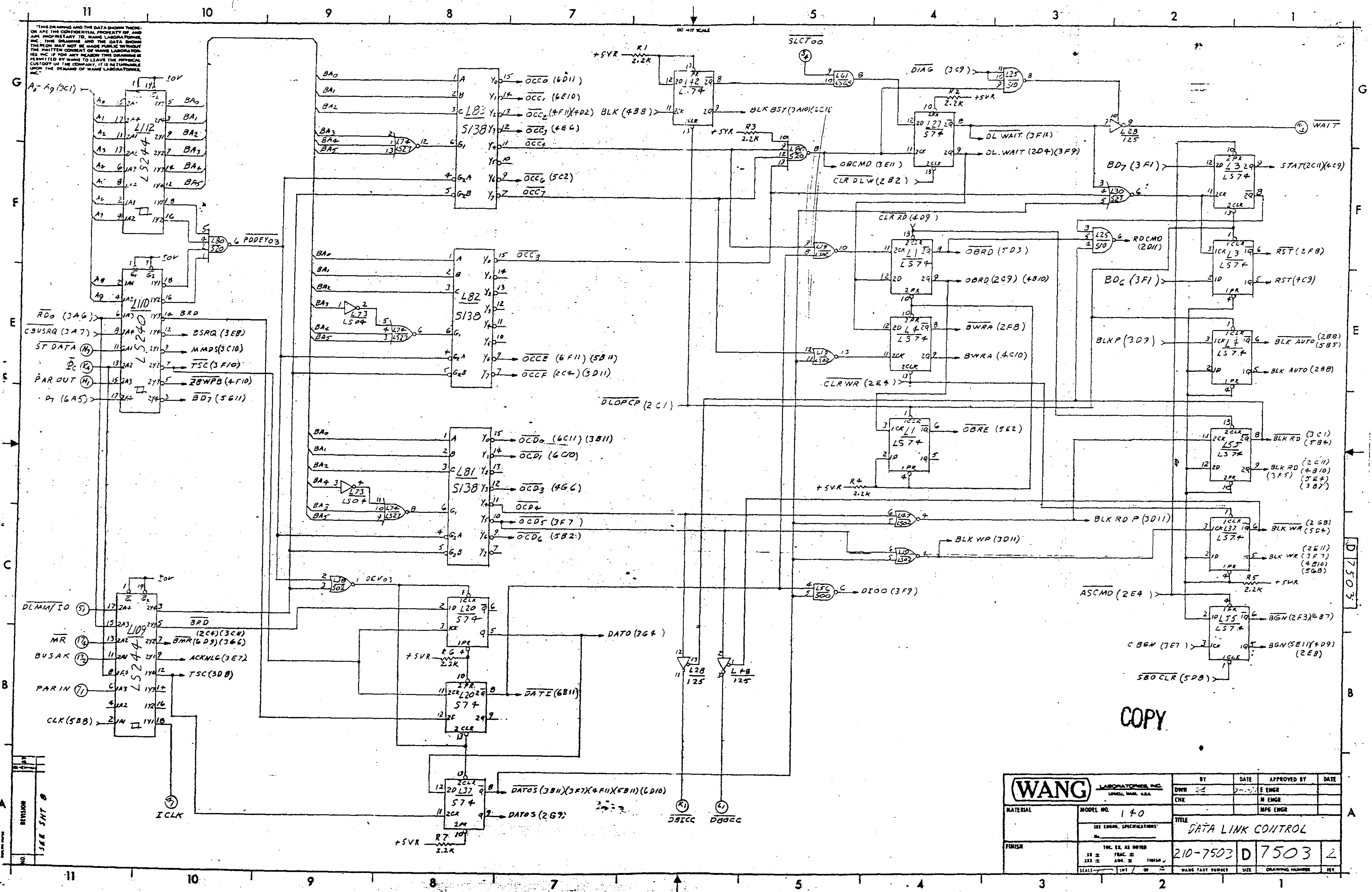
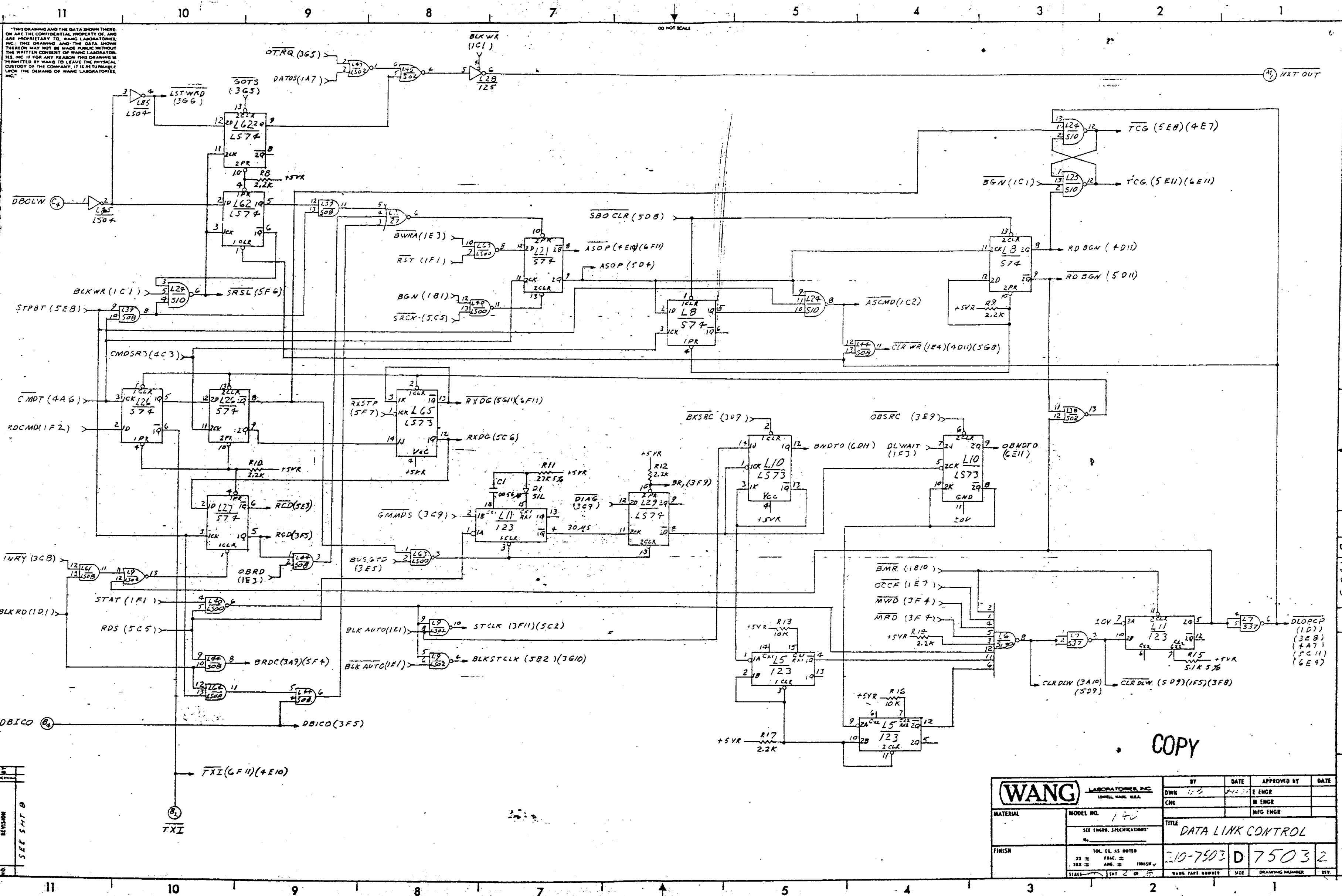


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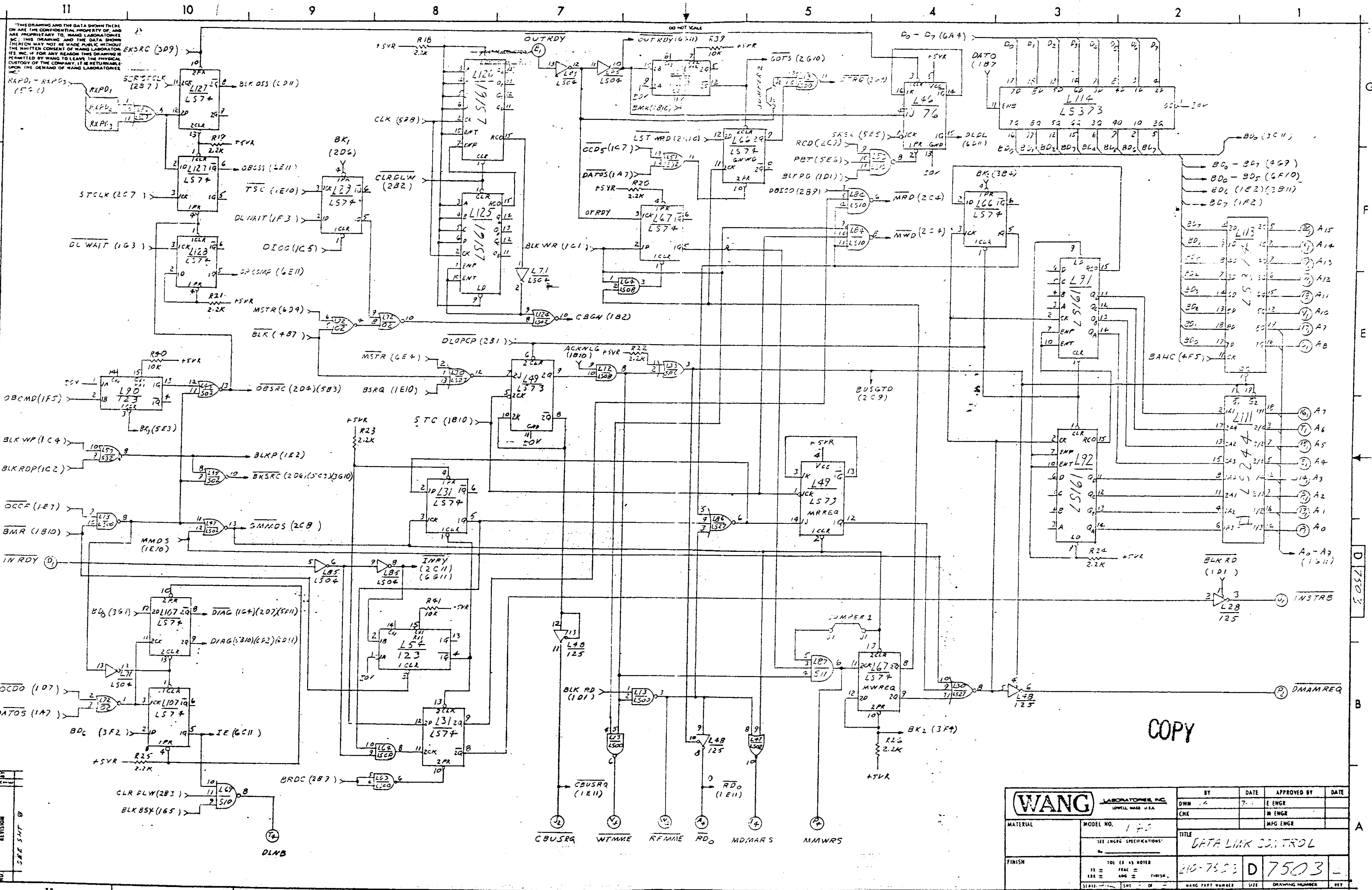
COPY

|  |  |                            |                |                       |                |
|--|--|----------------------------|----------------|-----------------------|----------------|
| <b>WANG</b> LABORATORIES, INC.<br>LOWELL, MASS. U.S.A. |  | BY<br>DWR                  | DATE<br>7-1-73 | APPROVED BY<br>E ENGR | DATE           |
| MATERIAL   |  | CHE                        |                | M ENGR                |                |
| MODEL NO. 140  |  | TITLE<br>DATA LINK CONTROL |                |                       |                |
| FINISH   |  | 210-7503                   |                | D 7503                | 2              |
| SCALE  |  | WANG PART NUMBER           |                | SIZE                  | DRAWING NUMBER |



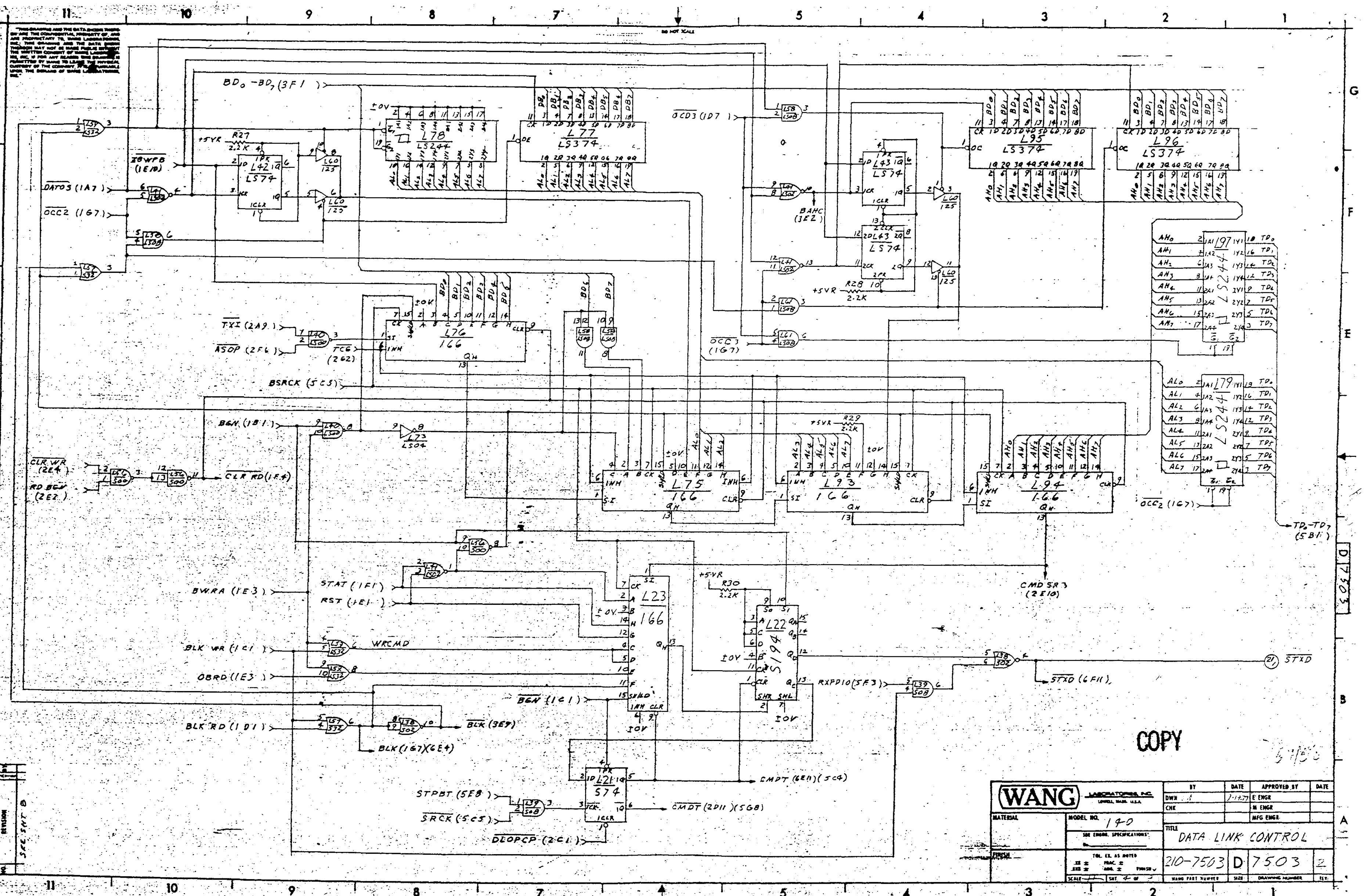
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|  |  |                          |                   |             |       |
|--|--|--------------------------|-------------------|-------------|-------|
| <b>WANG</b> LABORATORIES, INC.<br>LONDON, MASS. U.S.A. |  | BY                       | DATE              | APPROVED BY | DATE  |
|  |  | DWN                      | 4-11-73           | E ENGR      |       |
| MATERIAL   |  | MODEL NO.                | 140               |             |       |
|  |  | SEE ENGR. SPECIFICATIONS |                   |             |       |
| FINISH   |  | TOL. ES. AS NOTED        |                   |             |       |
|  |  | SEE ENGR. SPECIFICATIONS |                   |             |       |
|  |  | TITLE                    | DATA LINK CONTROL |             |       |
|  |  | NO.                      | 110-7503          | D           | 75032 |
|  |  | SCALE                    | 1/2" = 1"         |             |       |
|  |  | DATE                     | 4-11-73           |             |       |
|  |  | SIZE                     | 8 1/2" x 11"      |             |       |
|  |  | REV.                     | 1                 |             |       |



COPY

|  |  |                   |      |             |      |
|--|--|-------------------|------|-------------|------|
| <b>WANG</b> LABORATORIES, INC.<br>LOWELL, MASS. U.S.A. |  | BY                | DATE | APPROVED BY | DATE |
| MATERIAL   |  | DWN               | 7-   | E ENGR      |      |
| MODEL NO. 145  |  | CHK               |      | M ENGR      |      |
| SEE ENG'G SPECIFICATIONS                               |  |                   |      | MFG ENGR    |      |
| FINISH   |  | TITLE             |      |             |      |
| 11 = 100% AS NOTED                                     |  | DATA LINK CONTROL |      |             |      |
| 132 = 100% AS NOTED                                    |  | 210-7503 D 7503   |      |             |      |
| 133 = 100% AS NOTED                                    |  | WANG PART NUMBER  |      |             |      |
| 134 = 100% AS NOTED                                    |  | SIZE              |      |             |      |
| 135 = 100% AS NOTED                                    |  | DRAWING NUMBER    |      |             |      |
| 136 = 100% AS NOTED                                    |  | REV               |      |             |      |

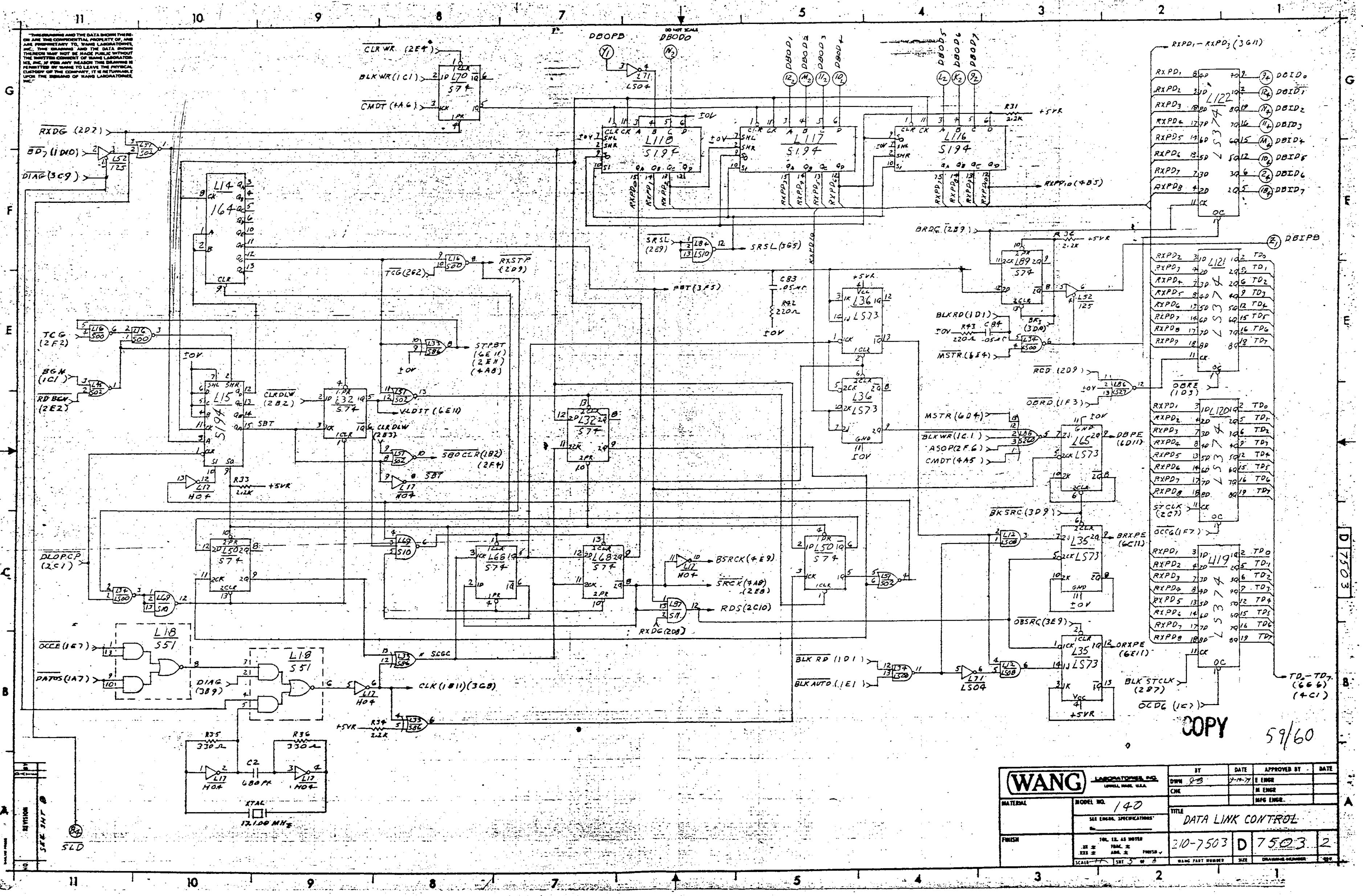


COPY

|   |     |                                     |                       |                  |
|---|-----|-------------------------------------|-----------------------|------------------|
| <b>WANG</b><br>LABORATORIES, INC.<br>MODEL NO. 190      | BY  | DATE                                | APPROVED BY           | DATE             |
|   | DWN | 7-12-77                             | E ENGR                |                  |
| TITLE<br><b>DATA LINK CONTROL</b>                       | CHE |                                     | M ENGR                |                  |
|   |     |                                     | MFG ENGR              |                  |
| MATERIAL<br>SEE ENGR. SPECIFICATIONS                    |     | TITLE<br><b>210-7503 D 7503 2</b>   |                       |                  |
| FINISH<br>TOL. CL. AS NOTED<br>XX ±    FRAC ±    FINISH |     | WANG PART NUMBER<br><b>210-7503</b> | SIZE<br><b>D 7503</b> | REV.<br><b>2</b> |
| SCALE<br>1/4" = 1"                                      |     | DRAWING NUMBER<br><b>D 7503</b>     |                       |                  |

D 7503

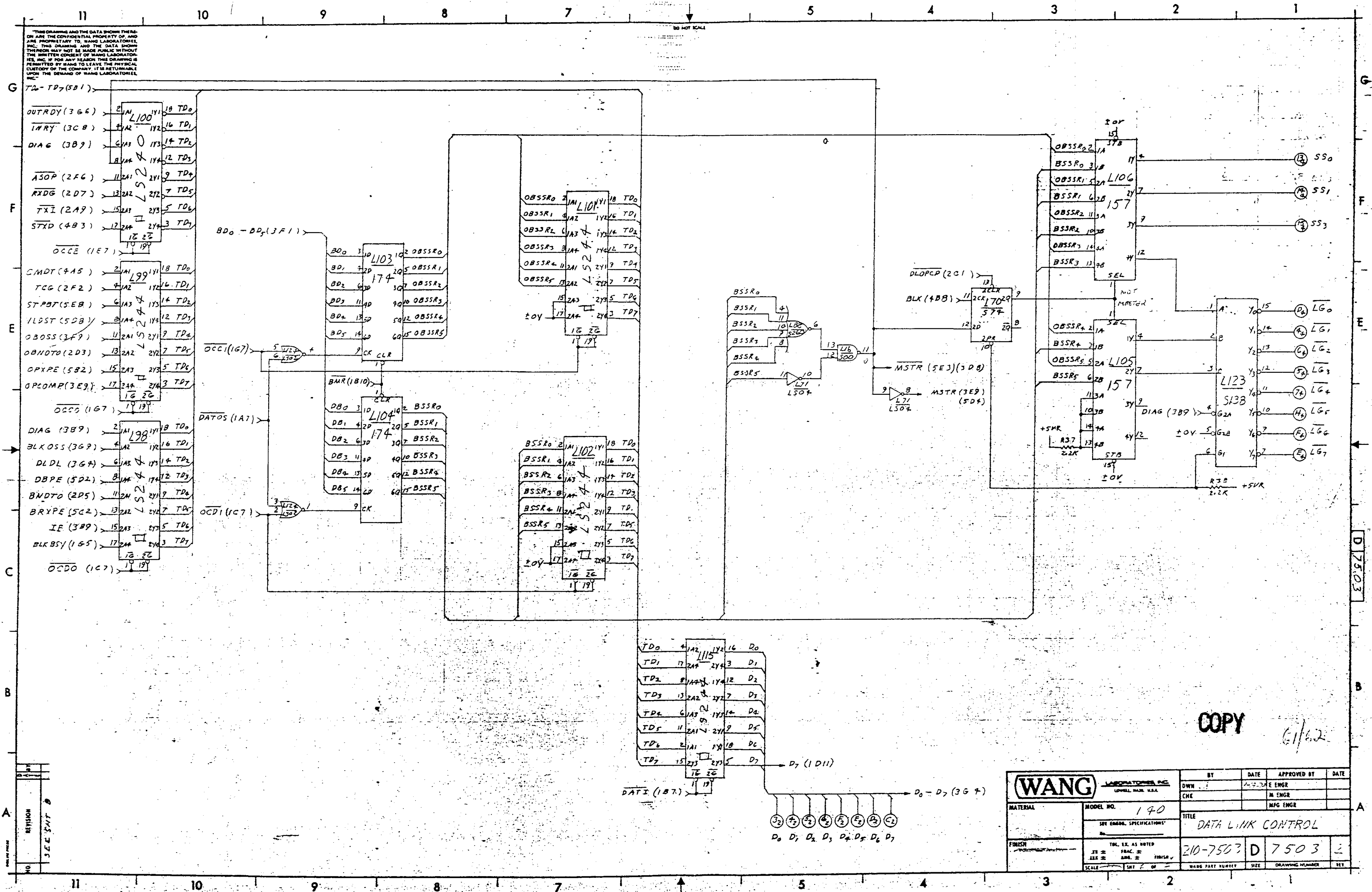
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COPY 59/60

|   |                  |                            |                 |                          |      |
|---|------------------|----------------------------|-----------------|--------------------------|------|
| <b>WANG</b> LABORATORIES, INC.<br>CORP. MADE U.S.A. |                  | BY<br>DWN JHJ              | DATE<br>7-17-77 | APPROVED BY<br>E ENGR    | DATE |
| MATERIAL  | MODEL NO.<br>140 | TITLE<br>DATA LINK CONTROL |                 |                          |      |
| SEE ENGR. SPECIFICATIONS                            |                  | TOL. IS AS NOTED           |                 | 210-7503 D 7503 2        |      |
| SCALE: 1:1  |                  | SHEET: 5 OF 8              |                 | WANG PART NUMBER: D 7503 |      |

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Legend for components and signals:

|              |       |      |        |
|--------------|-------|------|--------|
| OUTRDY (366) | 2/A1  | 11/1 | 18 TD0 |
| INRY (368)   | 4/A2  | 11/2 | 16 TD1 |
| DIAG (389)   | 6/A3  | 11/3 | 14 TD2 |
| ASOP (246)   | 11/A4 | 11/4 | 12 TD3 |
| RXDG (207)   | 13/A5 | 11/5 | 7 TD5  |
| TXI (219)    | 15/A6 | 11/6 | 5 TD6  |
| STXD (483)   | 17/A7 | 11/7 | 3 TD7  |
| OCC (167)    | 19    | 11/8 |        |
| CMDT (445)   | 2/A1  | 11/1 | 18 TD0 |
| TCG (242)    | 4/A2  | 11/2 | 16 TD1 |
| STPBT (5EB)  | 6/A3  | 11/3 | 14 TD2 |
| VLST (5DB)   | 8/A4  | 11/4 | 12 TD3 |
| OBSS (3F9)   | 10/A5 | 11/5 | 7 TD5  |
| OBNOTO (2D3) | 13/A6 | 11/6 | 5 TD6  |
| OPXRE (5B2)  | 15/A7 | 11/7 | 3 TD7  |
| OPCOMP (3E9) | 17/A8 | 11/8 |        |
| OCCG (167)   | 19    | 11/9 |        |
| DIAG (389)   | 2/A1  | 11/1 | 18 TD0 |
| BLKOS (369)  | 4/A2  | 11/2 | 16 TD1 |
| DLDL (364)   | 6/A3  | 11/3 | 14 TD2 |
| DBPE (5D2)   | 8/A4  | 11/4 | 12 TD3 |
| BNDTO (2D5)  | 10/A5 | 11/5 | 7 TD5  |
| BRYPE (5C2)  | 13/A6 | 11/6 | 5 TD6  |
| IE (389)     | 15/A7 | 11/7 | 3 TD7  |
| BLKBSY (165) | 17/A8 | 11/8 |        |
| OCCD (167)   | 19    | 11/9 |        |

Legend for data signals:

|     |       |      |       |
|-----|-------|------|-------|
| TD0 | 4/A2  | 11/1 | 18 D0 |
| TD1 | 17/A3 | 11/2 | 16 D1 |
| TD2 | 8/A4  | 11/3 | 14 D2 |
| TD3 | 13/A5 | 11/4 | 12 D3 |
| TD4 | 6/A6  | 11/5 | 7 D5  |
| TD5 | 11/A7 | 11/6 | 5 D6  |
| TD6 | 2/A8  | 11/7 | 3 D7  |
| TD7 | 15/A9 | 11/8 |       |

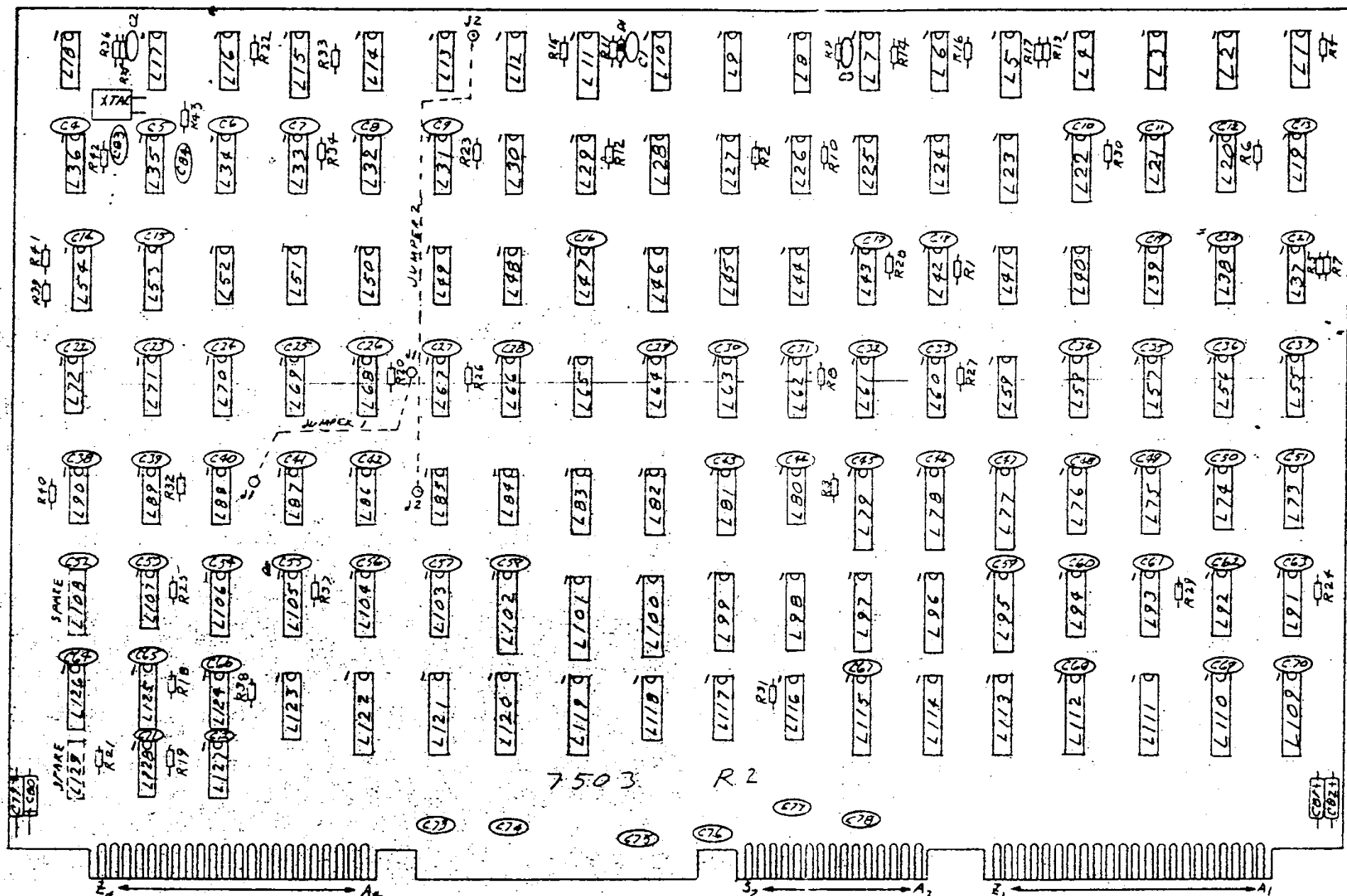
COPY 6/1/62

|  |               |                  |        |             |      |
|--|---------------|------------------|--------|-------------|------|
| <b>WANG</b> LABORATORIES, INC.<br>LOWELL, MASS. U.S.A. |               | BY               | DATE   | APPROVED BY | DATE |
| MATERIAL   | MODEL NO. 140 | DWN              | 4/2/62 | E ENGR      |      |
| SEE ENGR. SPECIFICATIONS                               |               | CHE              |        | M ENGR      |      |
| TITLE  |               |                  |        | MFG ENGR    |      |
| FINISH   |               | TITLE            |        |             |      |
| TOL. EX. AS NOTED                                      |               | 210-7503 D 7503  |        |             |      |
| JTS ±  |               | SCALE            |        |             |      |
| JES ±  |               | WANG PART NUMBER |        |             |      |
| JES ±  |               | SIZE             |        |             |      |
| SCALE  |               | DRAWING NUMBER   |        |             |      |
| SHT 2 OF 2   |               | REV              |        |             |      |

|     |           |
|-----|-----------|
| NO. | REVISION  |
| 1   | SEE SMT B |

11 10 9 8 7 5 4 3 2 1

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7503 R2

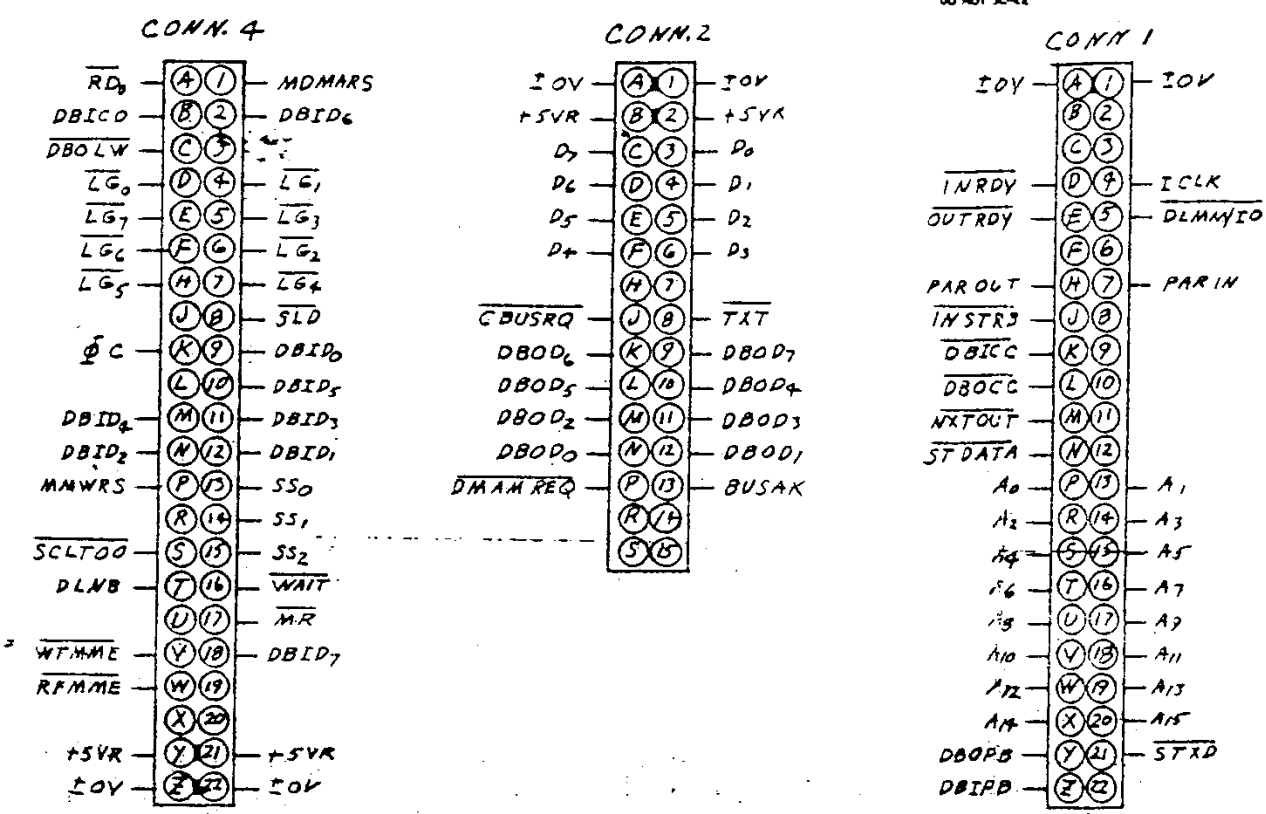
COPY

| NO. | REVISION  |
|-----|-----------|
| 1   | 1574517 B |

| WANG LABORATORIES, INC.<br>LITTLE FALLS, N.J. |                          | BY                | DATE | APPROVED BY       | DATE |
|---|--------------------------|-------------------|------|-------------------|------|
| MATERIAL                                      | MODEL NO. 140            | DWN               | 26   | E ENGR            |      |
|   | SEE ENGR. SPECIFICATIONS | CHK               |      | M ENGR            |      |
|   |                          |                   |      | MFG ENGR          |      |
| TITLE   |                          | DATA LINK CONTROL |      |                   |      |
| FINISH  | FOL. EX. AS NOTED        | 210-7503          | D    | 7503              | 2    |
|   | SCALE 1/8" = 1"          | SHEET 7 OF 8      |      | WANG PART. NUMBER | REV. |

11 10 9 8 7 5 4 3 2 1

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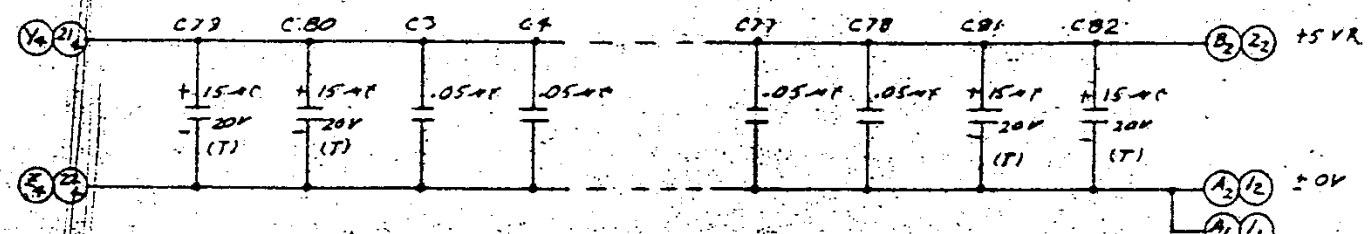
SIGNAL-TERMINAL DESIGNATIONS, VIEW FROM BOTTOM (WIKING) SIDE OF CONNECTOR

| L.C. LOCATION   | WL PART NO | TYPE    |
|---|------------|---------|
| L1, 3, 4, 29, 36, +2, +3, C2, C6, C7, B9, 103, 123, 128 | 376-0155   | 74LS74  |
| L2  | 376-0125   | 7427    |
| L5, 11, 54, 90  | 376-0080   | 74123   |
| L6  | 376-0178   | 74530   |
| L7  | 376-0296   | 74537   |
| L8, 20, 21, 26, 27, 32, 37, 50, 55, 68, 70              | 376-0202   | 74574   |
| L9, 19, 41, 47, 124                                     | 376-0208   | 74L302  |
| L10, 36, 49, 65, 35                                     | 376-0304   | 74LS73  |
| L12, 58, 61, 64   | 376-0153   | 74LS08  |
| L13, 34, 40, 63   | 376-0207   | 74LS00  |
| L14   | 376-0102   | 74164   |
| L15, 22   | 376-0221   | 74S194  |
| L16, 56   | 376-0228   | 74500   |
| L17   | 376-0045   | 74H04   |
| L18   | 376-0184   | 74551   |
| L23, 75, 76, 93, 94                                     | 376-0109   | 74166   |
| L24, 25, 69   | 376-0238   | 74S10   |
| L28, 48, 52, 60   | 376-0324   | 74125   |
| L30, 74, 86   | 376-0245   | 74LS27  |
| L33   | 376-0271   | 74586   |
| L38, 45, 51   | 376-0199   | 74502   |
| L39, 44   | 376-0200   | 74508   |
| L46   | 376-0007   | 7476    |
| L108, 129   |            | SPARE   |
| L57   | 376-0205   | 74532   |
| L59   | 376-0211   | 74LS32  |
| L71, 73, 85   | 376-0180   | 74LS04  |
| L72   | 376-0016   | 7402    |
| L77, 95, 96, 113, 119-122                               | 376-0286   | 74LS374 |
| L78, 79, 97, 98, 99, 101, 102, 109, 111, 112, 115       | 376-0288   | 74LS244 |
| L80   | 376-0230   | 74520   |
| L81, 82, 83   | 376-0298   | 74S138  |
| L84, 53   | 376-0209   | 74LS10  |
| L87   | 376-0237   | 74S11   |
| L88   | 376-0206   | 74S260  |
| L91, 92, 125, 126                                       | 376-0233   | 74LS161 |
| L100, 110   | 376-0287   | 74LS240 |
| L103, 104   | 376-0098   | 74174   |
| L105, 106   | 376-0082   | 74157   |
| L116, 117, 118  | 376-0221   | 74S194  |
| L123  | 376-0294   | 74S138  |
| L114  | 376-0310   | 74LS373 |

| MNEMONIC      | COORDINATE |
|---------------|------------|
| A0-A15        | 3E1        |
| BUSAK         | 1B11       |
| CBUSRQ        | 3A7        |
| D0-D7         | 6A5        |
| DBICC         | 1A5        |
| DBICO         | 2B11       |
| DBID, DBID7   | 5G1        |
| DBIPB         | 5F1        |
| DBOCC         | 1A6        |
| DBO, DBO4     | 5G5        |
| DBOLW         | 2F11       |
| DBOPB         | 5G7        |
| DLNB          | 3A9        |
| DLMM/EO       | 1C11       |
| DMAM REQ      | 3B1        |
| I CLK         | 1A10       |
| INRDY         | 3C11       |
| INSTRB        | 3C1        |
| LG0-LG7       | 6E1        |
| MDMARS        | 3A5        |
| MMWRS         | 3A5        |
| MR            | 1B11       |
| NXTOUT        | 2G1        |
| OUTRDY        | 3G7        |
| PAR IN        | 1B11       |
| PAR OUT       | 1E11       |
| RDO           | 3A6        |
| RFMME         | 3A6        |
| SCLT00        | 1G5        |
| SLD           | 5A11       |
| SS0, SS1, SS2 | 6F1        |
| STDATA        | 1E11       |
| STXD          | 4B1        |
| TXI           | 2A10       |
| WAIT          | 1G1        |
| WTMME         | 3A6        |
| ΦC            | 1E11       |

| L.C. TYPE | LOC. | SPARES |
|-----------|------|--------|
| 74LS00    | L34  | 1      |
|           | L63  | 1      |
| 7402      | L72  | 1      |
|           | L9   | 1      |
| 74LS02    | L17  | 1      |
|           | L121 | 1      |
| 74LS04    | L73  | 3      |
| 74LS08    | L12  | 1      |
|           | L64  | 1      |
| 74S10     | L53  | 2      |
| 74S11     | L87  | 1      |
| 74S20     | L80  | 1      |
| 7427      | L2   | 2      |
| 74LS32    | L59  | 1      |
| 74S37     | L7   | 2      |
| 74LS74    | L89  | 1      |
| 7476      | L86  | 1      |
| 74123     | L90  | 1      |
| 74125     | L52  | 2      |

| COMPONENT                    | WL PART NO. | TYPE             |
|------------------------------|-------------|------------------|
| R1-10, 12, 14, 17-34, 37, 38 | 330-3022    | 22K 1/4W 10%     |
| R11                          | 330-4028    | 27K 1/4W 5%      |
| R15                          | 330-3052    | 5.1K 1/4W 5%     |
| R16, 39, 40, 41, 43          | 330-4010    | 10K 1/4W 10%     |
| R35, 36                      | 330-2033    | 330Ω 1/4W 10%    |
| R42, R43                     | 330-2022    | 220Ω 1/4W 10%    |
| C1                           | 300-1915    | .0056μF 500V CER |
| C2                           | 300-1680    | 680PF 500V CER   |
| C3-78, 83, 84                | 300-1900    | .05μF 12V CER    |
| C79-82                       | 300-4022    | 15μF 20V (T)     |
| D1                           | 380-1001    | 516 DQ35         |
| XTAL                         | 321-0018    | 17.1 MHz         |



| NO. | REVISION    | DATE     | BY  |
|-----|-------------|----------|-----|
| 1   | ORIG. REV.  | 11-17-77 | ... |
| 2   | APP. REV.   | ...      | ... |
| 3   | REVISED PER | ...      | ... |
| 4   | REVISED PER | ...      | ... |

**WANG** LABORATORIES, INC.  
LOWELL, MASS. U.S.A.

MODEL NO. 140  
SEE ENGINE SPECIFICATIONS

TITLE: DATA LINK CONTROL

BY: J.F. DATE: 1-15-78 APPROVED BY: ENGR. A. DESKUR DATE: 1-15-78  
CHKD: J.L. DATE: 1-15-78 M. ENGR. MFG ENGR.

FINISH: 210-7503 D 7503 2

SCALE: 1:1 SHEET 2 OF 2

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E-REV. 0