	KC091
CPU CLOCK 1,2	5-09AA2	KC011
CPU CLOCK 3,4	5-09AA2	KC021
CS DECODER	5-07BD2	DS041
CTRL R WIDTH BA	5-05DD4	MS331
CU BUSY INTLK MPX	5-03DC5	FA031
DIAG MODE SX1	2-11DE1	GD024
DIAG MODE SX2	5-13DE1	HD024
DIAG TAG CTRL SX1	5-11DD1	GD024
DIAG TAG SX2	5-13DE2	HD024
E CY STOP SAMPLE	5-03CA3	KT011
END OF E CYCLE	5-03CC3	KC081
EXT INTRP MASK	5-08CD3	FA111
EXIT SHR REQ 1050	5-10BB5	PF081
EXTERNAL INTRP	5-04CB5	RF041
FORCE DEAD CYCLE	5-04AC2	KM101
FORCE IJ REQ	5-03CD3	KC061
FT I HOLD IN	5-07CE5	JA021
GATE TIMING	5-07CE5	JA021
GMWM DETECTED	5-06CE4	MB031
GR FULL SX1	5-12DC2	GA051
HALT 1-0 SX1	5-11DA3	GA031
HALT 1-0 SX2	5-13DA3	HA031
HARD STOP	2-03CD5	KR061
HOME RDR STT 1050	5-10BB2	PF041
HR FULL SX2	5-14DC5	HA051
I WRAP	5-03BC5	MW021
INH STG PROTECT	5-08BB5	DU011
INTERRUPT SX1	5-12DB2	GB021
INTERRUPT SX2	5-14DB5	HB021
INTRV REQ 1050	5-10CD6	PF161
INTRV REQD 1050	5-10CD5	PF161
IU WRAP	5-03BC5	MW021
LOAD KEY	5-03CB3	KC041
LOAD KEY INLK	5-03CB2	KC041
LOAD REQ	5-03CA6	KC051
LOCAL STORAGE	5-04DD5	DU011
LOCAL-MAIN STG	5-05DE2	MS321
MACH RESET	5-04AD5	KM101
MACH RST SET	5-04AB1	KK021
MAIN STORAGE	5-04DD5	DU011
MAN DISPLAY	5-03DB2	KT041
MAN READ CALL	5-03DA4	KT011
MAN READ INLK	5-03DA4	KT011
MAN STORE	5-03DC2	KT041
MAN WRITE CALL	5-03DE4	KT031
MATCH	5-04BB6	KM051
MEM WRAP REQ	5-03BA6	MW031
MICRO SH REQ 1050	5-10BC2	PF041
MPX BUFF RESTORE	5-02AC4	FX021
MPX INTRP	5-08CC2	FA051
MPX INTRP MASK	5-08CC3	FA111
MPX OP INLK	5-08DB2	FA021
MPX OPERATION	5-08CD2	FA051
MPX OPNL 1050	5-10BB4	PF081
MPX RESTORE	5-02AC5	FX021
MPX X6 BUFF	5-02AC5	FX021
MPX X7 BUFF	5-02AC5	FX021

LATCH AND TRIGGER INDEX

LATCH NAME	FMD PAGE	ALD PAGE
NOT CARRY	5-06AC6	AL041
NOT OPER 1050	5-12CE5	PF161
NOT S3	5-06BA5	AL041
ODD EVEN	5-06BD6	DK041
OP IN 1050	5-10BB5	PF082
OP OUT CTRL	5-03CE2	FA051
POLL CTRL SX1	5-11DC2	GA031
POLL CTRL SX2	5-13DC2	HA031
POWER OFF	5-03CB4	KT031
PREFIX 1050	5-03CC3	PF191
PREP TO SHR 1050	5-12BD6	PF081
PRIORITY	5-03AA3	KM091
PRIORITY RST CTRL	5-03AC2	KM091
PROCEED 1050	5-12BB2	PF041
PROCESS STOP	5-03CD2	KC081
PROTECT MEM	5-06CE1	KR071
PRT IN UC 1050	5-09CD5	PF201
R-W CTRL SX1	5-12DD4	GE081
R-W CTRL SX2	5-14DC2	HE081
READ CLOCK BA	5-05DC5	MS341
RD CLK INTLK 1050	5-10BA1	PF291
RD OR WR RST BA	5-05DC4	MS331
RD OR WR SET BA	5-05DD4	MS331
RD SHARE REQ 1050	5-09CC5	PF281
RDR 2 1050	5-10BD2	PF041
READ CYCLE SX1	5-12DD3	GE081
READ CYCLE SX2	5-14DC2	HE081
READY SHARE 1050	5-10CE6	PF161
ROS IND	5-01AC1	RX021
RST 1050	5-10BA2	PF043
SI DLYD	5-03AB2	KM061
SECOND ERR STOP	5-03CC4	KR081
SEL CC ROS REQ SX	5-12CA6	GJ011
SEL CPU BUMP	5-09BA5	DU011
SEL OUT INTLK MPX	5-05DD4	FA031
SEL REQ MPX	5-05DD5	FA031
SEL SH CNT 1 SX1	5-12DC4	GH011
SEL SH CNT 2 SX1	5-12DC4	GH011
SEL SH CNT 3 SX1	5-12DC4	GH011
SEL SH HOLD SX	5-12DC5	GH021
SEL SX2	5-13CE2	HJ011
SEL-0 DET 1050	5-10BA5	PF081
SEL-0 DLY 1050	5-10BB5	PF081
SEL-0 SX1	5-11DA5	GA011
SEL-0 SX2	5-13DA5	HA011
SERV OUT MPX	5-05DB5	FA031
SERV-0 SX1	5-11DD5	GA041
SERV-0 SX2	5-13DD5	HA041
SET IC	5-03CC3	KC061
SET IC INLK	5-03CC2	KC061
SHARE CYCLE SX1	5-12DA5	GH021
SHARE CYCLE SX2	5-14DB2	HH021
SHIFT 1050	5-10CC5	PF171
STACK RD/WR CTRL	5-04DA5	KW041
START KEY INLK	5-03CA2	KC051
START RST	5-03CA3	KC051
START SEL OUT MPX	5-08DC5	FA121
STORE GR SX1	5-12DD6	GA081
STORE HR SX2	5-14DE2	HA081
STORE R	5-03DE5	DM031
STG PROT REQ	5-03AD1	KW071
SUPPR CTRL	5-08CD2	FA051
SUPPR MALF CHK	5-03AA3	KM091
SUPPR-0 SX1	5-11DD5	GA011
SUPPR-0 SX2	5-13DD5	HA011
SUPR A REG CHK	5-07AB3	KR011
SWITCHES TO WX	5-04AE5	KL011
SX BUFF RESTORE	5-02AC4	BX021
SX RESTORE	5-02AC4	GX021
SX X6 BUFF	5-02AC5	GX021
SX X7 BUFF	5-02AC5	GX021
SX1 INTRP MASK	5-08CD3	FA111
SX2 INTRP MASK	5-08CE3	FA111
SX1 STG INPUT DATA	5-06CA3	GR081
SX2 STG INPUT DATA	5-06CB3	HR081
SYS RST PRIORITY	5-03AE4	KM081
TE 1050	5-10CB5	PF171
TRANSLATE UC 1050	5-09CB6	PF291
TRAP SX1	5-13CE2	HJ011
TRIG 1 1050	5-10AB2	PF011
TRIG 2 1050	5-10AB2	PF011
U WRAP CPU	5-03BC5	MW021
U WRAP MPX	5-03BD5	MW021
USE MANUAL DECO	5-03DA2	KT041
WAIT	5-05DA1	KU011
WR SHR REQ 1050	5-10CA6	PF171
WRAP 64K SX1	5-11AB1	GB041
WRAP 64K SX2	5-13AB2	HB041
WRAP BUFFER	5-03BD5	MW021
WRITE 1050	5-09CE2	PF151
WRITE CLOCK BA	5-05DD5	MS351
WRITE CYCLE SX1	5-12DE3	GE081
WRITE CYCLE SX2	5-14DD2	HE081
WX SABC	5-03AB2	KM061
XH	5-08CB2	FA051
XH BUFFER	5-08CB1	FX011
XL	5-08CC2	FA051
XL BUFFER	5-08CC1	FX011
XLATE-UC 1050	5-09CB6	PF291
XXH	5-08CA2	FA051
XXH BUFFER	5-08CA1	FX011

DATE	EC NO.	DATE	EC NO.
7-15-65	124961		

TITLE LCH & TRIG INDEX
IBM LOG 9.00.01.00 TYPE 2030
PART NO. 826044 PAGE 1 OF 1

REGISTER INDEX

REG NAME	FMD PAGE	ALD PAGE
A REG	5-06BD2	RA021
C COUNTER 4,5	5-04CD3	KY021
C COUNTER 6,7	5-04CD3	KY021
CTRL REG %CC	5-01CC5	DF011
CTRL REG %CD	5-01CA5	DD011
CTRL REG %CF	5-01CB5	DF021
CTRL REG %C3	5-01CB5	DG011
CTRL REG %C5	5-01CC5	DS011
CTRL REG %CV	5-01CC5	DP011
D REG	5-05CD6	RD011
DATA REG TI	5-10CC1	PF111
F REG 0,1	5-04CC4	RF011
F REG 2-4	5-04CC4	RF021
F REG 5-7	5-04CC4	RF031
FB REG	5-09CXX	FA0XX
FQ REG P	5-08CA6	FA1G1
FQ REG 0-3	5-08CA6	FA081
FQ REG 4-7	5-08CA6	FA071
FW REG	5-01BE4	FX011
FX REG	5-01BE4	FX012
G REG	5-05CD4	RG011
GC REG	5-11BC2	DC011
GD REG	5-11BC3	GD011
GE REG-1	5-11AC3	GB041
GE REG 2,5	5-11AC3	GB051
GE REG 3,4,6	5-11AC3	GB061
GF REG	5-11BC5	GF011
GG REG 4-6	5-11BE6	GG011
GG REG 7	5-11BE6	GG011
GK REG	5-11BC3	GK011
GR REG	5-11CB6	GR014
GO REG	5-11CB3	GR022
GU REG	5-11BD2	GU011
GV REG	5-11BD3	GV011
GW REG	5-01BE5	GW011
GX REG	5-01BE5	GW012
H REG	5-04CC6	RH011
HC REG	5-13BC2	HC011
HD REG	5-13BC3	HD011
HE REG 1	5-13AC3	HB041
HE REG 2,5	5-13AC3	HB051
HE REG 3,4,6	5-13AC3	HB061
HF REG	5-13BC5	HF011
HG REG 3-6	5-13BE5	HG011
HG REG 7	5-13BE5	HG011
HK REG	5-13BC3	HK011
HR REG	5-13CB5	HRC14
HO REG	5-13CB3	HR022
HU REG	5-13BE2	HU011
HV REG	5-13BE3	HV011
I REG	5-05CD2	RJ011
J REG	5-05CD3	RJ021
JE REG	5-07CC5	JA011
JI REG	5-07CC5	JA012
L REG	5-05CD5	RL011
M REG	5-07BA1	MA011
M REG ST3	5-07BA2	MA051
MC REG 0-2	5-07AB5	KR031
MC REG 3-5	5-07AB5	KR041
MC REG 6-8	5-07AB5	KR051
N REG	5-07BA2	MA012
N REG ST3	5-07BA3	MA052
PRIORITY STACK	5-03AC3	KM062
Q REG	5-08BC1	KW021
R REG	5-06CC5	MB012
S REG 0,1	5-07BA5	RS011
S REG 2,3	5-07BA5	RS021
S REG 4,5	5-07BA6	RS031
S REG 6,7	5-07BA6	RS041
SA REG	5-07BA4	KW032
SALS	5-01CD-	DE---
STATUS REG IMM.	5-06AE4	AL061
T REG	5-05CD4	RT011
TI REG 1050	5-10CD1	PF111
U REG	5-05CD3	RU031
V REG	5-05CD4	RV011
W REG	5-01BA6	RW011
W IND REG	5-01AA3	RW021
X REG	5-01BA6	RX011
X IND REG	5-01AA3	RX021

DATE	EC NO.	DATE	EC NO
7-15-65	124961		

TITLE REGISTER INDEX

IBM LOG 9.00.02.00 TYPE 2030

PART NO. 826045 PAGE 1 OF 1

R25-5103-1
8/65

SYSTEM 360/30 MAINTENANCE DIAGRAM MANUAL Printed in U.S.A. R25-5103-1

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