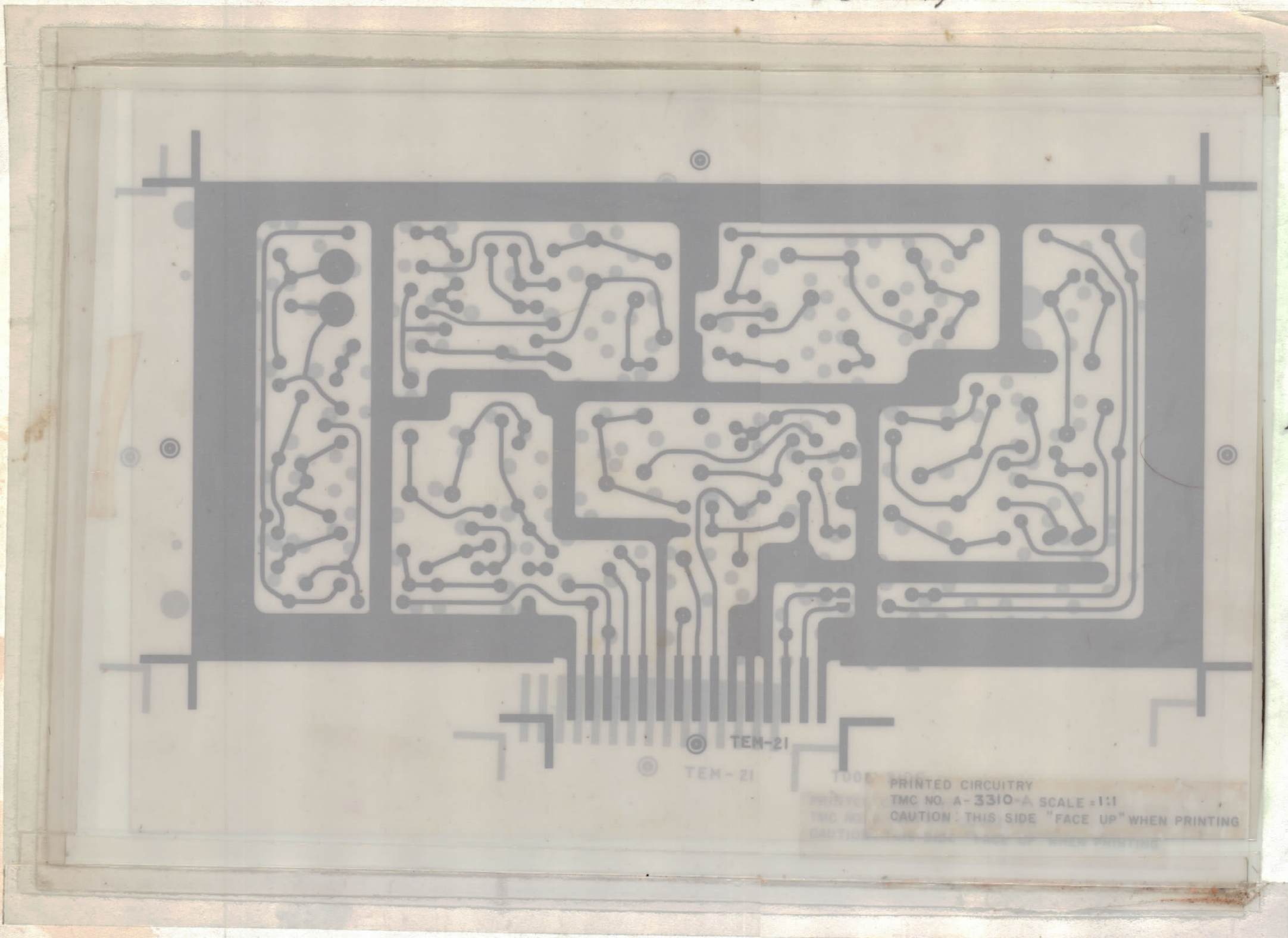


ETCHING, PRINTED CIRCUIT (A-3310-1)

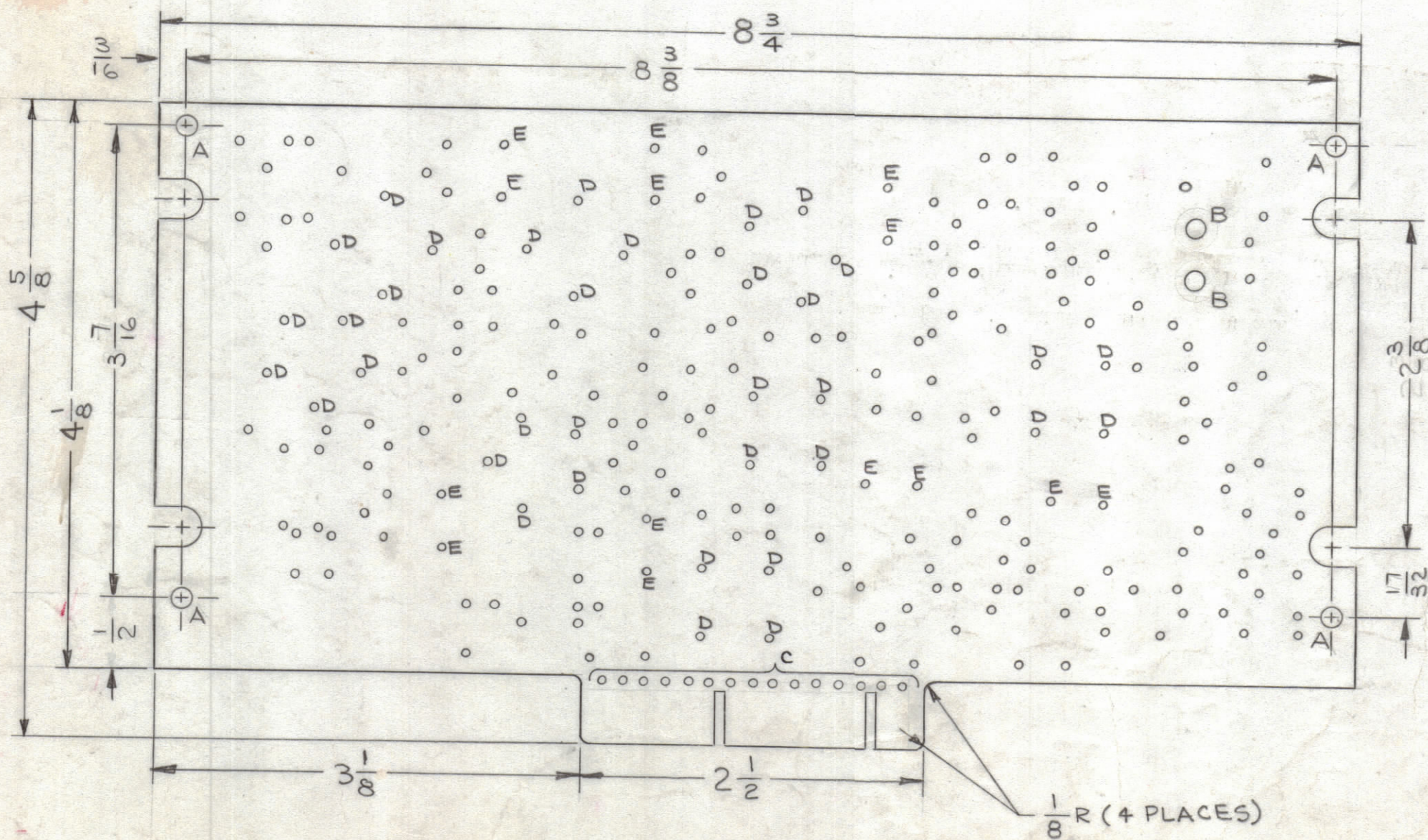


| REVISIONS | | | | | | | | | |
|-----------|-----|---|----------|------------|-------|------|------|--|--|
| ZONE | SYM | DESCRIPTION | DATE | E.M.N. NO. | DRAFT | CHKD | APPD | | |
| # | X1 | SEE SHEET 2 OF 2 REVISION "X1" | 11-20-63 | 1 | JL | | | | |
| # | X2 | SEE SHEET 2, REVISION "X2" | 2/24/64 | 2 | | | | | |
| # | X3 | SEE SHEET 2 | 5/19/64 | 3 | A.M. | | | | |
| | X4 | DELETED "A" HOLES, UPDATED NOTE 5 | 7-1-64 | 4 | NP | | | | |
| | X5 | ADDED "A" HOLES & MTG. SLOTS ON PICTORIAL; REVISED NOTE 5 | 7/29/64 | 5 | JL | | | | |
| | A | ORIGINAL RELEASE FOR PRODUCTION | 7-31-64 | | | | | | |
| | A | HOLE CHART & ON A3310-2 HOLE CALLOUTS UPDATED | 2-10-65 | 13224 | | | | | |

ORIGINAL ARTWORK TO BE REMOVED FROM PROTECTIVE POCKETS WHEN PHOTOGRAPHING. (NOTE DOUBLE POCKETS)

| HOLE & PAD SPECIFICATION | | | |
|--------------------------|-----------|-----------------|-------|
| HOLE | DIA | PAD DIA. | REQ'D |
| UNMARKED | .040 | .130 | 188 |
| A | .161-.164 | .250 | 4 |
| B | .166 | .310 | 2 |
| C | .040 | CONTACT FINGERS | 15 |
| D | .062 | .150 | 35 |
| E | .096 | .150 | 14 |

- NOTES:
- MATERIAL - G-10 EPOXY GLASS LAMINATE 3/32 THICK, 2 OUNCE COPPER CLAD BOTH SIDES.
 - ALL BOARDS WILL BE DOUBLE-SIDED. WHENEVER A PAD APPEARS ON THE PRINTED CIRCUIT SIDE, A SIMILAR SIZE AND SHAPE SHALL APPEAR ON THE COMPONENT SIDE IN EXACT REGISTER. (EXCEPT WHERE AN EXCEPTION IS NOTED.)
 - FINGER CONTACTS SHALL ALSO APPEAR ON THE COMPONENT SIDE OF BOARD AND SHALL BE CONNECTED WITH A .040 DIA. PLATED-THRU HOLE LOCATED IN THE CENTER OF EACH FINGER CONTACT .050" AWAY FROM THE MAIN BODY OF BOARD.
 - THE PRINTED CIRCUIT BOARDS SHALL BE KEYED WITH SLOTS .070" WIDE & .400" HIGH LOCATED BETWEEN FINGER CONTACTS 6 & 7, 13 & 14 AS VIEWED FROM COMPONENT SIDE OF BOARD.
 - (A) ALL HOLES TO BE PLATED-THRU WITH MINIMUM COPPER PLATING THICKNESS OF .001, EXCEPT "A" MTG. HOLES.
(B) PLATE .0003 TO .0005 NICKEL & 25 MILLIONTHS MINIMUM OF GOLD ALL ETCHED SURFACES AND PLATED-THRU HOLES.



A-3310-2 MACHINING
DO NOT SCALE, WORK TO DIMENSIONS

NOTES

| Q'TY./UNIT | MODEL USED ON | ASS'Y. NO. |
|------------|---------------|------------|
| 1 | LFS-1 | AX-412 |
| SCALE | CODE | |
| 1:1 | A | |

THE CONTENTS OF THIS DRAWING ARE THE EXCLUSIVE PROPERTY OF THE TECHNICAL MATERIEL CORP. ITS UNAUTHORIZED USE OR REPRODUCTION IN WHOLE OR IN PART IS STRICTLY FORBIDDEN.

| REQ'D. | ITEM | PART NUMBER | DESCRIPTION | SYMBOL |
|---|------|---|-------------|--------|
| M. GELLMAN LIST OF MATERIAL | | | | |
| MATERIAL | | THE TECHNICAL MATERIEL CORP. MAMARONECK, NEW YORK | | |
| FINISH | | TITLE PRINTED CIRCUIT BOARD, ASSY (+ MIXER MODULE) | | |
| SEE NOTE #1 | | DRAWN J. LESHINSKI | | |
| SEE NOTE #1 | | DATE 9/20/63 | | |
| UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES AND INCLUDE CHEMICALLY APPLIED OR PLATED FINISHES | | CHECKED @ | | |
| DECIMALS .X ± .05 .XX ± .01 .XXX ± .005 | | DATE 7-2-64 | | |
| TOLERANCES | | ELECT. DES. MECH. DES. | | |
| FRACTIONS ± 1/64 ANGLES ± 0° 30' | | DATE 7-2-64 | | |
| | | DATE | | |
| | | A-3310 | | |
| | | SHEET 1 OF 2 | | |
| | | REV. LTR. | | |

A-3310 A

— UNLESS OTHERWISE SPECIFIED —
 1- ALL LETTERING TO BE 5/64 HIGH BLACK GOTHIC; ALL DOTS TO BE 1/16 DIA., .010 STROKE LOCATED APPROX. AS SHOWN.
 2- MARKING PROCESS: AS PER TMC SPEC S727.
 3- MARK TMC P/N WITH LATEST REVISION LETTER

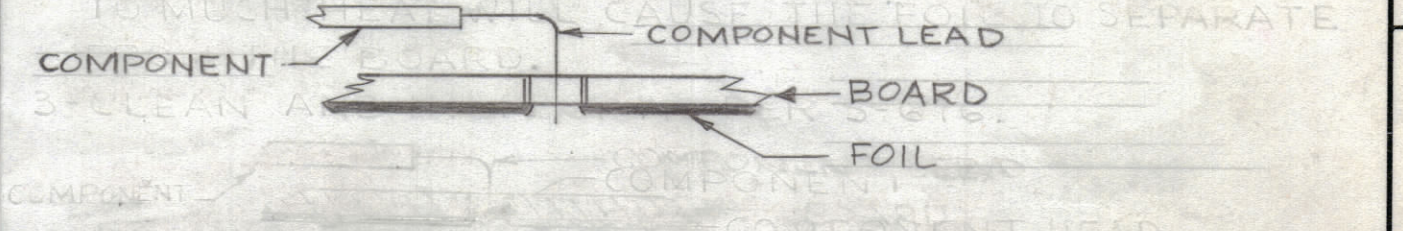
| REVISIONS | | | | | | |
|--------------------|-----|--|---------|------------|-------|------|
| ZONE | SYM | DESCRIPTION | DATE | E.M.N. NO. | DRAFT | CHKD |
| | X1 | REVISED PT. NO.'S & DESCRIPTIONS OF ITEMS 22 THRU 28. | 1/20/63 | 1 | JL | |
| | X2 | ITEMS 21, 29, 31, 32, 33 ADDED TO BUILD-UP ON A3310-5, Q648 & C673 SYMBOLS ADDED | 2/14/64 | 2 | | |
| | X3 | ITEM 33 & 34 ADDED; ITEM 10 WAS 4-REQ'D ITEM 7 WAS 8-REQ'D | 5/19/64 | 3 | A.M. | |
| B2, B3, B4, D1, C3 | X4 | ITEM (1) WAS NT144-0440, DELETED; SUB ASS (A3310-4) DELETED FUNGUS NOTE ADDED; T646 WAS T643; ITEM 12 QUANT WAS 30 | 7-1-64 | 4 | NP | |
| | X5 | ADDED ITEM 1, SUB-ASSY, MTG HOLES & SLOTS | 7/29/64 | 5 | JL | |
| | O | ORIGINAL RELEASE FOR PRODUCTION | 7.31.64 | * | | |
| E2 | A | ITEM (31) WAS 2N1637, SEE SHEET #1, REV A | 2-10-65 | 13224 | | |

LETTERING ON THIS SIDE

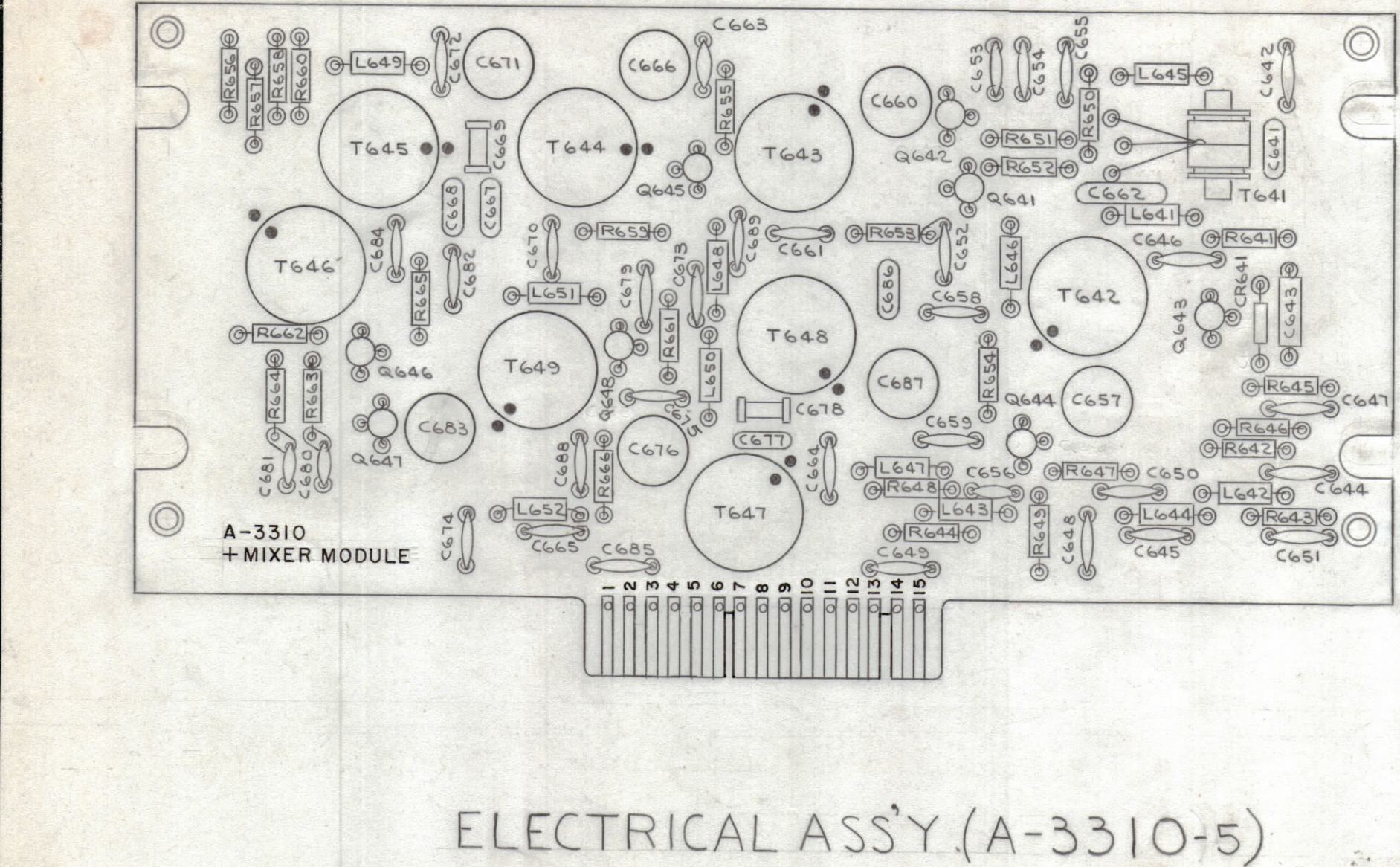
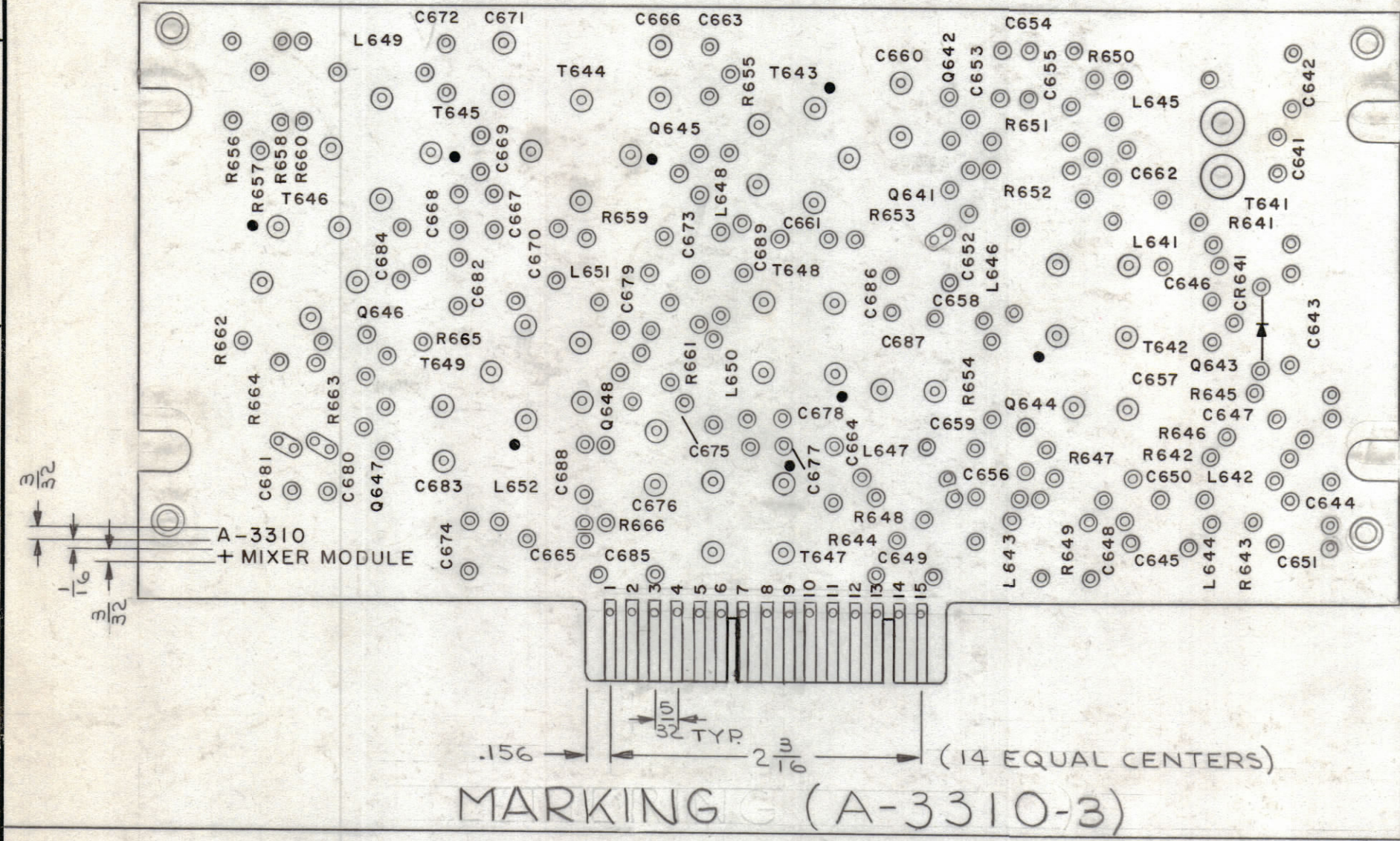
MOUNT IN ALL 'A' HOLES

SUB-ASSY (A-3310-4)

- ASSEMBLY NOTICE
- TO MOUNT COMPONENTS INSERT LEAD THROUGH PLATED-THRU HOLES AND BEND ABOUT 1/16 OF LEAD OVER COPPER FOIL AS SHOWN.
 - APPLY HEAT AND SOLDER TO LEAD AND FOIL CAUTION TO MUCH HEAT WILL CAUSE THE FOIL TO SEPARATE FROM THE BOARD.
 - CLEAN AND INSPECT AS PER S-676.
 - FUNGUS PROOF PER TMC SPEC. S113.



| QTY | ITEM | PART NUMBER | DESCRIPTION | SYMBOL |
|-----|------|--------------|--------------------------------|----------------------|
| 1 | 35 | RC20GF562K | RESISTOR, FIXED COMPOSITION | R662 |
| 1 | 34 | RC20GF223K | RESISTOR, FIXED COMPOSITION | R650 |
| 1 | 33 | IN39B | DIODE | CR641 |
| 1 | 32 | CM15B101J | CAPACITOR, FIXED, MICA | C643 |
| 8 | 31 | TX105 | TRANSISTOR | Q641 THRU Q648 |
| X | 30 | BS-100 | SOLDER, SOFT | |
| 1 | 29 | TT-200 | TRANSFORMER, R.F., TUNED | T641 |
| 1 | 28 | TZ-170 | TRANSFORMER, R.F., FIXED | T644 |
| 1 | 27 | TZ-169 | | T642 |
| 1 | 26 | TZ-168 | | T648 |
| 2 | 25 | TZ-167 | | T643, T649 |
| 1 | 24 | TZ-166 | | T645 |
| 1 | 23 | TZ-165 | | T647 |
| 1 | 22 | TZ-164 | TRANSFORMER, R.F., FIXED | T646 |
| 7 | 21 | CV-109-8 | CAPACITOR, VARIABLE | |
| 1 | 20 | CL-275-821 | COIL, R.F. | L642 |
| 11 | 19 | CL-275-101 | COIL, R.F. | |
| 1 | 18 | CM112E102H3S | CAPACITOR, FIXED, MICA | C662 |
| 1 | 17 | CM111E321H3S | | C641 |
| 2 | 16 | CM111E470H5S | | C667, C668 |
| 2 | 15 | CM111E101G5S | | C677, C686 |
| 2 | 14 | CC101-9 | CAPACITOR, FIXED, CERAMIC DISC | C669, C678 |
| 3 | 13 | CC100-29 | | C656, C680, 681 |
| 30 | 12 | CC100-35 | | |
| 1 | 11 | RC20GF273K | RESISTOR, FIXED COMPOSITION | R643 |
| 3 | 10 | RC20GF103K | | R646, 647, R655 |
| 2 | 9 | RC20GF682J | | R659, R666 |
| 1 | 8 | RC20GF332J | | R645 |
| 6 | 7 | RC20GF102K | | |
| 1 | 6 | RC20GF821J | | R657 |
| 1 | 5 | RC20GF681K | | R649 |
| 2 | 4 | RC20GF331K | | R644, R656 |
| 3 | 3 | RC20GF101J | | R648, 660, R658 |
| 4 | 2 | RC20GF470K | RESISTOR, FIXED, COMPOSITION | R651, 652, R663, 664 |
| 4 | 1 | NT-144-0440 | NUT, PLAIN, SPLINE | |



C657, 660, 666, 671, 676, 683 & C687

L641, L643 THRU L652

C642, C644 THRU C655, C658, 659, C661, 665, 689, 670, C672 THRU C675, C679, 682, 684, 685, 688, 663, 664

R641, 642, 653, 654, 661, R665

REF: CK703

ELECTRICAL ASSY. (A-3310-5)

MARKING (A-3310-3)

| | | |
|-----------|---------------|-----------|
| 1 | LFS-1 | AX-472 |
| QTY/UNIT | MODEL USED ON | ASSY. NO. |
| SCALE 1:1 | CODE A | |

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DECIMALS: .X ± .05, .XX ± .01, .XXX ± .005
 FRACTIONS: ± 1/64, ± 1/32
 TOLERANCES: ANGLES ± 0° 30'

| | | | | | | | |
|-----------------------|--|-----------------|--|---|--|-----------|--|
| M. GELLMAN | | | | LIST OF MATERIAL | | | |
| MATERIAL | | | | THE TECHNICAL MATERIEL CORP. MAMARONECK, NEW YORK | | | |
| FINISH | | | | TITLE PRINTED CIRCUIT BOARD, ASSY. (+ MIXER MODULE) | | | |
| DRAWN J. LESHINSKI | | DATE 3/13/63 | | FINAL APPROVAL | | DATE | |
| CHECKED @ | | DATE 7-2-64 | | DATE 7-2-64 | | DATE | |
| ELECT. DES. | | DATE 7-2-64 | | A-3310 | | A | |
| MECH. DES. | | DATE | | SHEET 2 OF 2 | | REV. LTR. | |

NOTES