

SIMPLIFIED BLOCK WIRING DIAGRAMS

1-A KEY TELEPHONE EQUIPMENT



The Chesapeake and Potomac Telephone Company of Baltimore City

L. Moulard

Simplified Block Wiring Diagrams
1-A Key Telephone Equipment

Simplified block wiring diagrams have been made available primarily to facilitate the interconnection by field workmen of the many components of apparatus used to provide various types of telephone service. The use of such diagrams will also serve to produce greater uniformity in wiring and connections.

Block wiring diagrams are intended to supplement other drawings and instructions relative to the apparatus being installed and are not intended to replace them. The diagrams provide only that information required for the actual field wiring of commonly used apparatus components and in general provide complete data for all cord, cable, and wiring terminations. To the extent possible, all notes, modifications, strapping, etc., required for a given application of apparatus are included as part of the diagrams.

A brief description of the specific application of the diagrams contained herein precedes each group of diagrams and a numerical index for each group has been included also.

It is not intended that a set of diagrams be provided for each craftsman; however, the supervisor should see that one is available for each 1-A key job while in progress and installations should be made accordingly to ensure maximum uniformity.

E. Smith J.

General Plant Supervisor

Diagrams reproduced through courtesy of New Jersey Bell Telephone Company

BLOCK WIRING DIAGRAMS
1A KEY TELEPHONE SYSTEM

Block wiring diagrams for the 1A Key Telephone System cover cord, cable and wiring terminations for the installation of commonly used 1A Key Telephone System arrangements using combined key telephone sets. The data furnished is complete from P.B.X. extension or central office line terminations in the apparatus box or cabinet to cord terminations in telephone sets.

The diagrams supplement Bell System Practices, Equipment Ready Reference Instructions and standard drawings and are not intended to replace them. Diagrams have not been prepared for unusual arrangements of features, obsolete or uncommonly used key telephone sets or for features provided by separately mounted keys. Installations of unusual arrangements of features, etc., will therefore require the use of standard drawings and other available instructions which will also be used to maintain systems in service.

Diagrams have been provided for each of the commonly used feature arrangements. They have been arranged to separately group HCK sets and HCK-L sets. Additional diagrams have been provided for 50 Series Key Telephone Units arranged for AC or DC lamp operation and for power units, transformers and rectifiers.

Separate numerical lists have been provided for HCK and HCK-L Sets to index the various groupings of features cross-referenced to specific diagram or sketch numbers. The 50 series Key Telephone Units and various power units are included on the numerical list with the HCK-L sets.

To select the proper diagram for a specific application, first determine the features to be provided and the type of equipment to be installed HCK-L or HCK, then by reference to the Numerical List select the diagram or sketch number which corresponds to the features. Sketches are filed numerically following the Numerical List.

EXAMPLE: Service order abbreviations provide for the installation of HCK, H2P-INTL as set types and features involved, the Numerical List indicates that Sketch No. 253 shall be used.

Diagrams for HCK sets include the wiring to the key telephone units. When HCK-L sets are to be installed, reference must also be made to diagrams for 50 Type Key Telephone Units, rectifiers, power units, etc., in addition to the diagrams for the HCK-L sets. These diagrams shall also be selected according to the type of unit to be installed and the features to be provided.

The cables shown on the diagrams feeding the various types of telephone sets are the minimum sizes that can be used to provide the features involved. When a minimum size cable can be used, it is desirable that the cable wire color selections be made as indicated. When a larger cable is used to serve more than one station, the color selections for the first station shall be made as indicated and the selections for additional stations made in normal cable color code sequence.

The diagrams which have been made available in this series do not cover all applications of the 1A Key Telephone System. They are intended to cover the bulk of commonly used arrangements and if there are sufficient field requirements for additional diagrams they will be provided.

1A KEY TELEPHONE SYSTEMS

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Issue 1

8-51

BLOCK WIRING DIAGRAMS

HCK-L SETS

Numerical List

Type of Service Features	Type of Set		Diagram or Sketch No.
	Manual	Dial	
H-1P, INTL, LAMPS, 3-S, EXCL	465-NA	465-NC	210
H-2P, INTL, LAMPS	444-EA	444-EC	204
H-2P, INTL, LAMPS, EXCL	445-EA	445-EC	202
H-2P, LAMPS, 1-S	444-FA	444-FC	206
H-2P, LAMPS, 1-S, EXCL	445-FA	445-FC	205
H-2P, INTL, LAMPS 2-S	464-MA	464-MC	208
H-2P, INTL, LAMPS, 2-S, EXCL	465-MA	465-MC	216
H-2P, 1-C, INTL, LAMPS 1-S, EXCL	465-LA	465-LC	214
H-2P, LAMPS, 3-S, EXCL	465-NA	465-NC	209
H-3P, LAMPS	444-EA	444-EC	203
H-3P, LAMPS, EXCL	445-EA	445-EC	201
H-3P, 1-C, INTL, LAMPS, EXCL	465-KA	465-KC	221
H-3P, INTL, LAMPS, 1-S	464-HA	464-HC	211
H-3P, INTL, LAMPS, 1-S, EXCL	465-HA	465-HC	220
H-3P, 1-C, LAMPS, 1-S, EXCL	465-LA	465-LC	213
H-3P, LAMPS, 2-S	464-MA	464-MC	207
H-3P, LAMPS, 2-S, EXCL	465-MA	465-MC	215
H-4P, 1-C, LAMPS, EXCL	465-KA	465-KC	222
H-4P, INTL, LAMPS	464-GA	464-GC	218
H-4P, INTL, LAMPS, EXCL	465-GA	465-GC	224
H-4P, 1-S, LAMPS	464-HA	464-HC	212
H-4P, 1-S, LAMPS, EXCL	465-HA	465-HC	219
H-5P, LAMPS	464-GA	464-GC	217
H-5P, LAMPS, EXCL	465-GA	465-GC	223

KEY TELEPHONE UNITS AND POWER EQUIPMENT

No. of Lines	Lamp Supply	Type of KTU	Diagram or Sketch No.
2	10VAC	50A-26	226
3	10VAC	50B-26	227
4	10VAC	50C-26	228
5	10VAC	50C-26, +52A	229
2	14-26V, DC	50A-26	231
3	14-26V, DC	50B-26	232
4	14-26V, DC	50C-26	233
5	14-26V, DC	50C-26, +52A	234

Type of Power Equipment

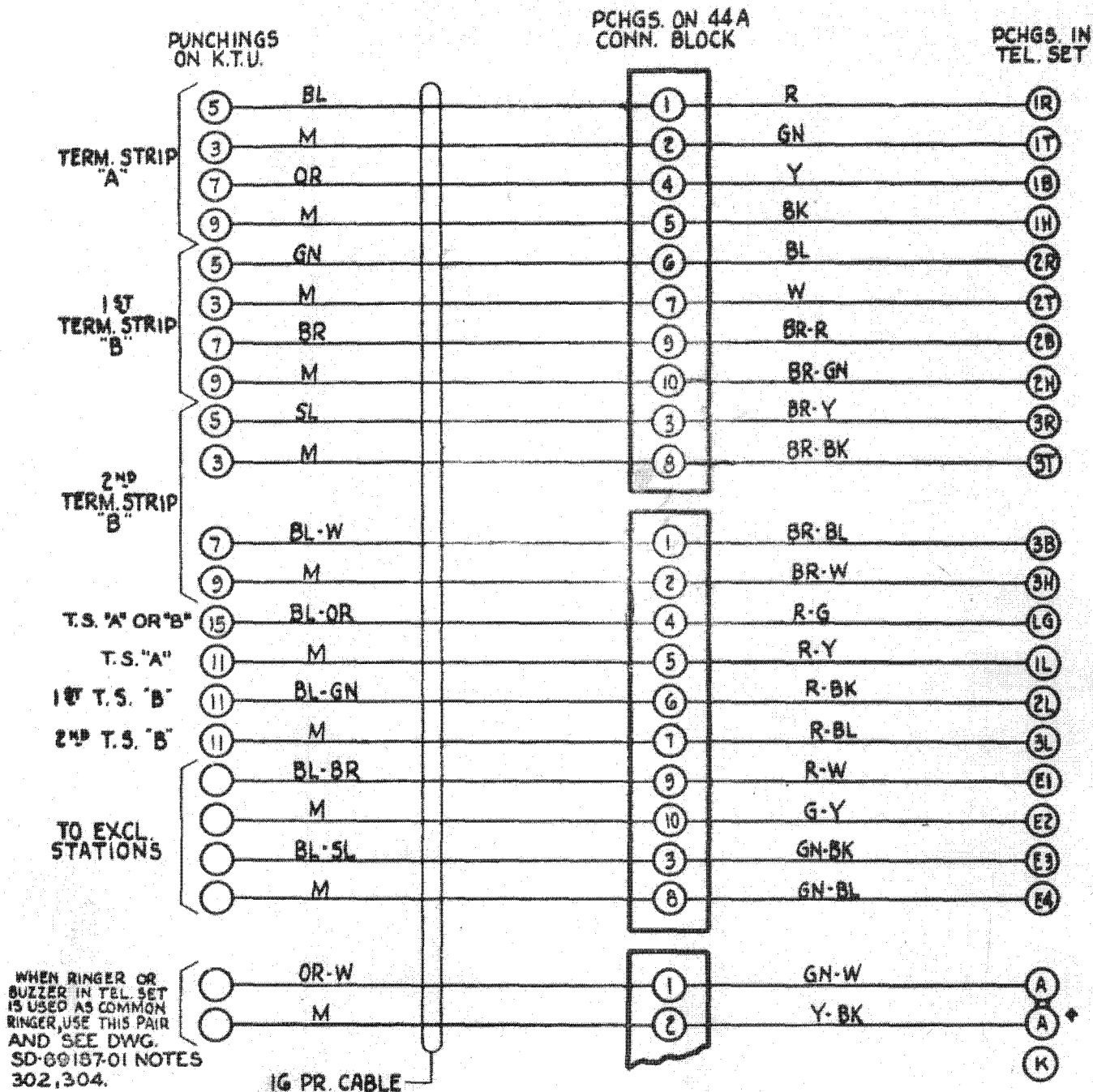
Unit, Power J-86731A List 1	235
Transformer, 393A	236
Rectifier J-86205-A List 1	237

1A KEY TELEPHONE SYSTEMS
BLOCK WIRING DIAGRAMS
HCK SETS

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8-51

Numerical List

<u>Type of Service Features</u>	<u>Type of Set</u>		<u>Diagram or Sketch No.</u>
	<u>Manual</u>	<u>Dial</u>	
1-P, 1-C, 1-S	410-BA	410-BC	241
1-P, 1-C, 1-S, EXCL	411-BA	411-BC	242
2P	410-AA	410-AC	251
2P, EXCL	411-AA	411-AC	252
2P, 1-S, EXCL	411-BA	411-BC	243
2P, 1-C, 1-S, EXCL	441-DA	441-DC	247
3P, 1-C, EXCL	441-CA	441-CC	246
3P, 1-S, EXCL	441-BA	441-BC	245
4P, EXCL	441-AA	441-AC	244
4P, 1-C, 1-S, EXCL	461-DA	461-DC	250
5P, 1-C, EXCL	461-CA	461-CC	249
6P, EXCL	461-AA	461-AC	248
H-1P, 1-C, INTL	440-GA	440-GC	254
H-1P, INTL, 1-S	440-FA	440-FC	257
H-2P, 1-S	440-FA	440-FC	256
H-2P, 3-S	460-NA	460-NC	261
H-2P, INTL	440-EA	440-EC	253
H-2P, INTL, 2-S	460-MA	460-MC	263
H-2P, 1-C, INTL, 1-S	460-LA	460-LC	262
H-3P, EXCL	441-EA	441-EC	255
H-3P, INTL, 1-S	460-HA	460-HC	260
H-4P, INTL	460-GA	460-GC	259
H-5P,	460-GA	460-GC	258



NOTE :
 TERMINATE "SR" CONDENSER LEAD AS FOLLOWS :
 "COMMON" RINGER OR BUZZER, PUT "SR"
 LEAD ON L-1.
 "LINE" RINGER, PUT "SR" LEAD ON WITH
 "RED" RINGER LEAD.

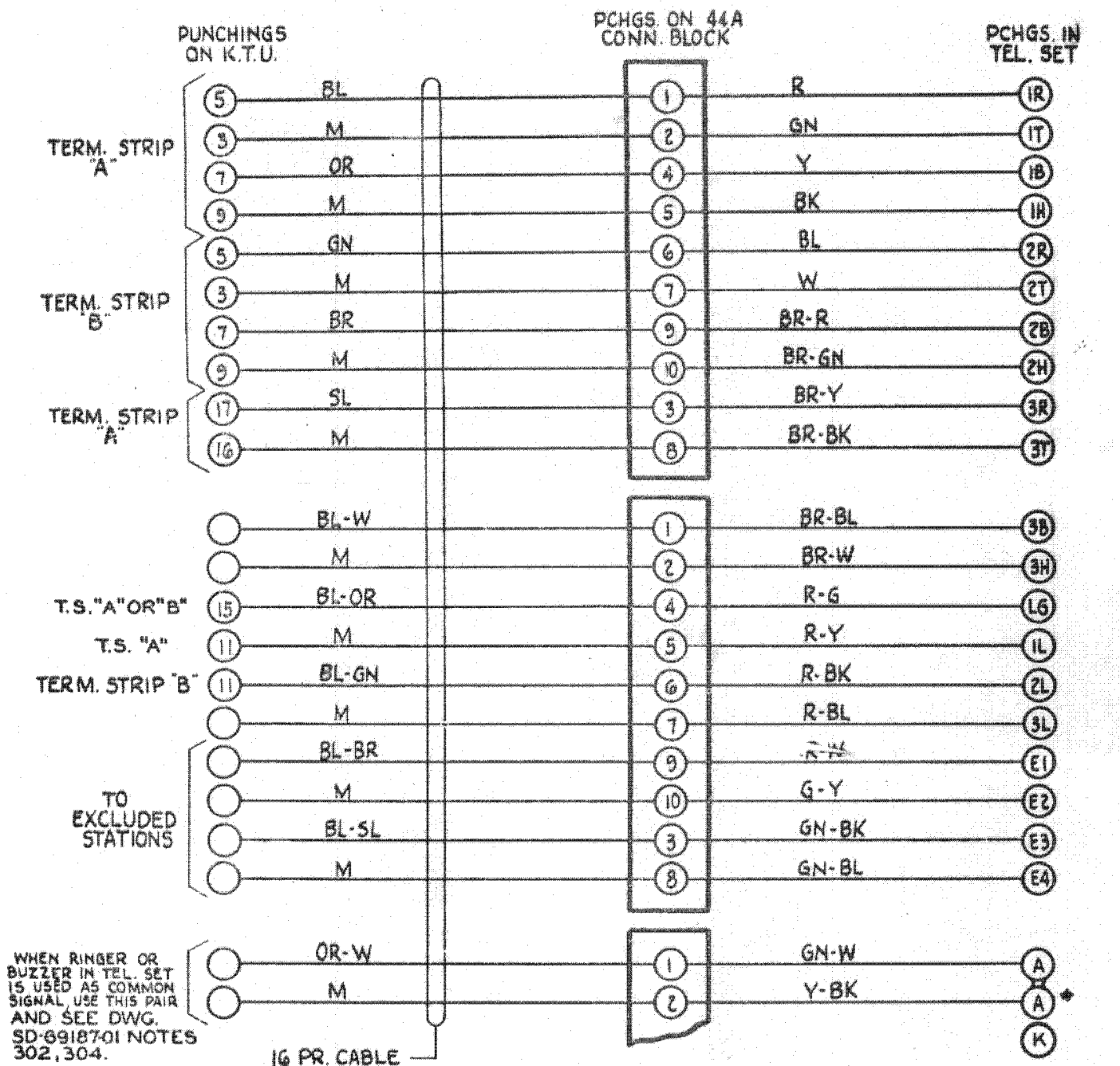
REFERENCE-DWG. SD-69187-01

THIS PROVIDES FOR PICK UP AND
 HOLD ON 3 C.O. OR P.B.X. LINES USING
 50 TYPE K.T.U. EXCLUSION ALSO PROVIDED.

H, 3-P, EXCL. WITH LAMPS
 445 EA OR EC



SKETCH 201

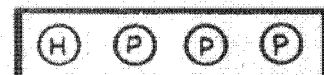


NOTE:
 TERMINATE "SR" CONDENSER LEAD AS FOLLOWS:
 "COMMON" RINGER OR BUZZER, PUT "SR" LEAD
 ON L-1.
 "LINE" RINGER, PUT "SR" LEAD ON WITH "RED"
 RINGER LEAD.

REFERENCE- DWG. SD-69187-01

PROVIDES FOR PICK UP AND HOLD ON
 2 C.O. OR P.B.X. LINES AND INTERCOMM
 AND EXCLUSION USING 50 TYPE K.T.U.

H, 2-P, INTL, EXCL, WITH LAMPS
 445 EA OR EC



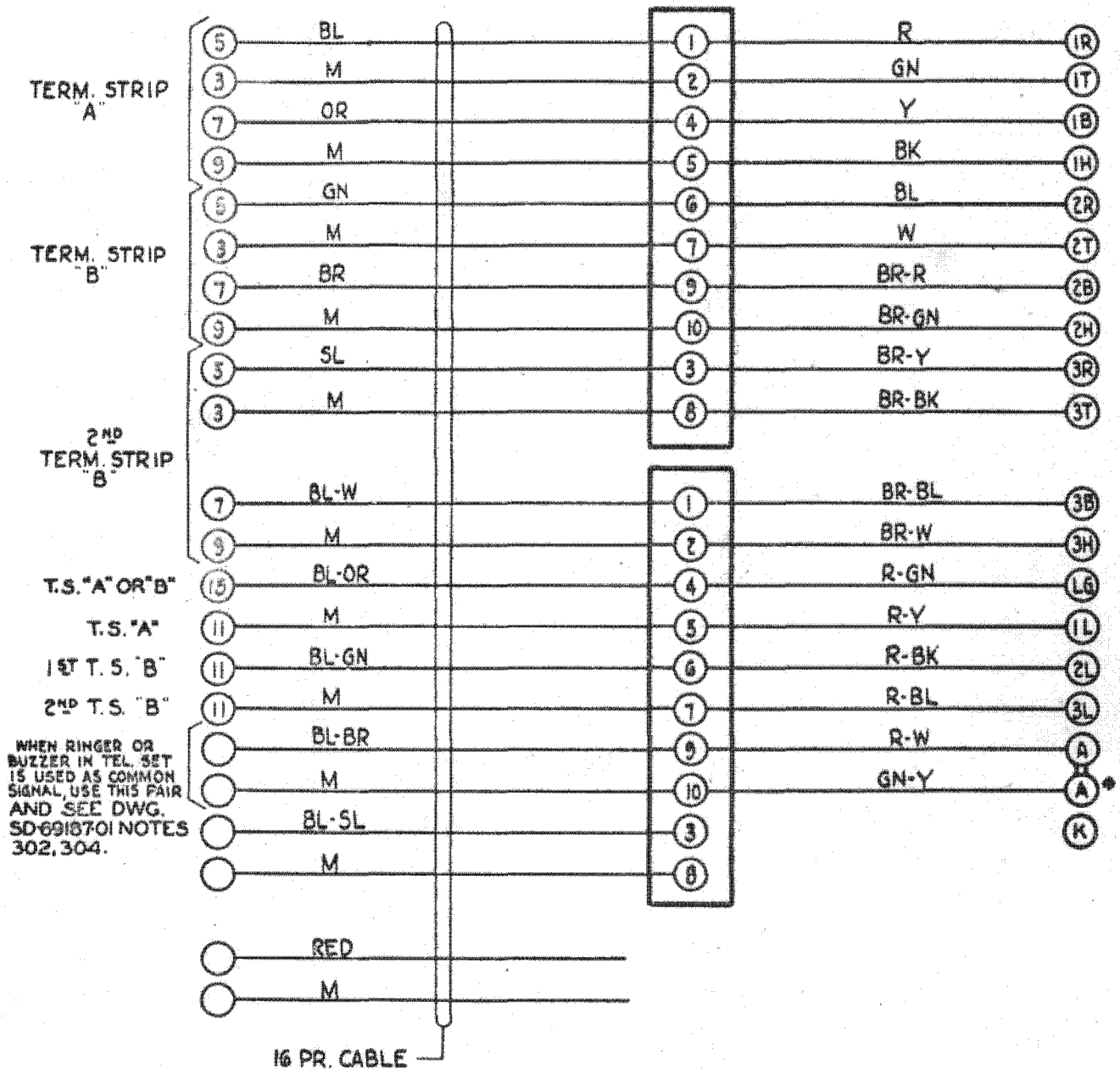
SKETCH 202

ISSUE No. 2 11-1-51

PUNCHINGS
ON K.T.U.

44A CONN. BLOCK

PCHGS. IN
TEL. SET



NOTE:

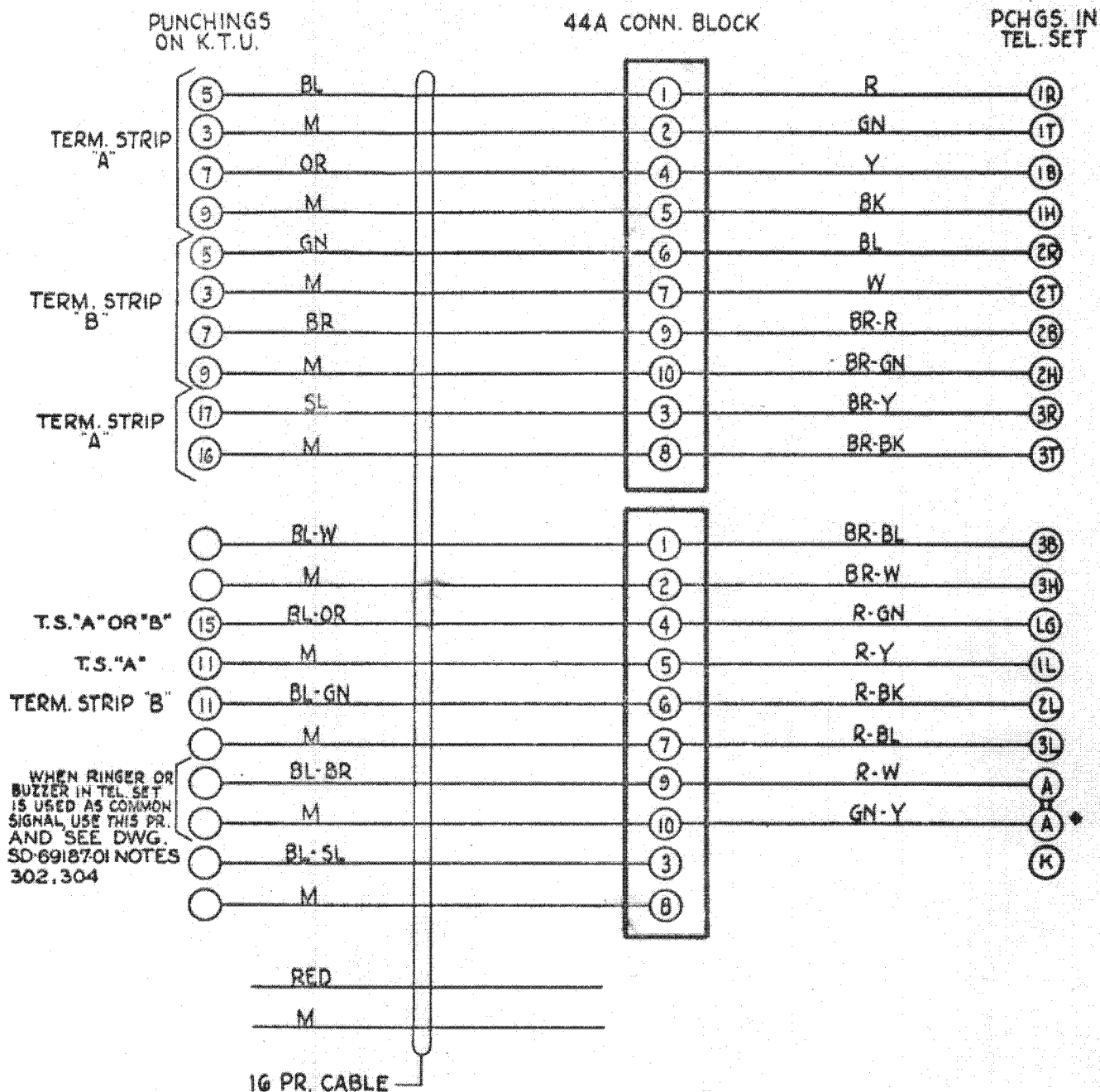
TERMINATE "S.R." CONDENSER LEAD AS FOLLOWS:
"COMMON" RINGER OR BUZZER, PUT "S.R."
LEAD ON "L-1".
"LINE" RINGER, PUT "S.R." LEAD ON WITH "RED"
RINGER LEAD.

REFERENCE - DWG. SD-69187-01

PROVIDES FOR PICK UP AND HOLD ON
3 C.O. OR P.B.X. LINES USING 50 TYPE K.T.U.
H, 3-P, WITH LAMPS
444 EA OR EC



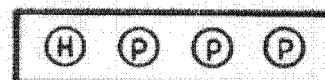
SKETCH 203



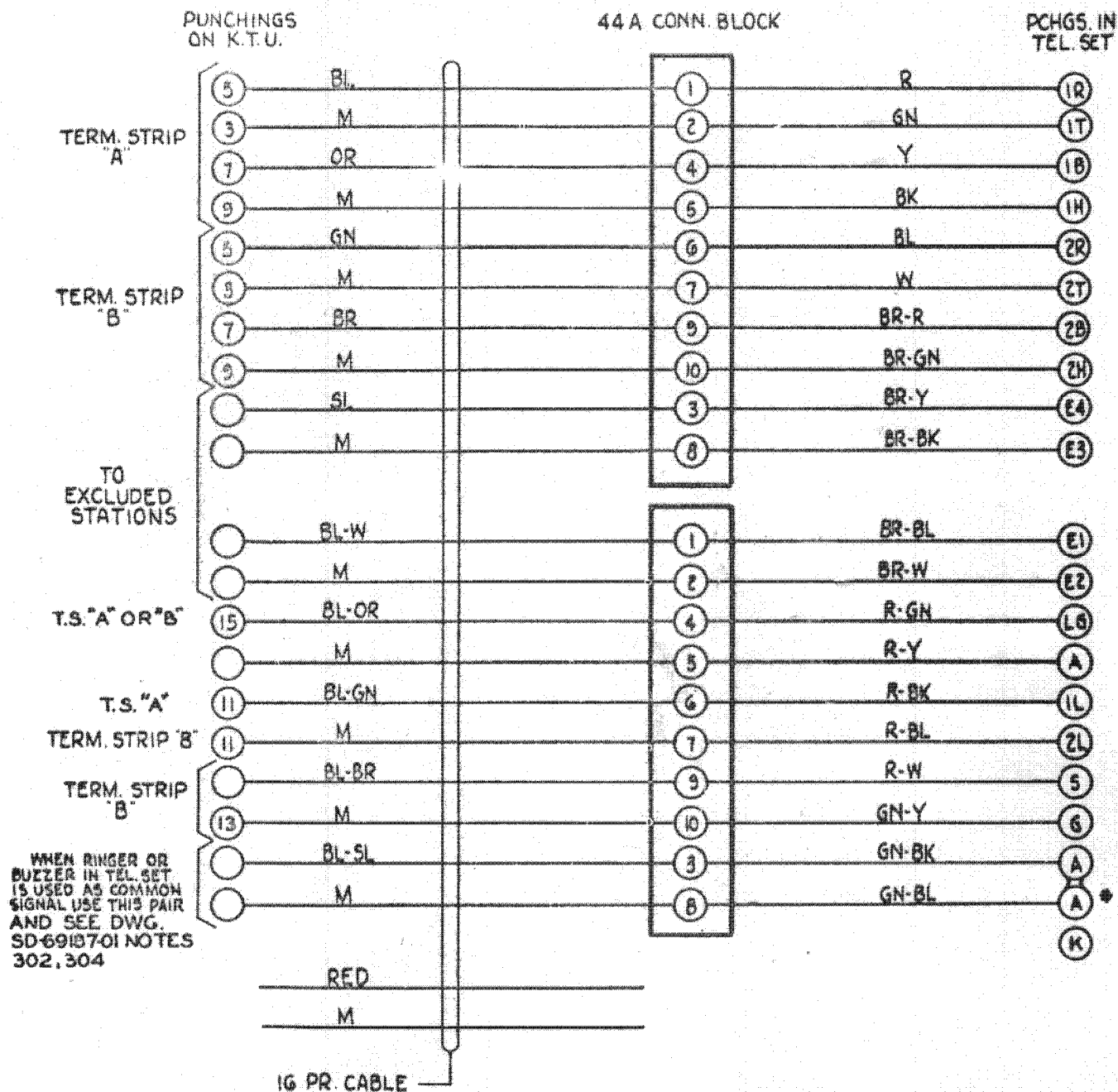
NOTE:
 TERMINATE "S.R." CONDENSER LEAD AS FOLLOWS:
 "COMMON" RINGER OR BUZZER, PUT "S.R." LEAD ON "L-1."
 "LINE RINGER, PUT "S.R." LEAD ON WITH "RED" RINGER LEAD.

REFERENCE - DWG. SD-69187-01

PROVIDES FOR PICK UP AND HOLD
 ON 2 C.O. OR P.B.X. LINES AND INTERCOMM
 USING 50 TYPE K.T.U.
 H.2-P, INTL. WITH LAMPS
 444 EA OR EC



SKETCH 204



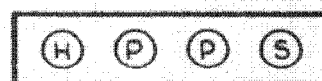
NOTE:
TERMINATE "S.R." CONDENSER LEAD AS FOLLOWS:
COMMON "RINGER OR BUZZER, PUT "S.R." LEAD ON "L-1."
"LINE" RINGER, PUT "S.R." LEAD ON WITH "RED" RINGER LEAD.

REFERENCE - DWG. SD-69187-01

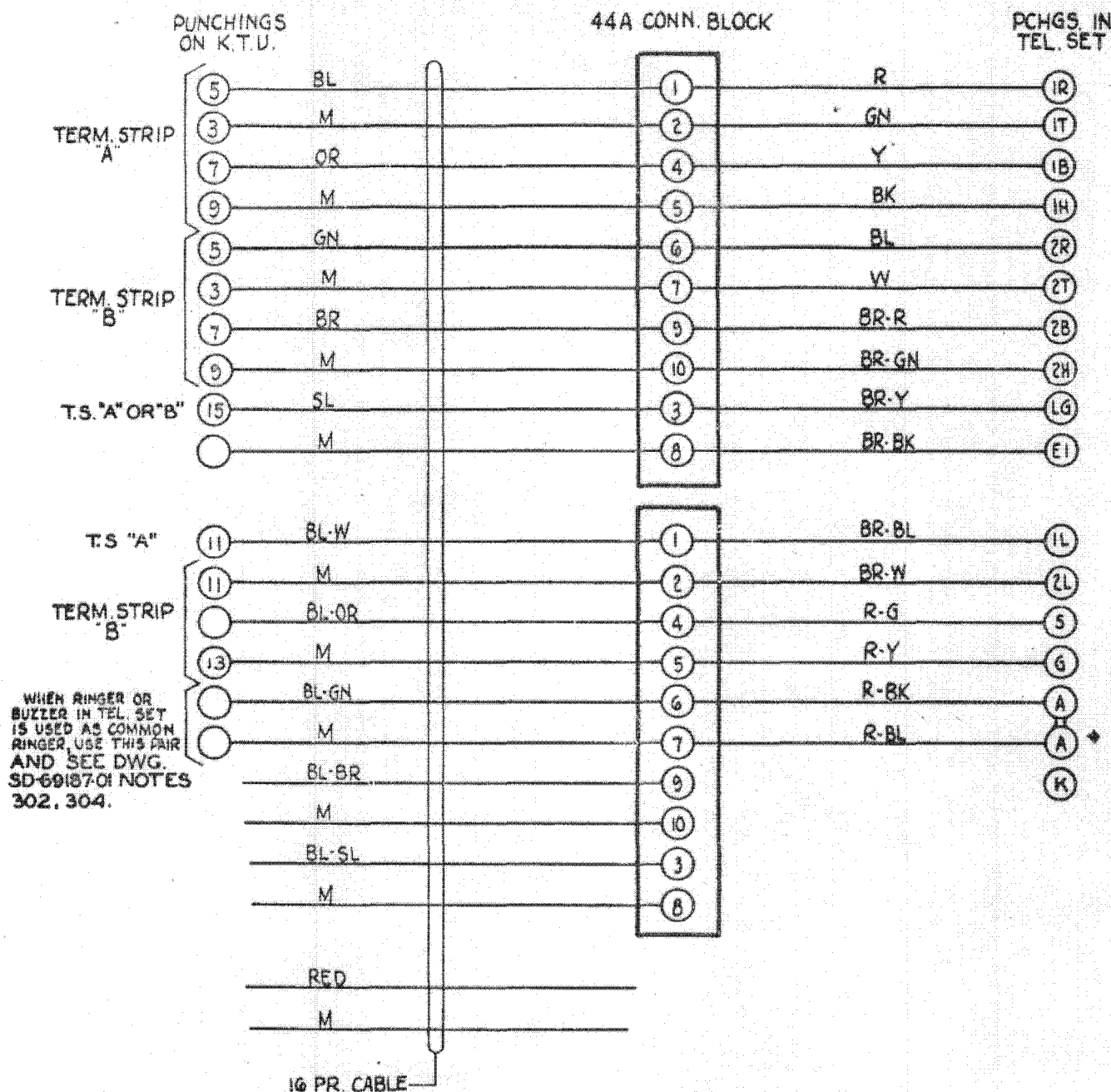
PROVIDES PICK-UP AND HOLD ON 2 C.O. OR RBX. LINES, SIGNALLING AND EXCLUSION ON 1ST LINE USING 50 TYPE K.T.U.

H.2-P, I.S. EXCL. WITH LAMPS

445 FA OR FC



SKETCH 205



NOTE:
 TERMINATE "S.R." CONDENSER LEAD AS FOLLOWS:
 COMMON RINGER OR BUZZER, PUT "S.R." LEAD ON "L-1".
 "LINE" RINGER, PUT "S.R." LEAD ON WITH "RED" RINGER LEAD.

REFERENCE-DWG. SD-69187-01

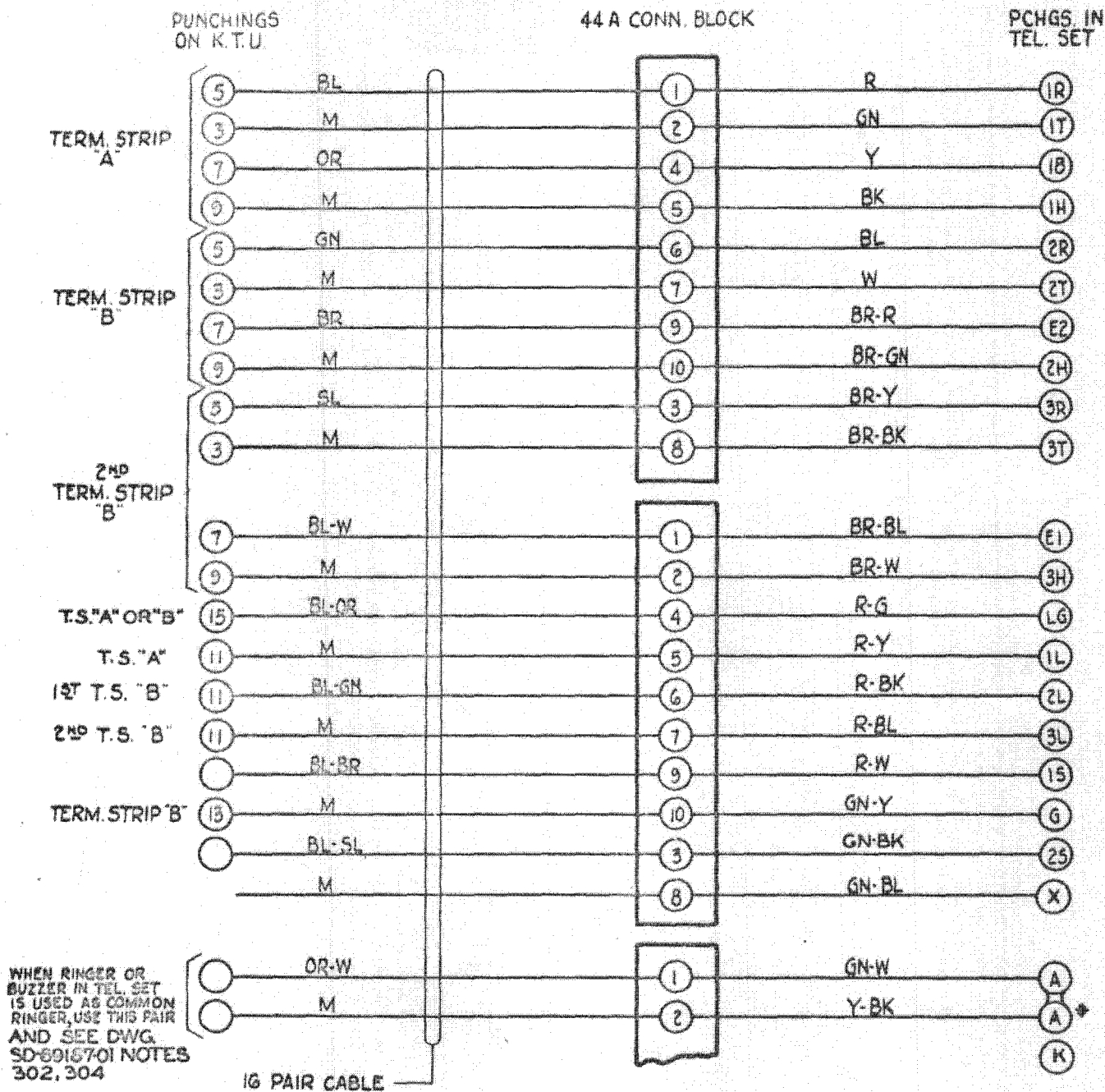
PROVIDES PICK UP AND HOLD ON 2 C.O. OR P.B.X. LINES AND SIGNALING USING 50 TYPE K.T.U.

H, 2-P, 1-S, WITH LAMPS

444 FA OR FC



SKETCH 206



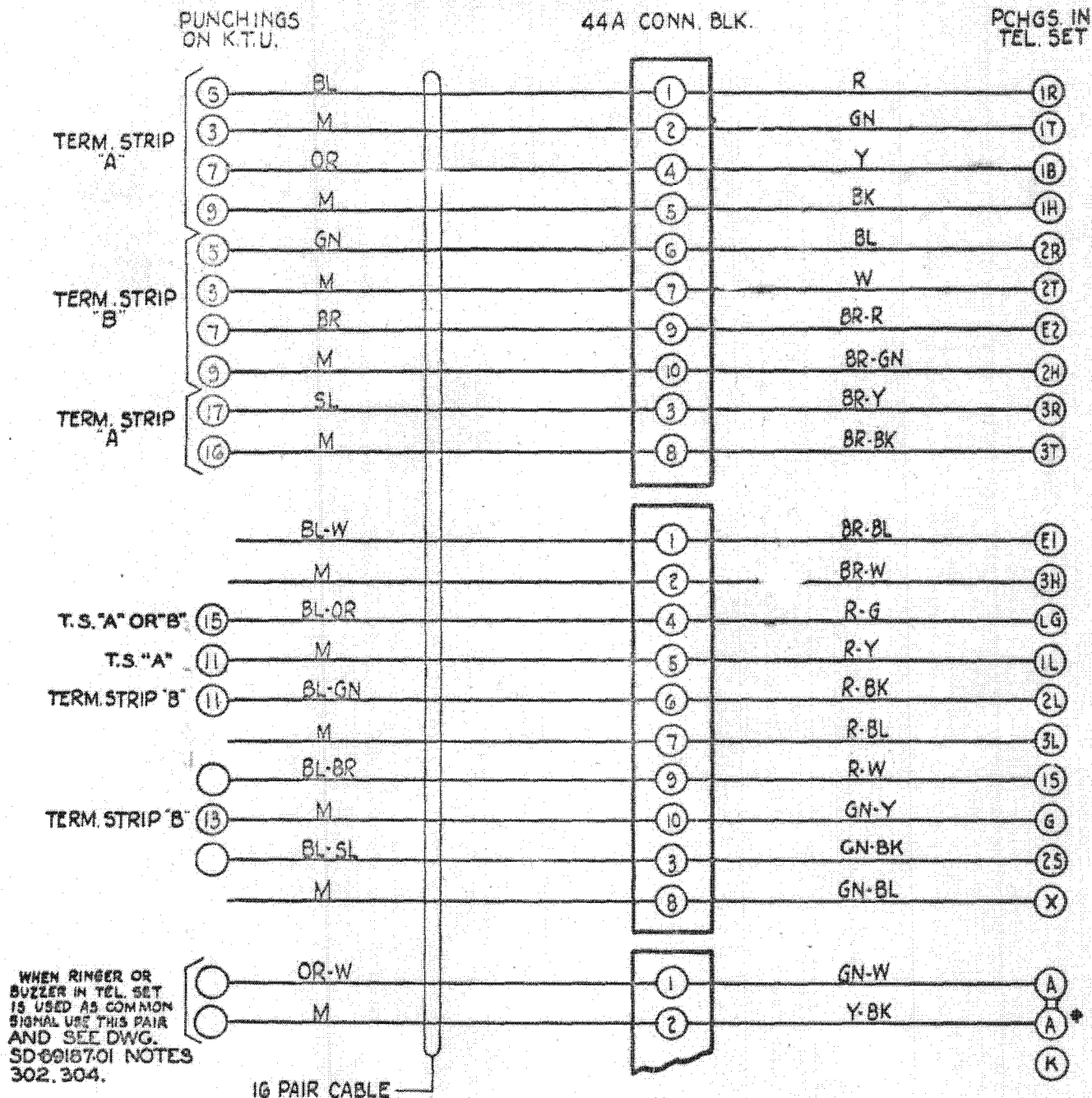
NOTE:
 TERMINATE "S.R." CONDENSER LEAD AS FOLLOWS:
 "COMMON" RINGER OR BUZZER, PUT "S.R." LEAD ON "L-I".
 "LINE" RINGER, PUT "S.R." LEAD ON WITH "RED" RINGER LEAD.

REFERENCE-DWG. 3D-69167-01

PROVIDES PICK UP AND HOLD ON 3 C.O. OR P.B.X. LINES AND SIGNALING FOR TWO CIRCUITS USING 50 TYPE K.T.U. H,3-P,2-S, WITH LAMPS
 464 MC OR MA



SKETCH 207



NOTE:
 TERMINATE THE "S.R." CONDENSER LEAD AS FOLLOWS:
 "COMMON" RINGER OR BUZZER, PUT "S.R." LEAD ON "L-I."
 "LINE" RINGER, PUT THE "S.R." LEAD ON WITH "RED" RINGER LEAD.

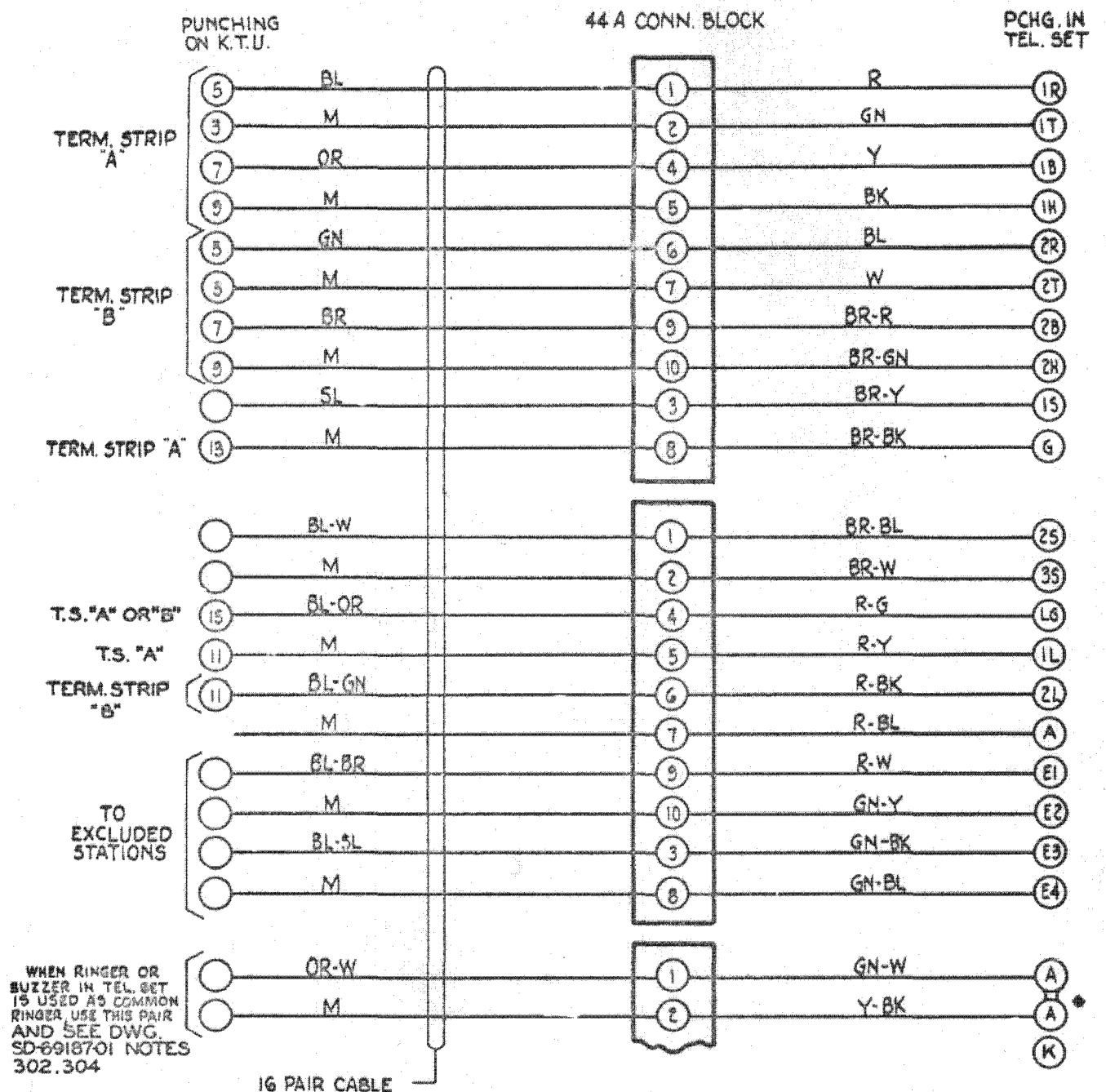
REFERENCE-DWG. SD-69187-01

PROVIDES PICK UP AND HOLD ON 2 C.O. OR P.B.X. LINES, INTERCOMM AND 2 SIGNALS USING 50 TYPE K.T.U.

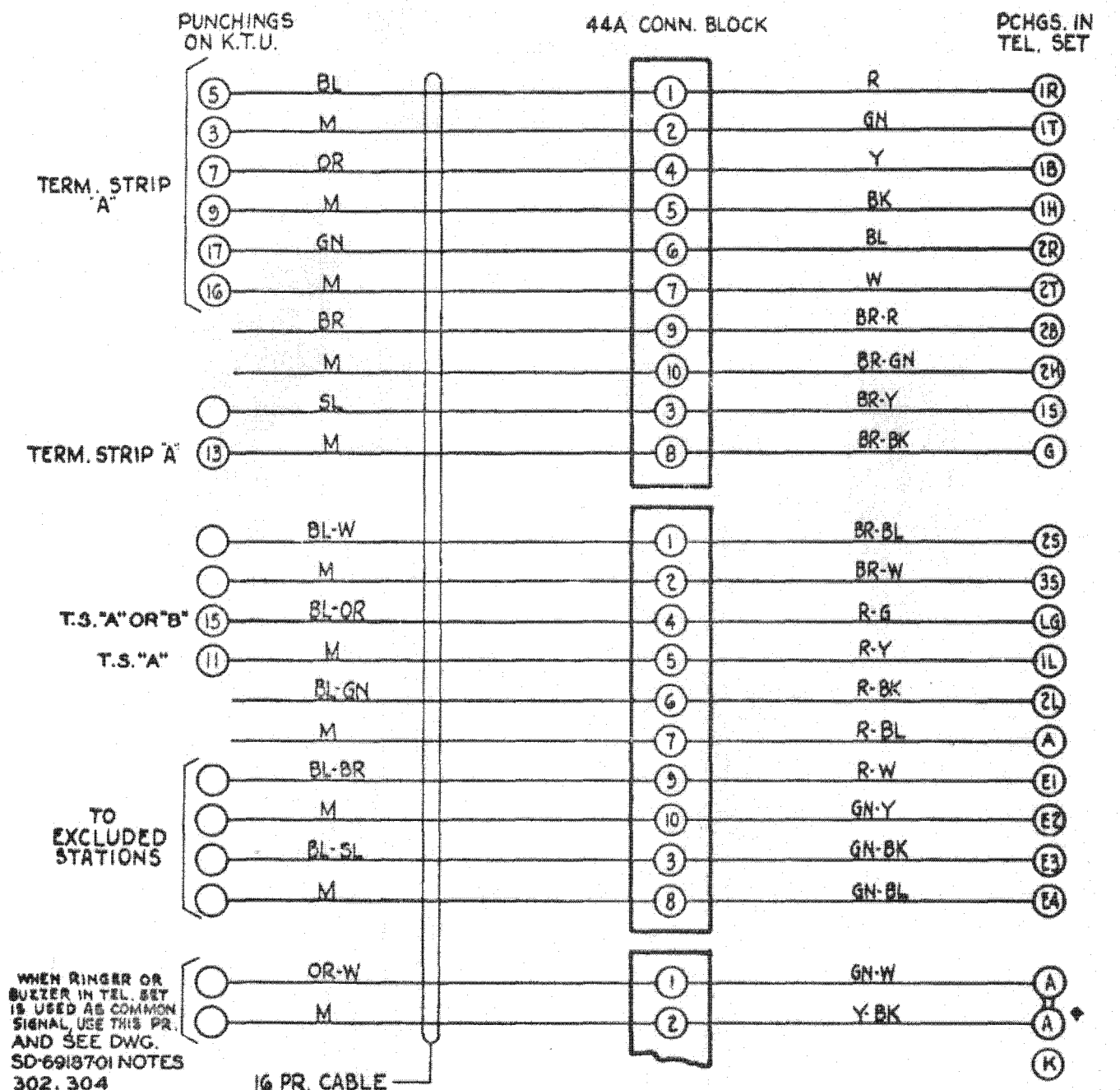
H, 2-P, 2-S, INTL. LAMPS
 464 MC OR MA

(H) (P) (P) (P) (S) (S)

SKETCH 208



SKETCH 209

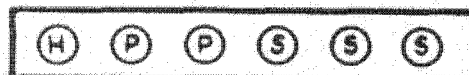


NOTE:
 TERMINATE THE "S.R." CONDENSER LEAD AS FOLLOWS:
 "COMMON" RINGER OR BUZZER, PUT THE "S.R." LEAD ON "L-I."
 "LINE" RINGER, PUT THE "S.R." LEAD ON WITH THE "RED" RINGER LEAD.

REFERENCE-DWG. SD-69187-01

PROVIDES PICK UP AND HOLD ONE C.O. OR P.B.X. LINE, INTERCOMM, 3 SIGNALS AND EXCLUSION.

H, I-P, 3-S, INTL, EXCL, LAMPS
 465 NA OR NC

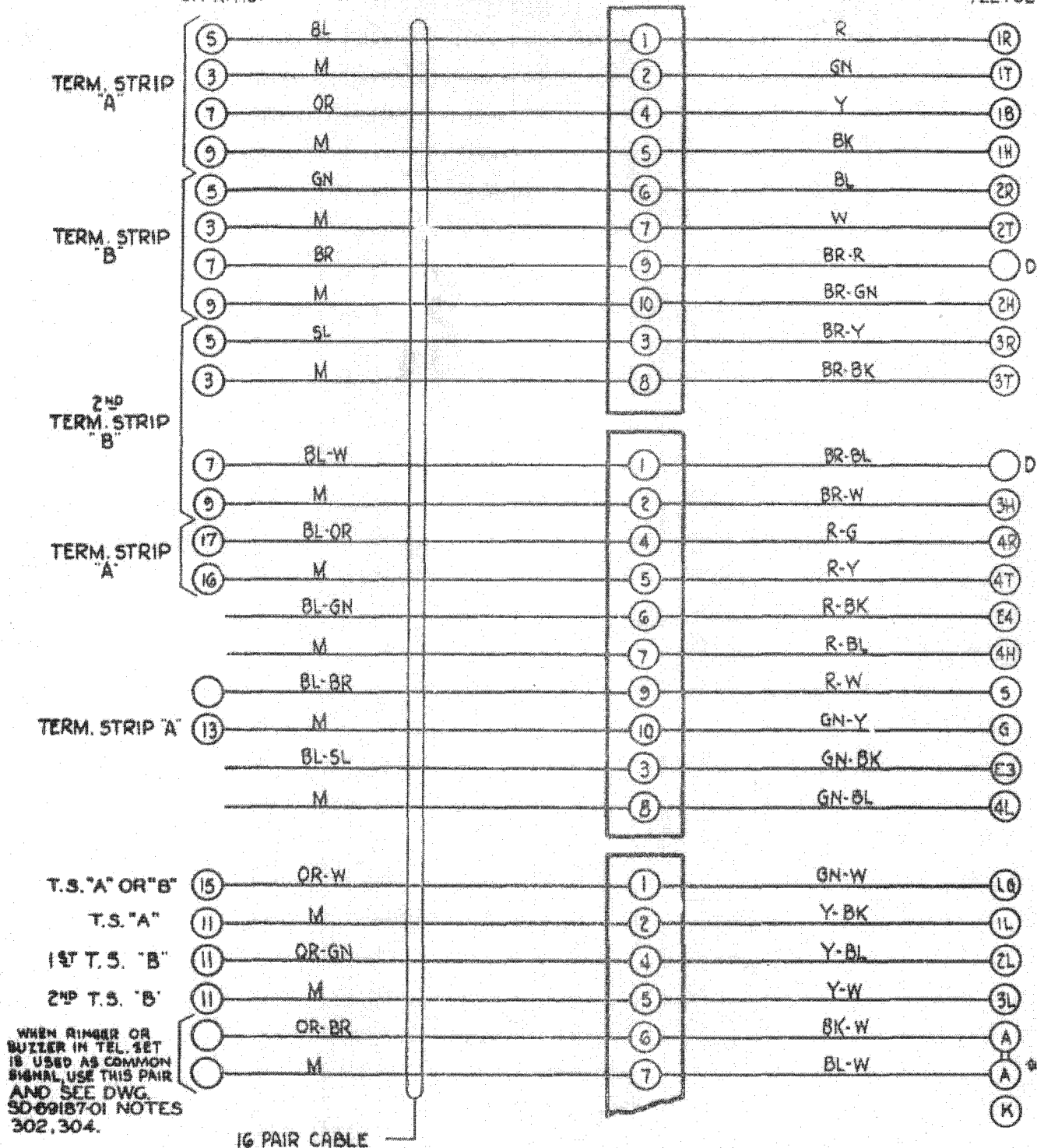


SKETCH 210

PUNCHINGS
ON K.T.U.

44A CONN. BLOCK

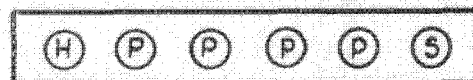
PCHGS. IN
TEL. SET



NOTE:
CONNECT THE "S.R." CONDENSER LEAD AS FOLLOWS:
"COMMON" RINGER OR BUZZER, PUT THE "S.R." LEAD ON "L.I."
"LINE" RINGER, PUT "S.R." LEAD ON WITH THE "RED" RINGER LEAD.

REFERENCE - DWG. SD-69187-01

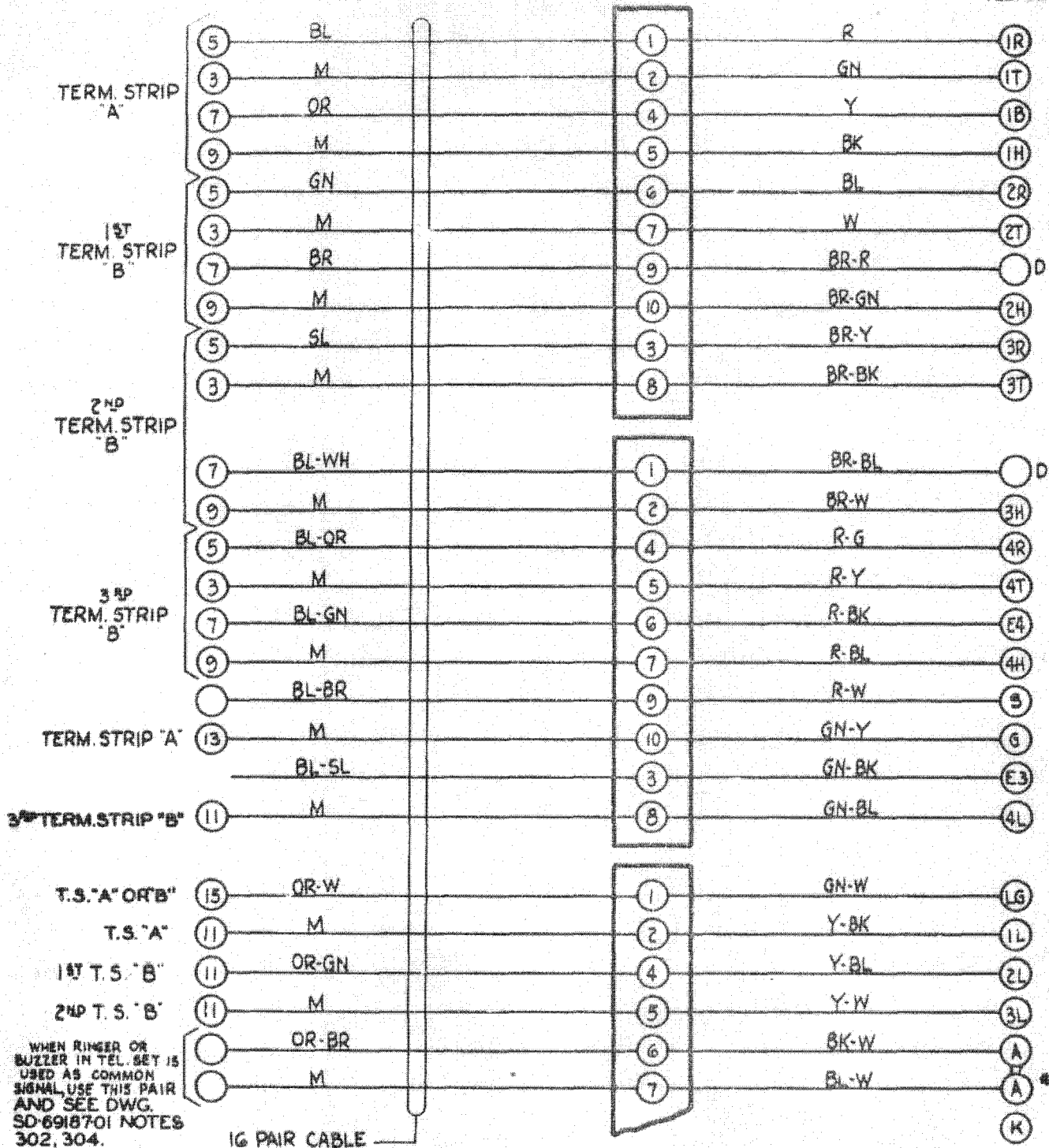
PROVIDES FOR PICK UP AND HOLD ON 3
C.O. OR P.B.X. LINES, INTERCOMM AND ONE
SIGNAL USING 50 TYPE K.T.U.
H, 3-P, 1-S, INTL, LAMPS
464 HA OR HC



PUNCHINGS
ON K.T.U.

44A CONN BLOCK

PCHG5. IN
TEL. SET



NOTE:
CONNECT THE "S.R." CONDENSER LEAD AS FOLLOWS:
"COMMON" RINGER OR BUZZER, PUT THE "S.R." LEAD ON "L-I."
"LINE" RINGER PUT "S.R." LEAD ON WITH THE "RED" RINGER LEAD.

REFERENCE - DWG. SD-69187-01

PROVIDES FOR PICK UP AND HOLD ON 4 C.O.
OR P.B.X. LINES AND SIGNALING USING
50 TYPE K.T.U.

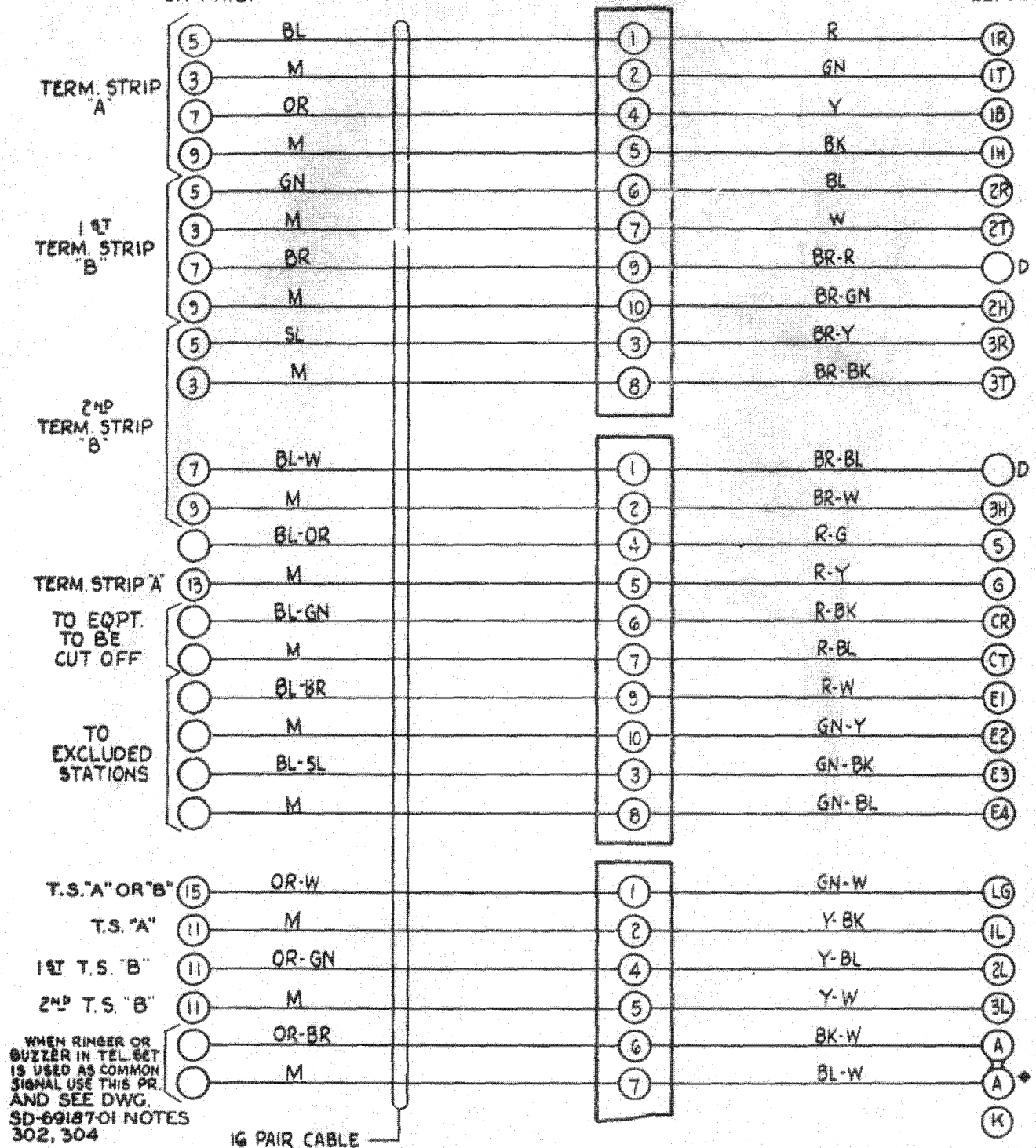
H, 4-P, I-S, LAMPS
4G4 HA OR HC



PUNCHINGS
ON K.T.U.

44A CONN. BLOCK

PCHGS. IN
TEL. SET



NOTE:
TERMINATE THE "S.R." CONDENSER LEAD AS FOLLOWS:
COMMON RINGER OR BUZZER, PUT THE "S.R."
LEAD ON "L-I."
"LINE" RINGER, PUT THE "S.R." LEAD ON WITH THE "RED"
RINGER LEAD.

REFERENCE - DWG. SD-69187-01

PROVIDES FOR PICK UP AND HOLD ON 3 C.O.
OR P.B.X. LINES, SIGNAL AND CUT OFF KEY
WITH EXCLUSION ON FIRST LINE

H, 3-P, I-S, I-C, EXCL. LAMPS

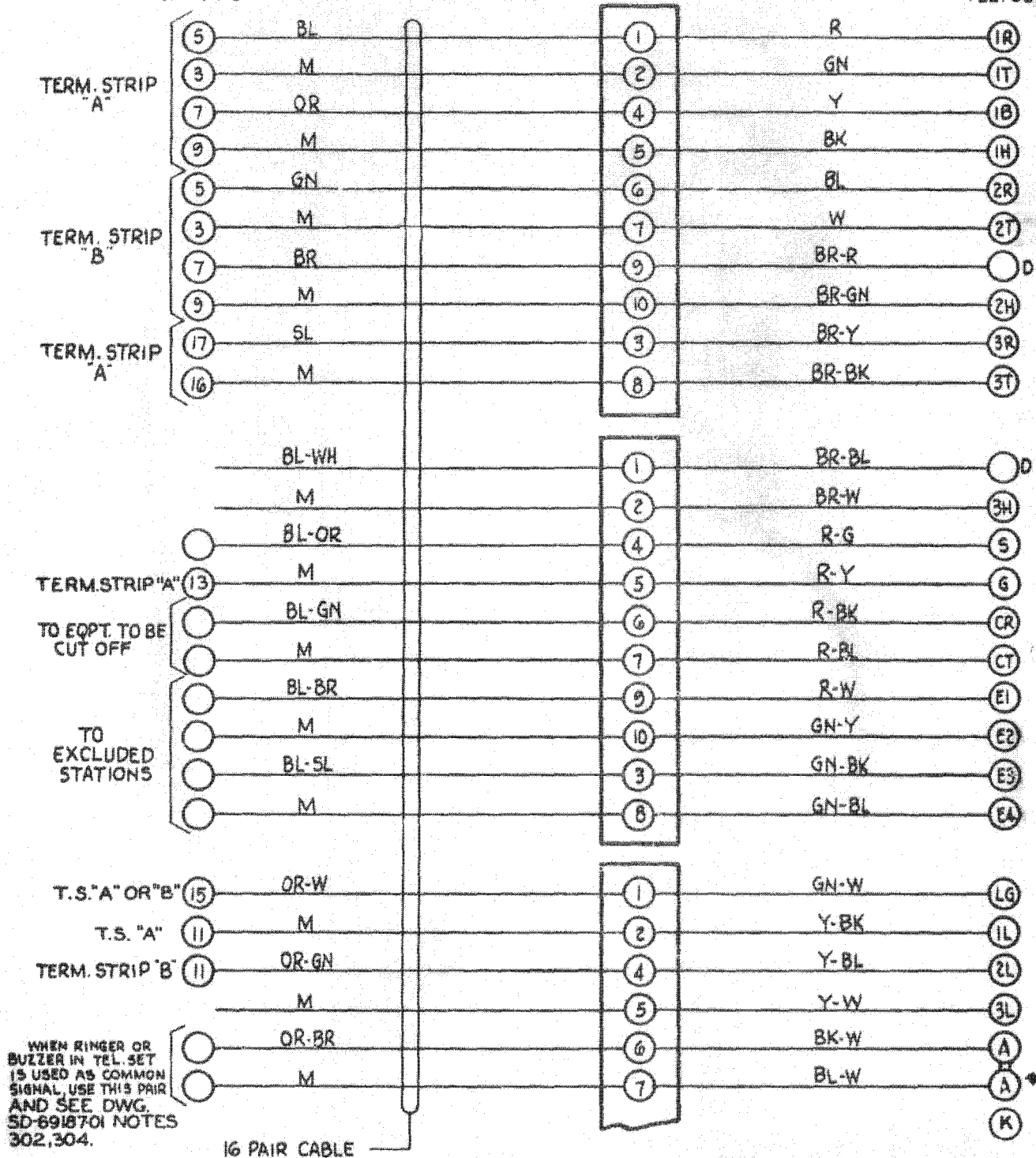
465 LA OR LC

(H) (P) (P) (P) (S) (C)

PUNCHINGS
ON K.T.U.

44A CONN. BLOCK

PCHGS. IN
TEL. SET



NOTE:

TERMINATE THE "S.R." CONDENSER LEAD AS FOLLOWS:
"COMMON" RINGER OR BUZZER, PUT THE "S.R." LEAD ON "L-I."
"LINE" RINGER, PUT THE "S.R." LEAD ON WITH THE "RED" RINGER LEAD.

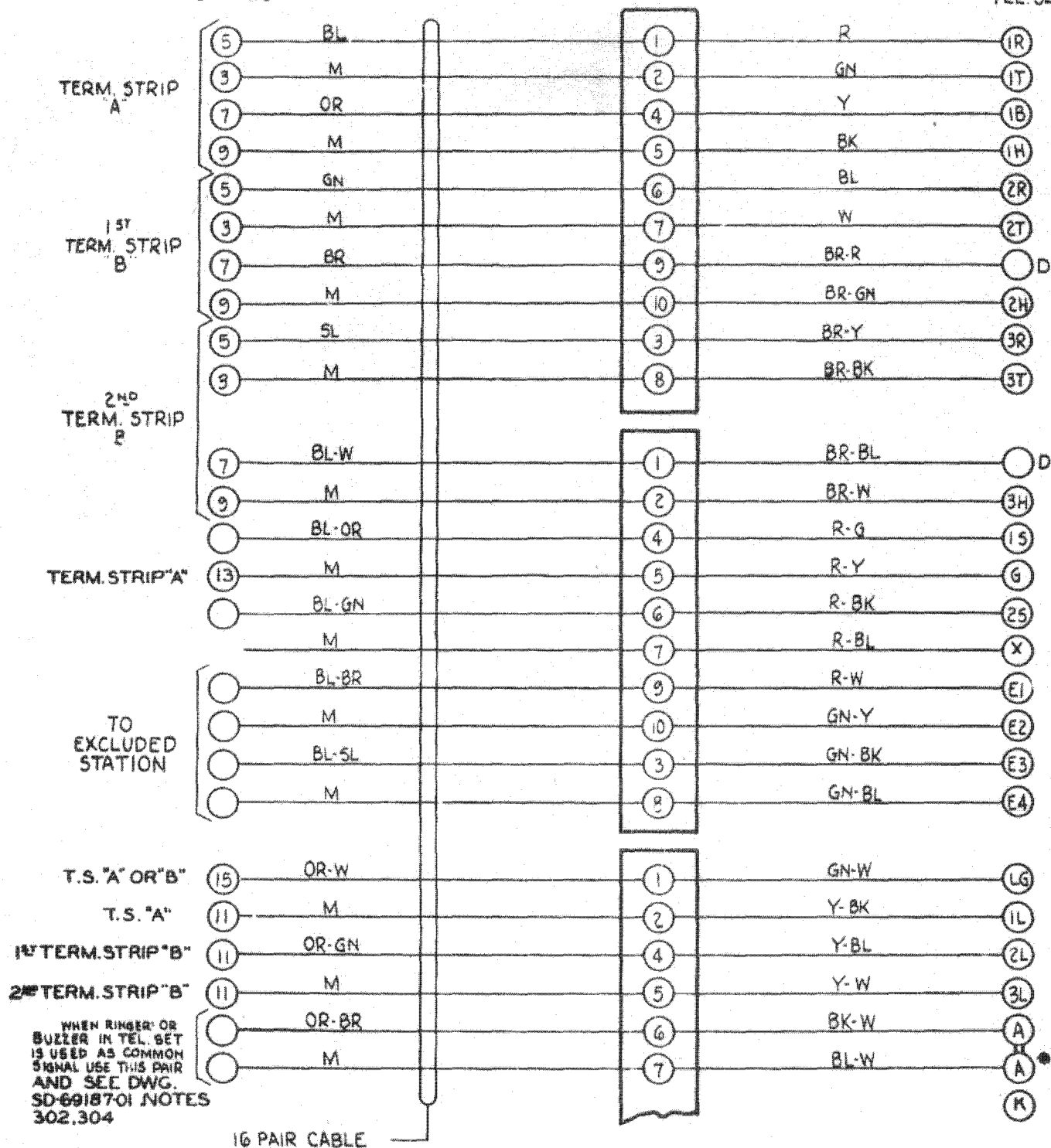
REFERENCE-DWG. SD-69187-01

PROVIDES FOR PICK UP AND HOLD ON 2 C.O. OR P.B.X. LINES, INTERCOMM, SIGNAL, CUT OFF KEY AND EXCLUSION ON 1ST LINE.

H, 2-P, 1-S, 1-C, INTL, EXCL, LAMPS

465 LA OR LC

(H) (P) (P) (P) (S) (C)



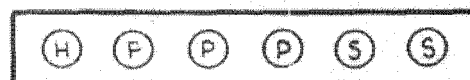
NOTE:

TERMINATE THE "S.R." CONDENSER LEAD AS FOLLOWS:
 "COMMON" RINGER OR BUZZER, PUT THE "S.R." LEAD ON "L-I."
 "LINE" RINGER, PUT THE "S.R." LEAD ON WITH THE "RED" RINGER LEAD.

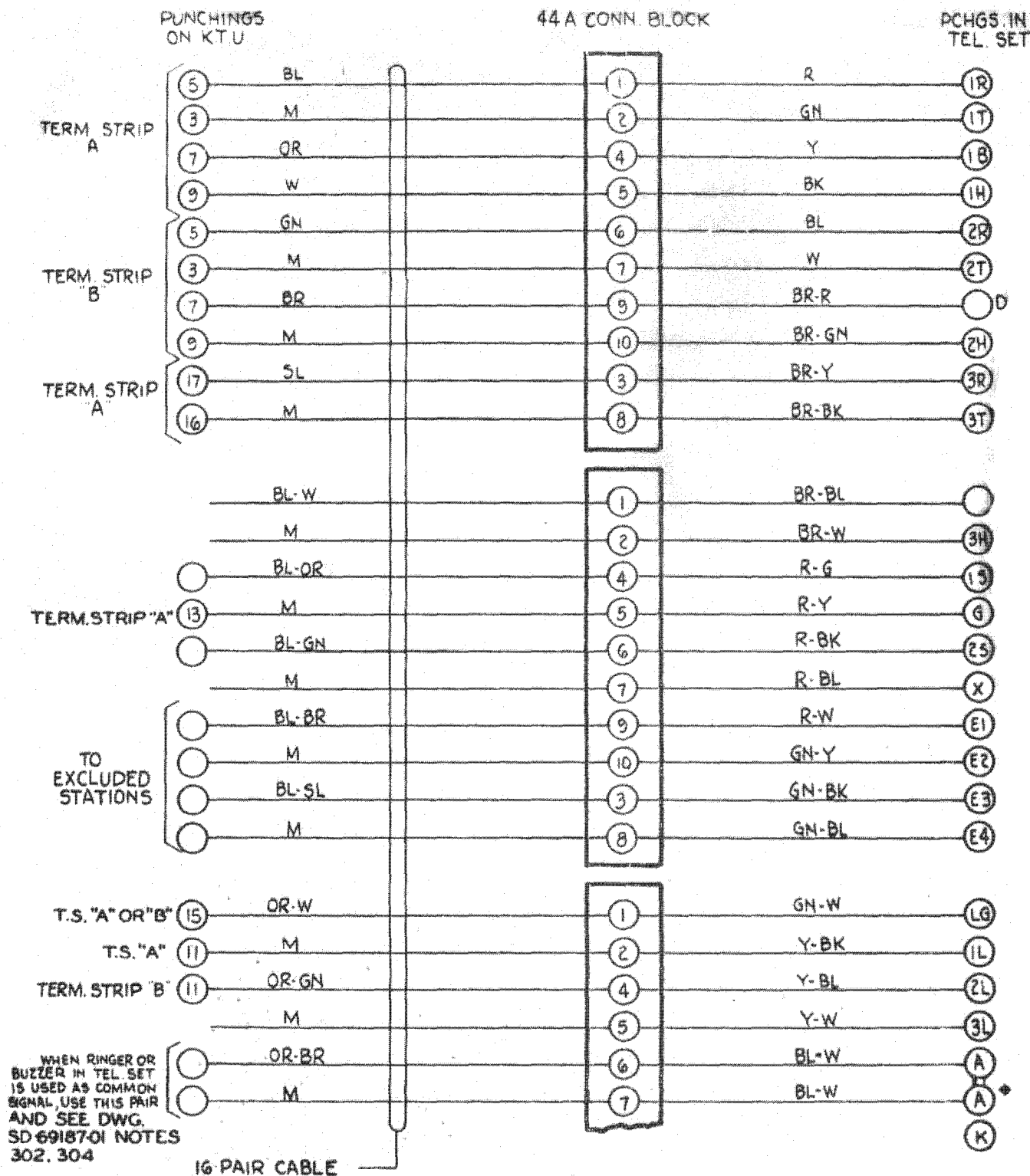
REFERENCE-DWG. SD-69187-01

PROVIDES PICK UP AND HOLD ON 3 C.O. OR P.B.X. LINES, 2 SIGNALS AND EXCLUSION ON FIRST LINE USING 50 TYPE K.T.U.

H, 3-P, 2-S, EXCL. WITH LAMPS
 4G5 MA OR MC



SKETCH 215

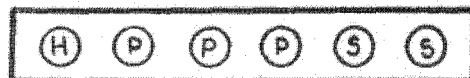


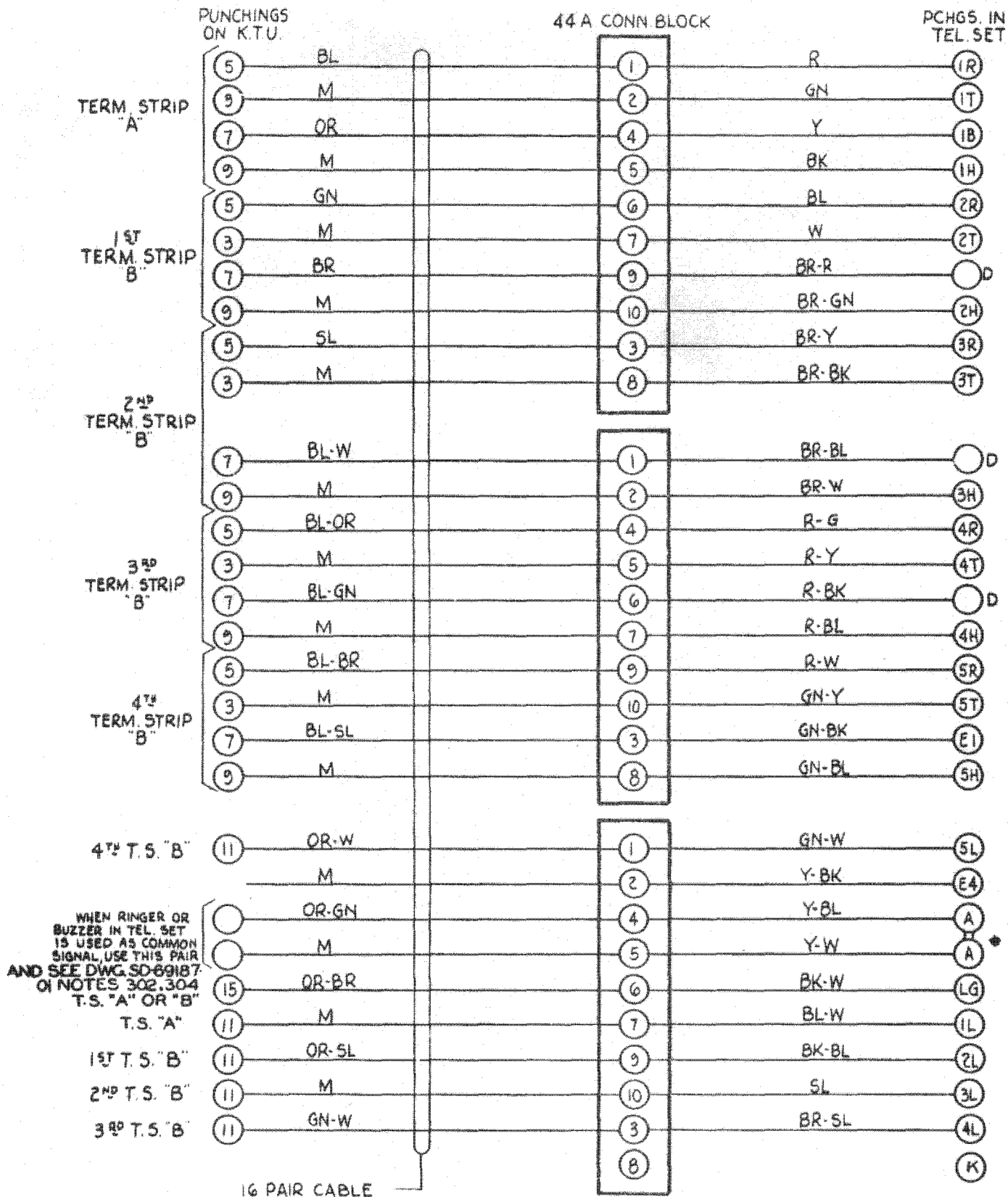
NOTE:
 TERMINATE THE "S.R." CONDENSER LEAD AS FOLLOWS:
 COMMON RINGER OR BUZZER, PUT THE "S.R." LEAD ON "L.I."
 LINE RINGER, PUT THE "S.R." LEAD ON WITH THE "RED" RINGER LEAD.

REFERENCE - DWG. SD-69187-01

PROVIDES FOR PICK UP AND HOLD ON 2 C.O. OR P.B.X. LINES, INTERCOMM, 2 SIGNALS AND EXCLUSION ON FIRST LINE USING 50 TYPE KTU

H, 2-P, 2-S, INTL, EXCL, LAMPS
 465 MA OR MC





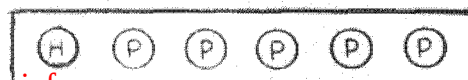
NOTE
TERMINATE THE "S.R." CONDENSER LEAD AS FOLLOWS:
"COMMON" RINGER OR BUZZER, PUT THE "S.R." LEAD ON THE "L.I." LINE RINGER, PUT THE "S.R." LEAD ON WITH THE "RED" RINGER LEAD.

REFERENCE-DWG. SD-69187-01

PROVIDES FOR PICK UP AND HOLD ON 5 C.O. OR PBX. LINES USING 50 TYPE K.T.U.

H, S-P LAMPS

4G4 GA OR GC



SKETCH 217

PUNCHINGS
ON K.T.U.

44 A CONN BLOCK

PCHGS. IN
TEL SET

TERM. STRIP
"A"

1ST
TERM. STRIP
"B"

2ND
TERM. STRIP
"B"

3RD
TERM. STRIP
"B"

TERM. STRIP
"A"

WHEN RINGER OR
BUZZER IN TEL SET
IS USED AS COMMON
SIGNAL USE THIS PR
AND SEE DWG. SD-69187-01
NOTES 302, 304
T.S. "A" OR "B"

T.S. "A"

1ST TERM. STRIP "B"

2ND TERM. STRIP "B"

3RD TERM. STRIP "B"

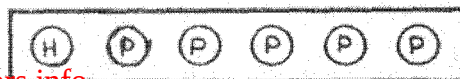
16 PAIR CABLE

NOTE:

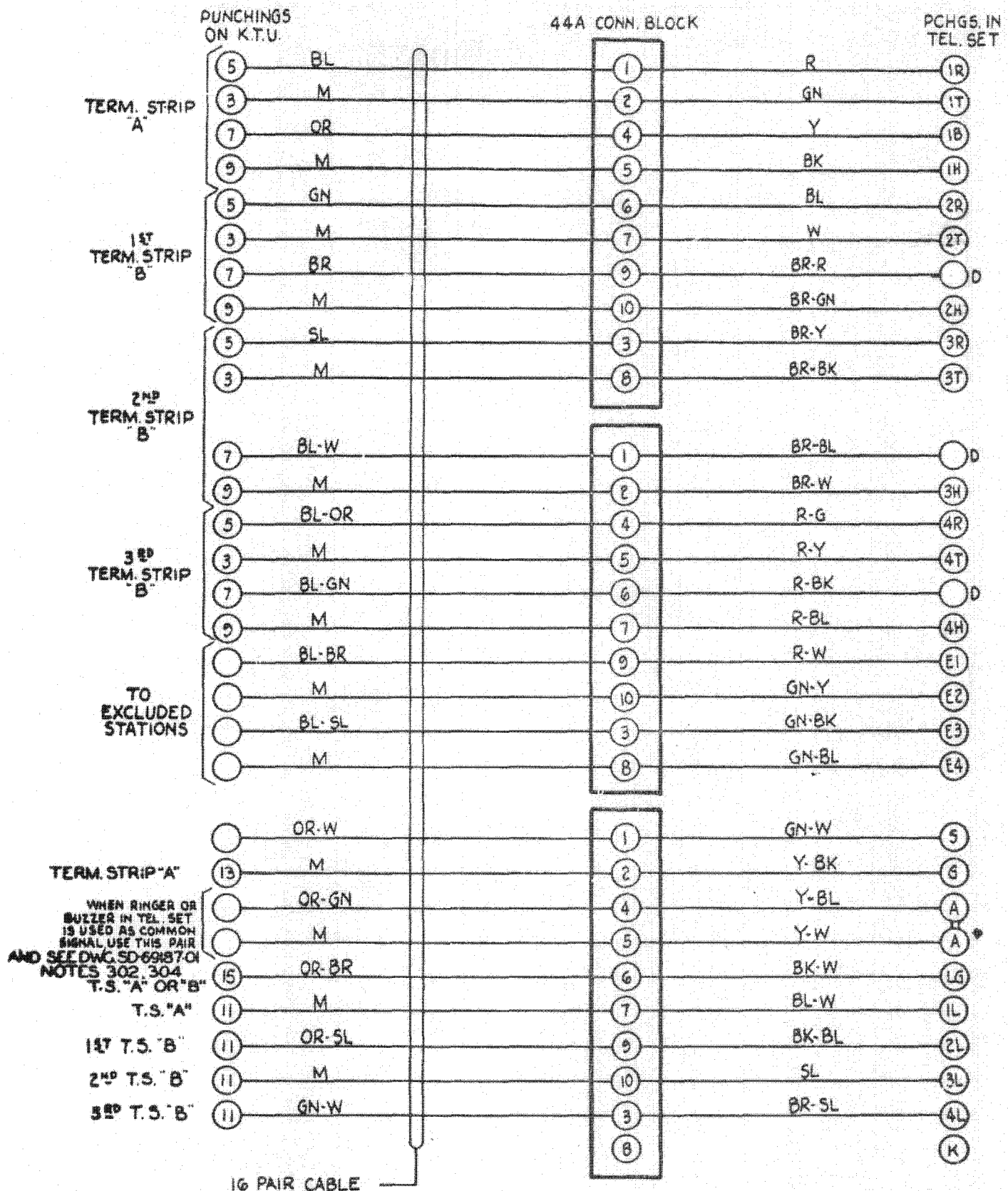
TERMINATE THE "S.R." CONDENSER LEAD AS FOLLOWS:
"COMMON" RINGER OR BUZZER, PUT THE "S.R."
LEAD ON THE "L-I."
"LINE" RINGER PUT THE "S.R." LEAD ON WITH
THE "RED" RINGER LEAD.

REFERENCE-DWG. SD-69187-01

PROVIDES PICK UP AND HOLD ON 4 C.O.
OR P.B.X. LINES AND INTERCOMM FOR
USE WITH 50 TYPE K.T.U.
H, 4-P, INTL. LAMPS
464 GA OR GC



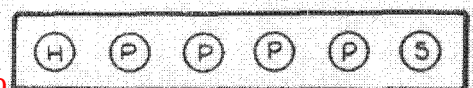
SKETCH 21A

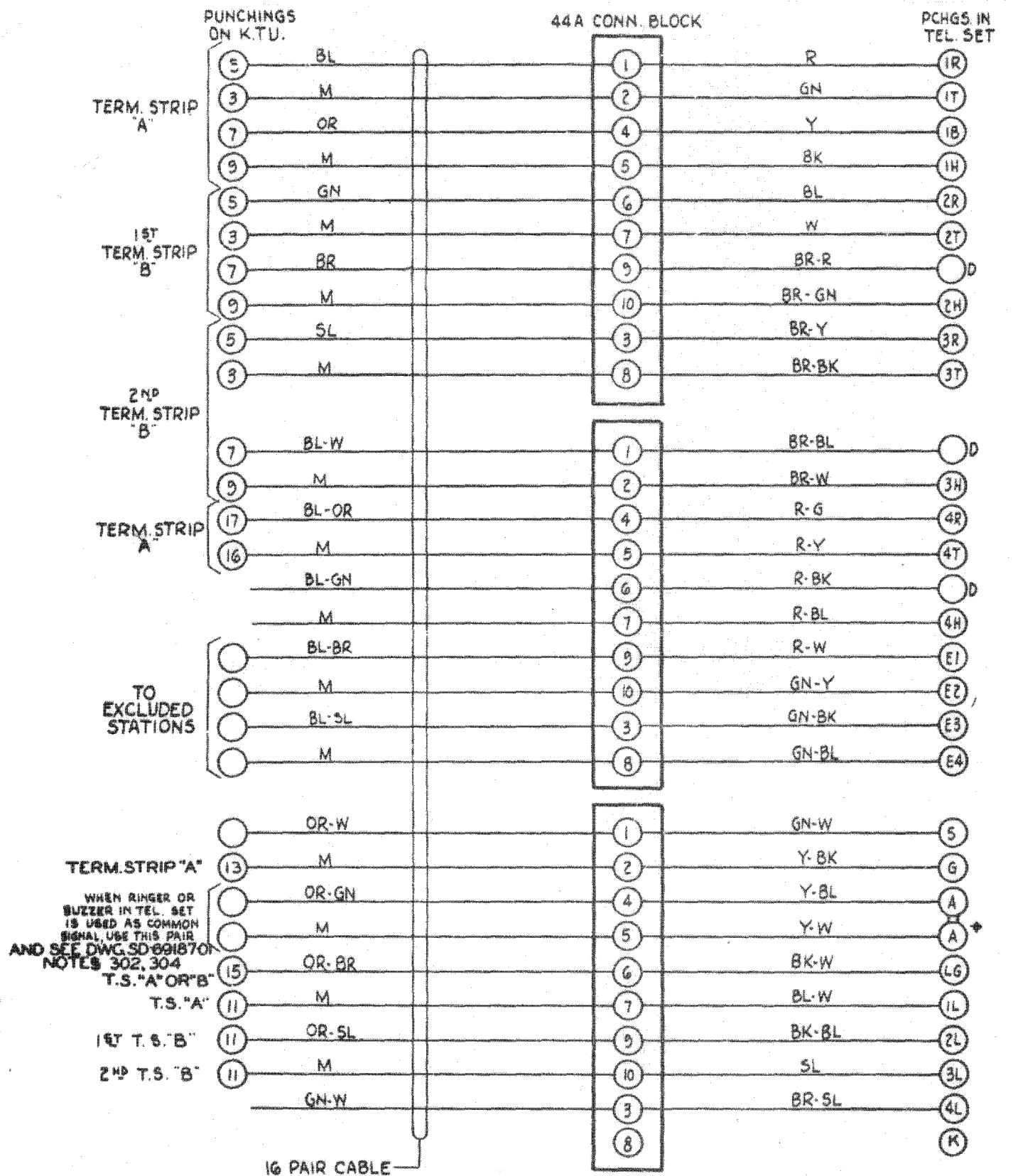


NOTE:
 TERMINATE THE "S.R." CONDENSER LEAD AS FOLLOWS:
 "COMMON" RINGER OR BUZZER, PUT THE "S.R." LEAD ON "L.I."
 "LINE" RINGER, PUT THE "S.R." LEAD ON WITH THE "RED" RINGER LEAD.

REFERENCE- DWG. SD-69187-01

PROVIDES PICK UP AND HOLD ON 4 C.O. OR P.B.X. LINES, ON SIGNAL AND EXCLUSION ON FIRST LINE USING 50 TYPE K.T.U. H, 4-R I-S, EXCL. LAMPS 4G5 HA OR HC





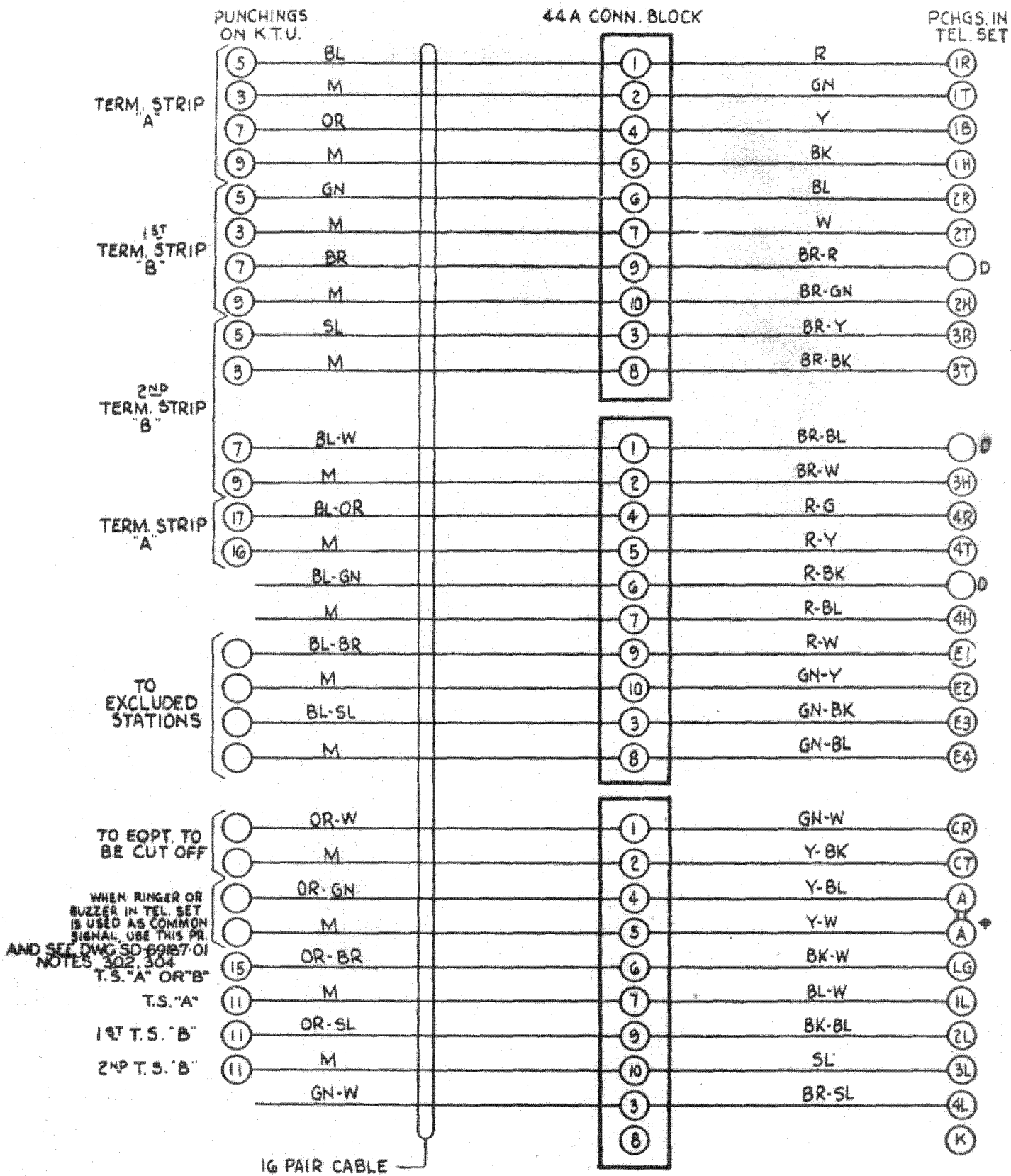
NOTE:
TERMINATE THE "S.R." CONDENSER LEAD AS FOLLOWS:
"COMMON" RINGER OR BUZZER, PUT THE "S.R." LEAD ON "L-1."
"LINE" RINGER, PUT THE "S.R." LEAD ON WITH THE "RED" RINGER LEAD.

REFERENCE-DWG. SD-69187-01

PROVIDES FOR PICK UP AND HOLD ON 3 C.O.
OR P.B.X. LINES, INTERCOMM, ONE SIGNAL
AND EXCLUSION ON FIRST LINE
H, 3-P, I-S, INTL, EXCL., LAMPS
465 HA OR HC



SKETCH 220



NOTE:
 TERMINATE THE "S.R." CONDENSER LEAD AS FOLLOWS:
 "COMMON" RINGER OR BUZZER, PUT THE "S.R." LEAD ON "L-1".
 "LINE" RINGER, PUT THE "S.R." LEAD ON WITH THE "RED" RINGER LEAD.

REFERENCE - DWG. SD-69187-01

PROVIDES PICK UP AND HOLD ON 3 C.O. OR P.B.X. LINES, INTERCOMM, CUT OFF KEY AND EXCLUSION ON FIRST LINE USING 50 TYPE K.T.U. H.3-P.1-C, INTL. EXCL. LAMPS
 465 KA OR KC



SKETCH 221

PUNCHINGS
ON K.T.U.

44A CONN. BLOCK

PCHG5. IN
TEL. SET

TERM. STRIP
"A"

1ST
TERM. STRIP
"B"

2ND
TERM. STRIP
"B"

3RD
TERM. STRIP

TO
EXCLUDED
STATIONS

TO EQPT. TO
BE CUT OFF

WHEN RINGER OR
BUZZER IN TEL. SET
IS USED AS COMMON
SIGNAL, USE THIS PAIR
AND SEE DWG. SD-69187-01
NOTES 302,304

T.S. "A"

1ST T.S. "B"

2ND T.S. "B"

3RD T.S. "B"

16 PAIR CABLE

NOTE:

TERMINATE THE "S.R." CONDENSER LEAD AS FOLLOWS:
"COMMON" RINGER OR BUZZER, PUT THE "S.R."
LEAD ON "L-I."
"LINE" RINGER, PUT THE "S.R." LEAD ON WITH
THE "RED" RINGER LEAD.

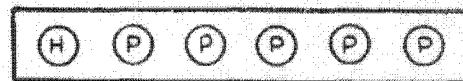
REFERENCE - DWG. SD-69187-01

PROVIDES PICK UP AND HOLD ON 4 C.O. OR
P.B.X. LINES, CUT OFF KEY AND EXCLUSION
ON FIRST LINE USING 50 TYPE K.T.U.
H.4-P1-C, EXCL. LAMPS
465 KA OR KC

(H) (P) (P) (P) (P) (C)

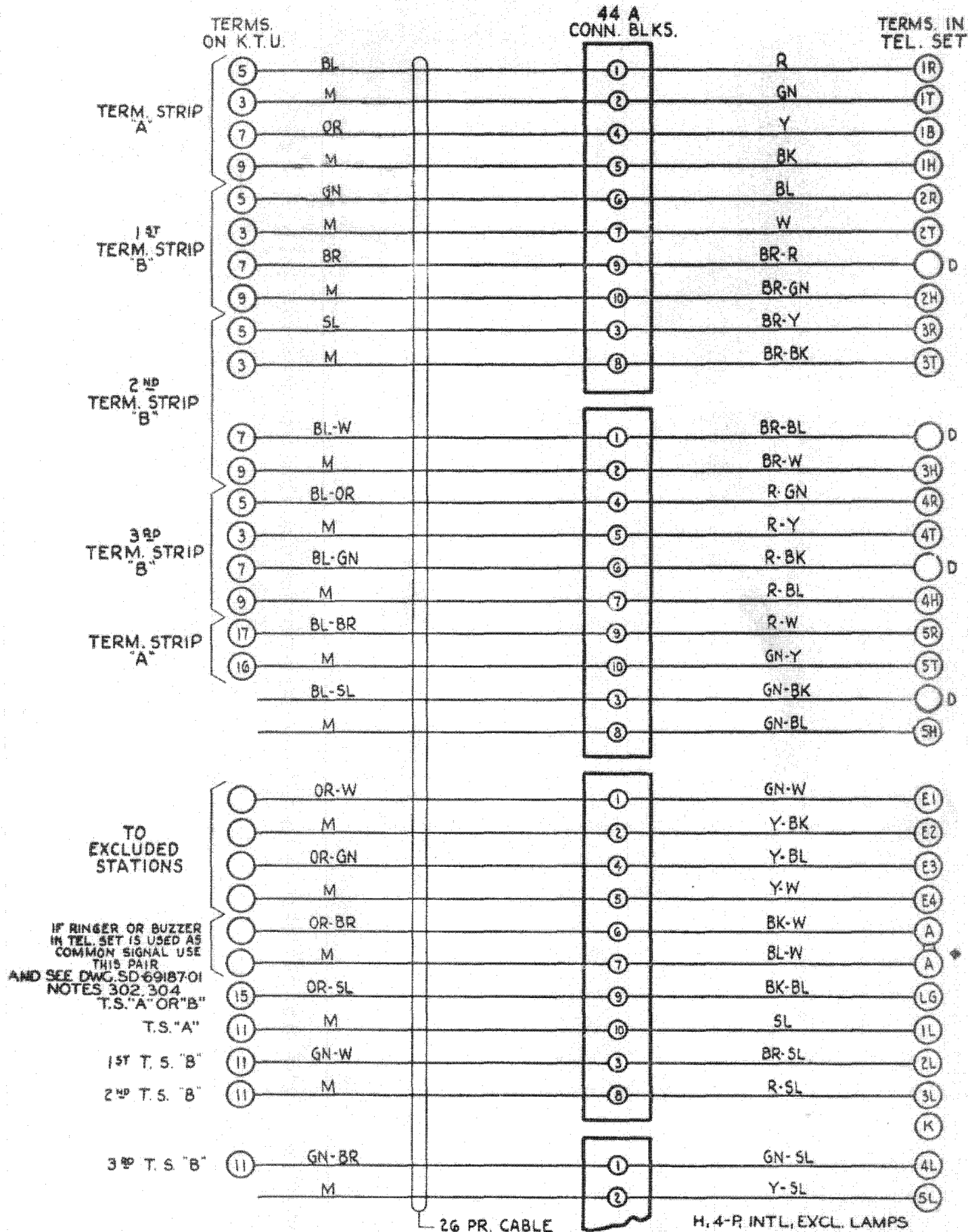
SKETCH 222

PCHGS. IN
TEL. SET



ISSUE No. 2 11-1-51

SKETCH 223



REFERENCE-DWG. SD-69187-01

NOTE:-

TERMINATE "S.R" CONDENSER LEAD AS FOLLOWS:
 "COMMON" RINGER OR BUZZER PUT "S.R"
 LEAD ON "L-I"
 "LINE" RINGER PUT "S.R" LEAD ON WITH THE
 "RED" RINGER LEAD

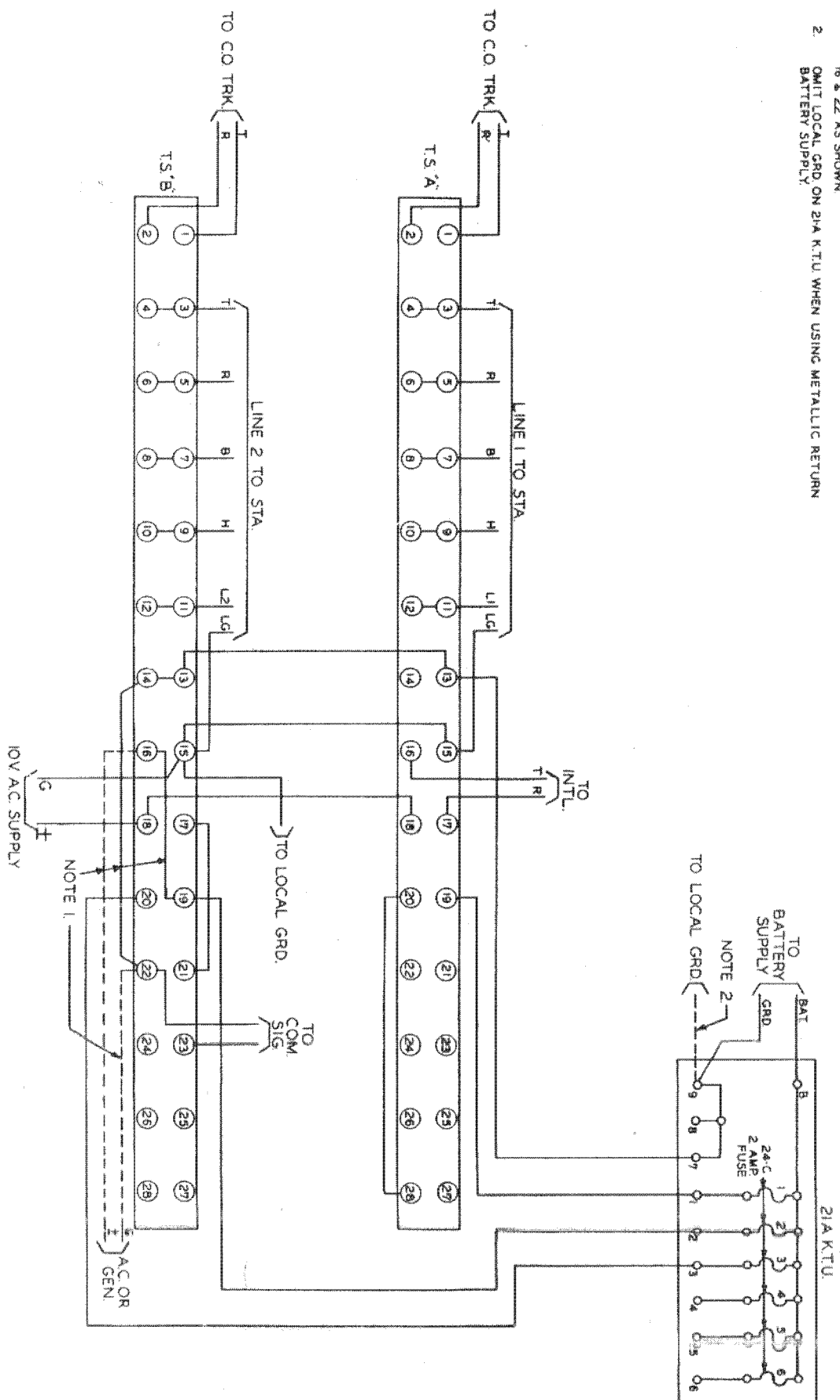
H. 4-P INTL. EXCL. LAMPS
 PROVIDES PICK UP AND HOLD ON
 4 C.O. LINES OR P.B.X. LINES
 INTERCOMM AND EXCLUSION ON
 1ST LINE USING 50 TYPE K.T.U.

465 GA OR GC



1. IF AC OR GEN. IS REQUIRED FOR COM. SIG. REMOVE STRAPS 14, 22 & 16, 19 ON T.S. 'B' TERMINATE A.C. OR GEN. ON PCHGS. 16 & 22 AS SHOWN
2. OMIT LOCAL GRD. ON 21A K.T.U. WHEN USING METALLIC RETURN BATTERY SUPPLY.

NOTE

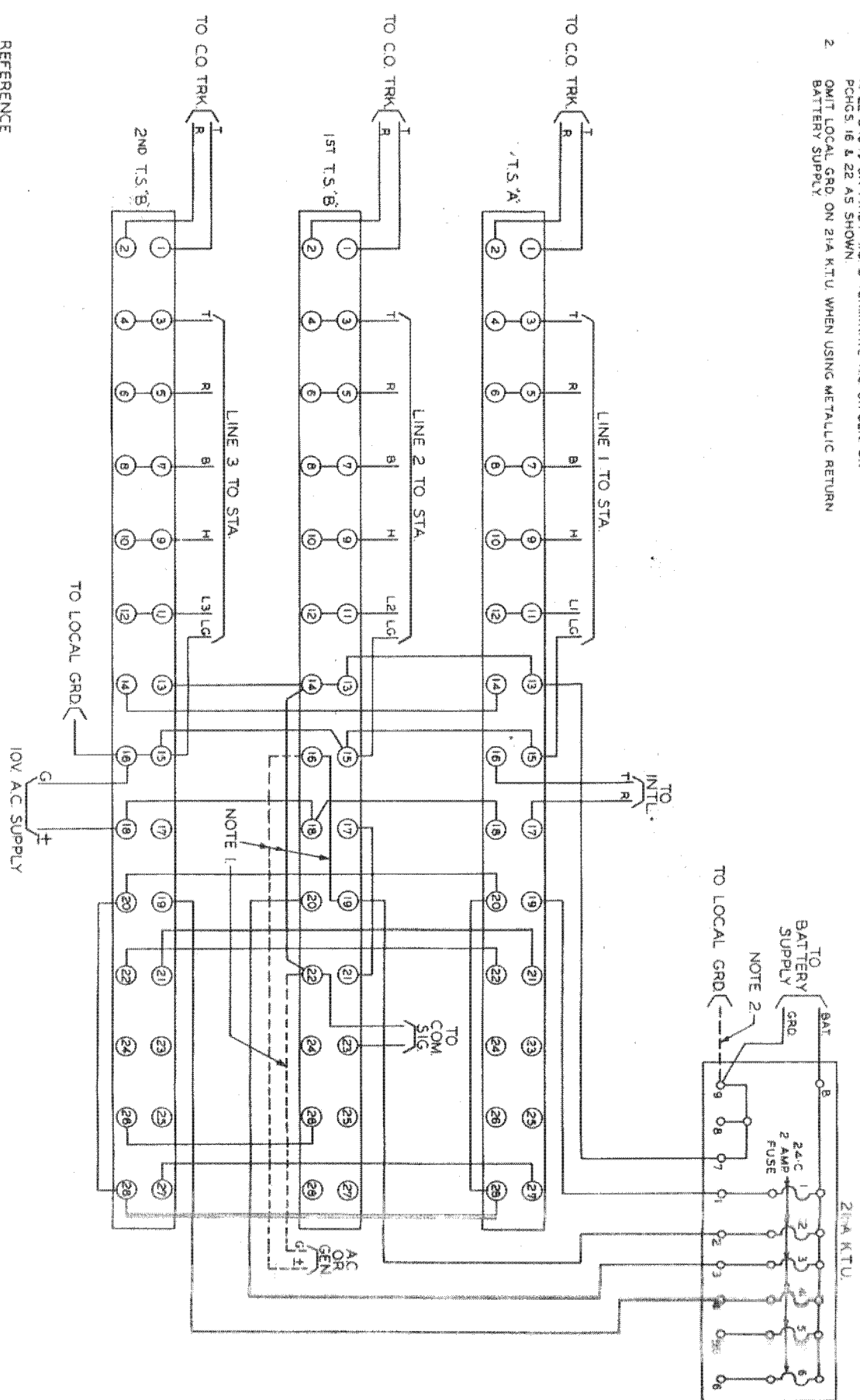


REFERENCE
 SD-69136-0111 FIG. 51
 SD-69136-0114 FIG. 51E OR 51F
 SD-69136-0121 FIG. 58

SKETCH 226
 WIRING & STRAPPING
 FOR
 50A K.T.U.

1. IF AC OR GEN IS REQUIRED FOR COM SIG. REMOVE STRAPS 14, 22 & 16/19 ON FIRST T.S. B. TERMINATE AC OR GEN ON PCHOS. 16 & 22 AS SHOWN.
2. OMIT LOCAL GRD ON 21A KTU WHEN USING METALLIC RETURN BATTERY SUPPLY.

NOTE

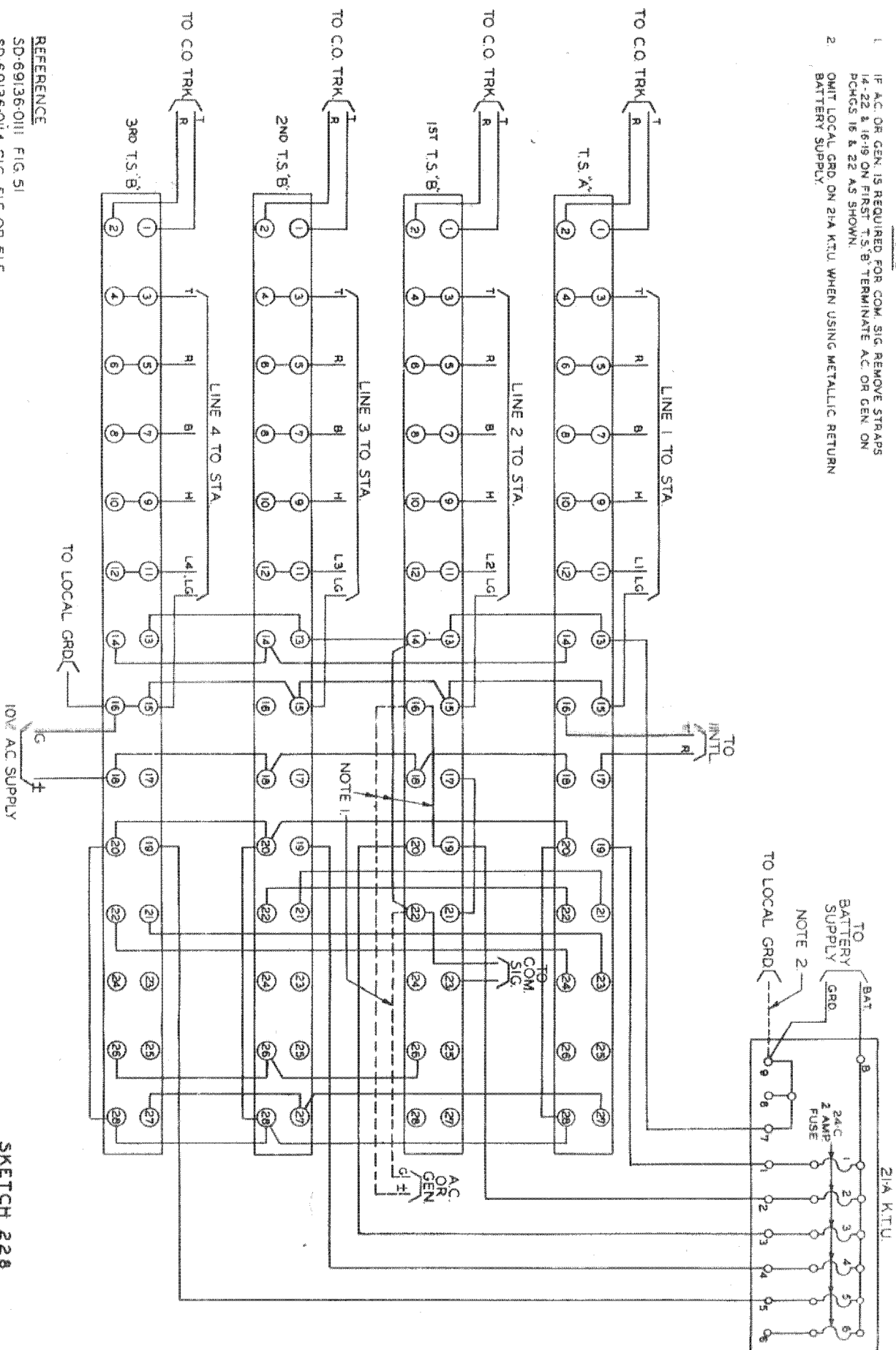


REFERENCE
SD-69136-0111 FIG. 51
SD-69136-0114 FIG. 51E OR 51F
SD-69136-0121 FIG. 58

SKETCH 227
WIRING & STRAPPING
FOR
50B KTU

1. IF AC OR GEN. IS REQUIRED FOR COM. SIG. REMOVE STRAPS 14-22 & 16-19 ON FIRST T.S.'B' TERMINATE AC OR GEN. ON PCHGS 16 & 22 AS SHOWN.
2. OMIT LOCAL GRD. ON 21A K.T.U. WHEN USING METALLIC RETURN BATTERY SUPPLY.

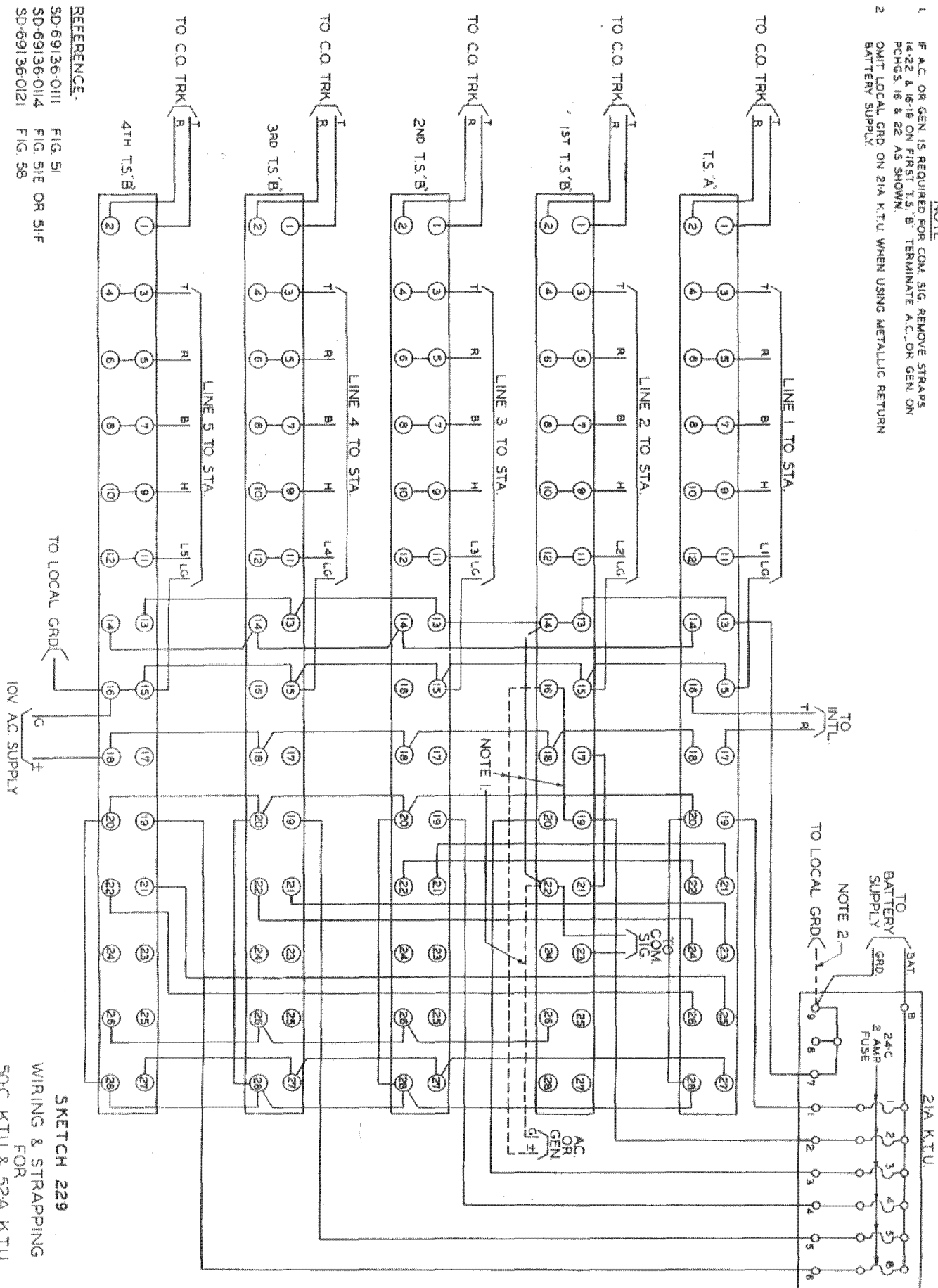
NOTE



REFERENCE
SD-69136-0111 FIG. 51
SD-69136-0114 FIG. 51E OR 51F
SD-69136-0121 FIG. 5B

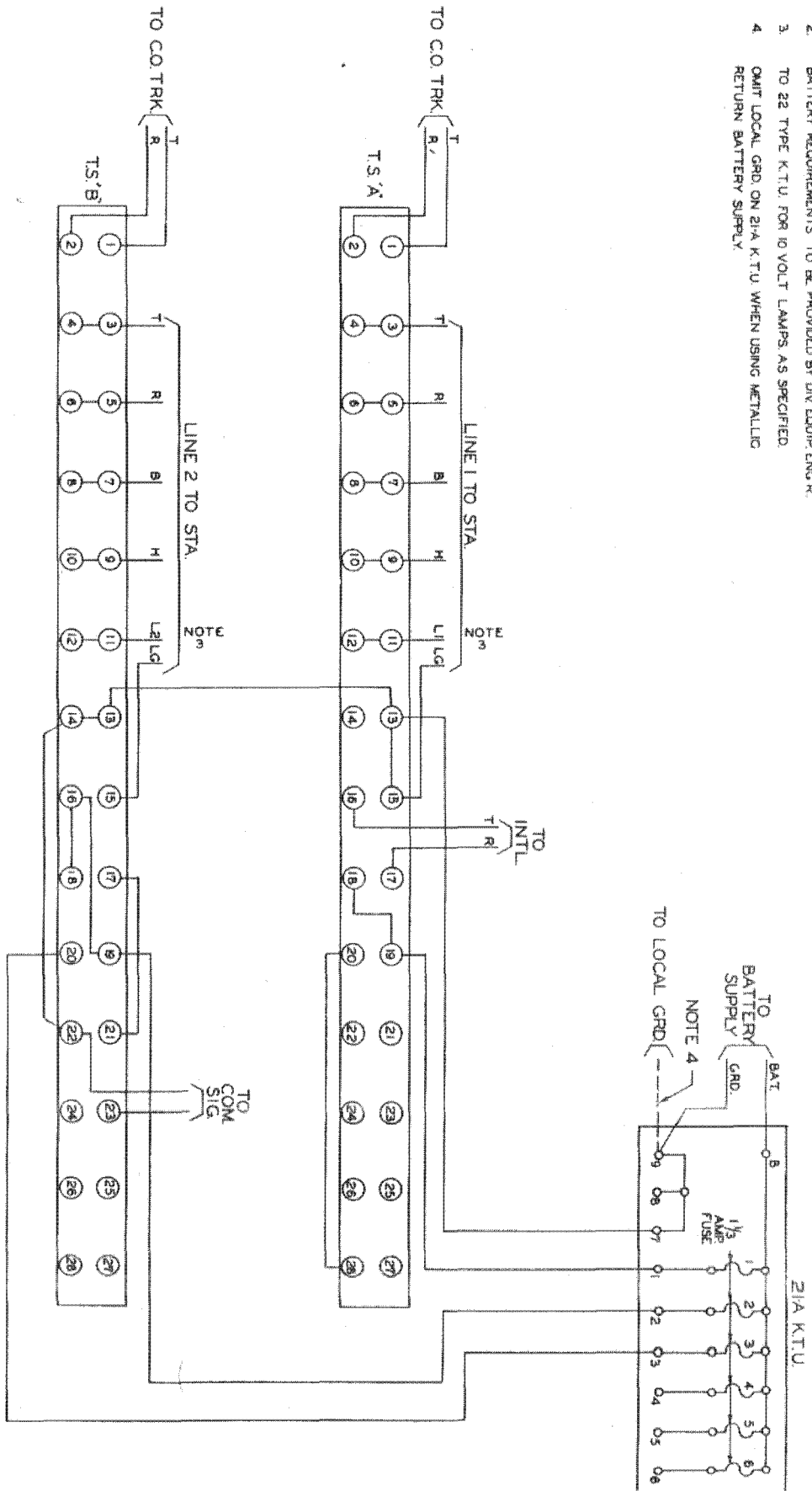
SKETCH 228
WIRING & STRAPPING
FOR
50-C K.T.U.

- NOTE
- 1 IF A.C. OR GEN. IS REQUIRED FOR COM. SIG. REMOVE STRAPS 14, 22 & 16-19 ON FIRST T.S.'B' TERMINATE A.C. OR GEN. ON PCH'S 16 & 22 AS SHOWN.
 - 2 OMIT LOCAL GRD ON 21A K.T.U. WHEN USING METALLIC RETURN BATTERY SUPPLY.



NOTE

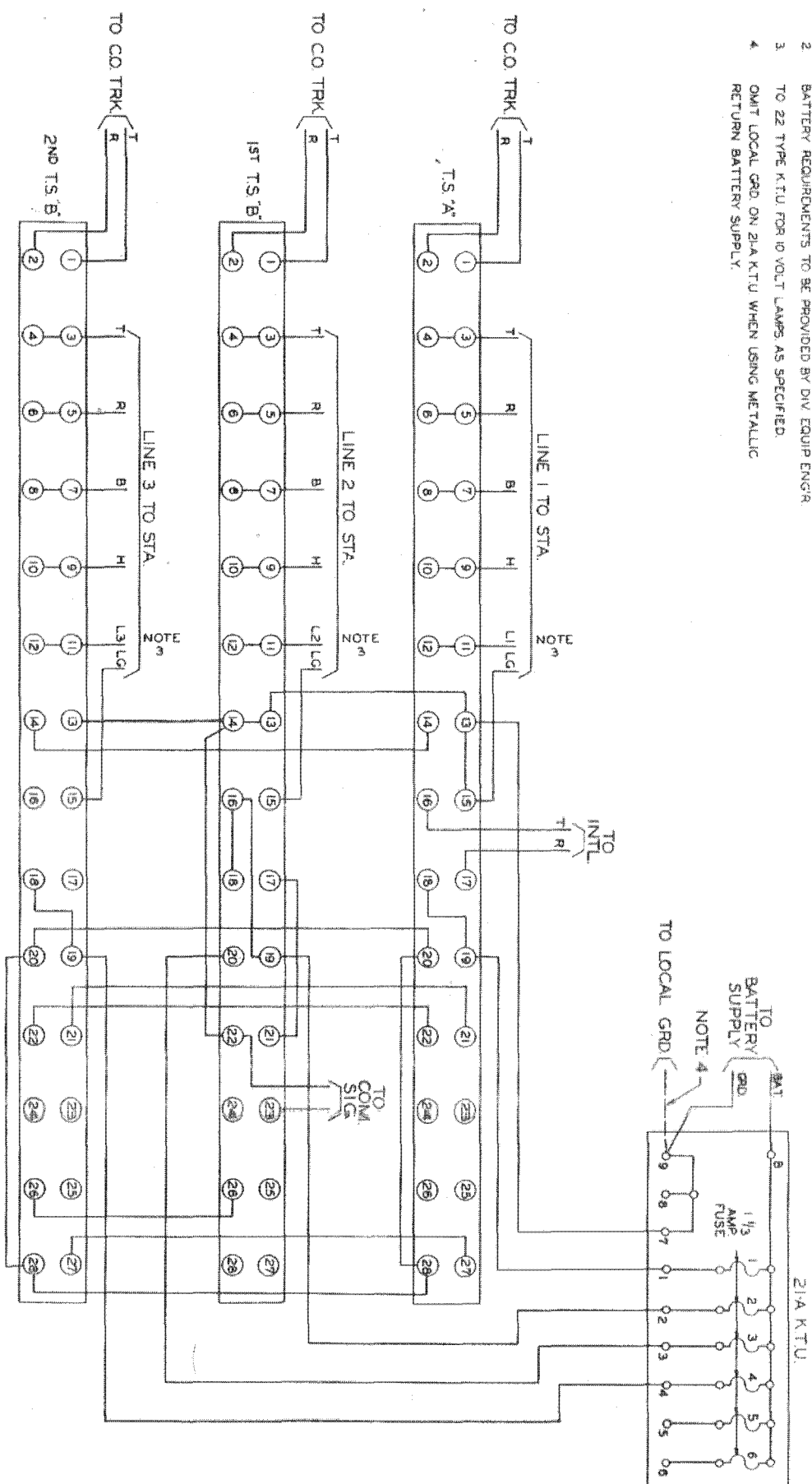
1. TYPE OF K.T.U. TO BE PROVIDED BY DIV. EQUIP. ENGR.
2. BATTERY REQUIREMENTS TO BE PROVIDED BY DIV. EQUIP. ENGR.
3. TO 22 TYPE K.T.U. FOR 10 VOLT LAMPS, AS SPECIFIED.
4. OMIT LOCAL GRD. ON 21A K.T.U. WHEN USING METALLIC RETURN BATTERY SUPPLY.



REFERENCE
SD-69136-0111 FIG. 51
SD-69136-0112 FIG. 51-A
SD-69136-0121 FIG. 58

WIRING AND STRAPPING FOR 50-A K.T.U.
USING 14-26 VOLT BATTERY
FOR ALL EQUIPMENT
SKETCH 231

- ## NOTE



SD-69/36-011 FIG. 51
SD-69/36-012 FIG. 51A
SD-69/36-021 FIG. 58

WIRING AND STRAPPING FOR 50-B K.T.U.
USING 14-26 VOLT BATTERY
FOR ALL EQUIPMENT

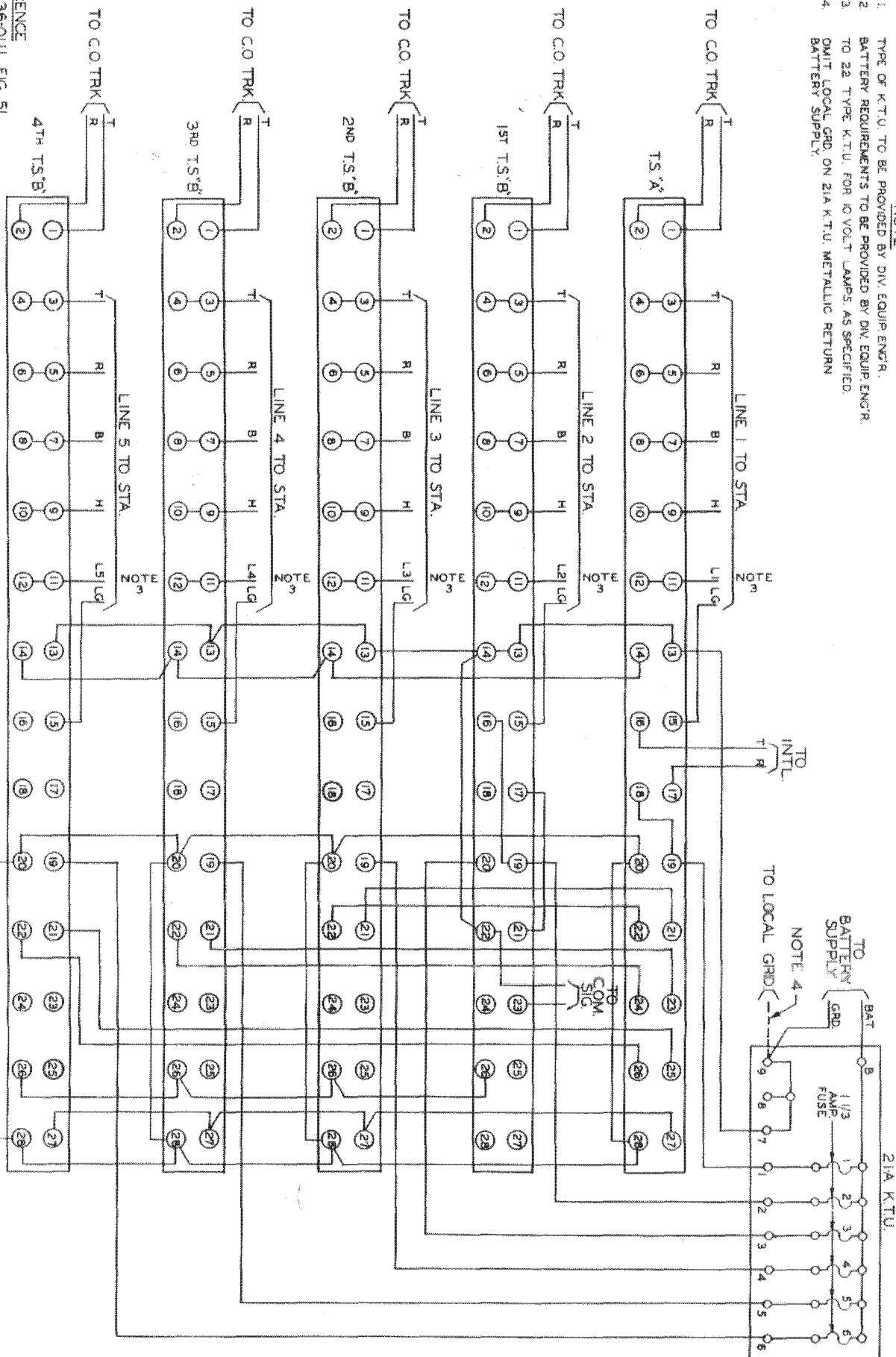
- NOTE



SKETCH 233

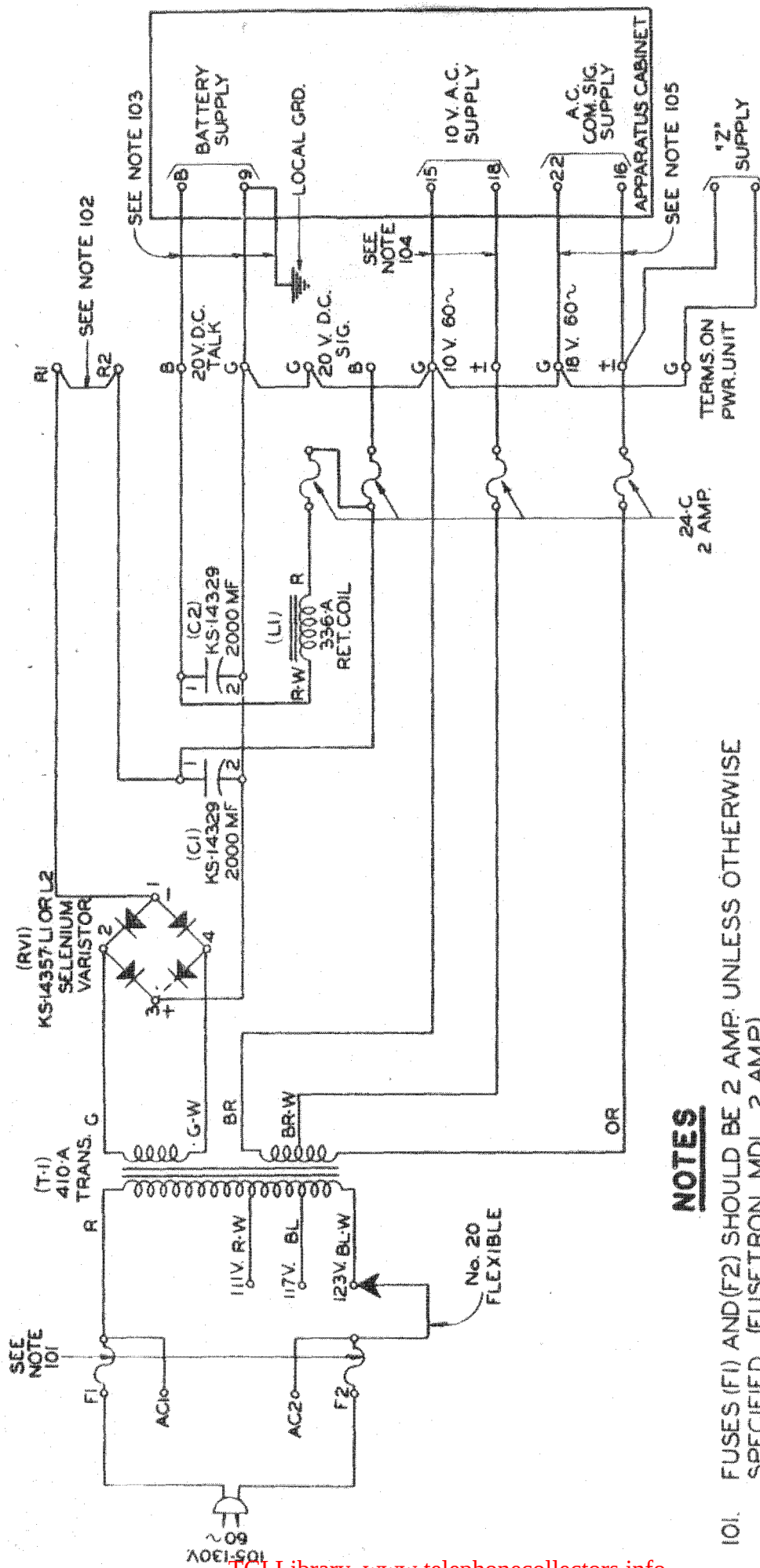
1. TYPE OF K.T.U. TO BE PROVIDED BY DIV. EQUIP. ENGR.
2. BATTERY REQUIREMENTS TO BE PROVIDED BY DIV. EQUIP. ENGR.
3. TO 22 TYPE K.T.U. FOR 10 VOLT LAMPS, AS SPECIFIED.
4. OMIT LOCAL GRD. ON 21A K.T.U. METALLIC RETURN BATTERY SUPPLY.

NOTE



REFERENCE
SD-69136-0111 FIG. 51
SD-69136-0112 FIG. 51-A
SD-69136-0121 FIG. 58

WIRING AND STRAPPING FOR 50C K.T.U.
AND 52A K.T.U. USING 14-26 VOLT
BATTERY FOR ALL EQUIPMENT

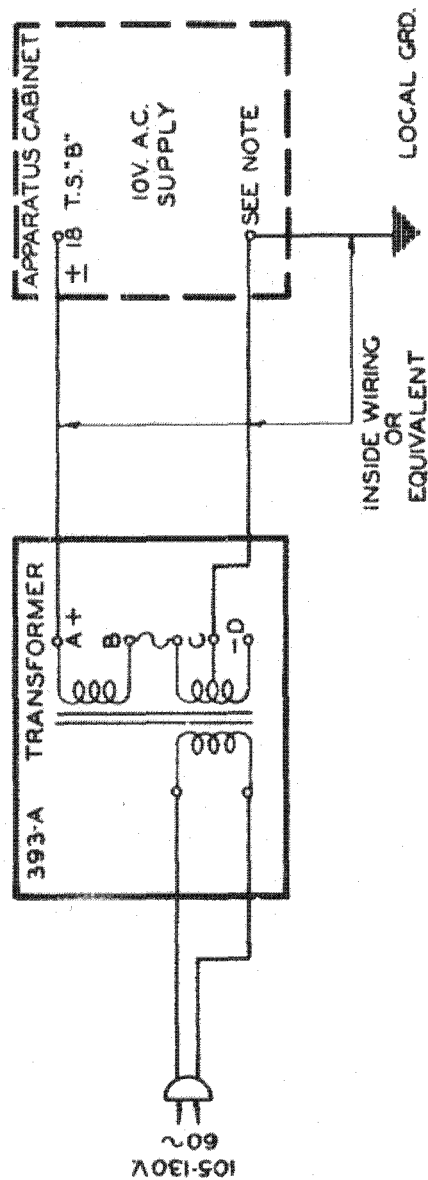


NOTES

101. FUSES (F1) AND (F2) SHOULD BE 2 AMP UNLESS OTHERWISE SPECIFIED. (FUSETRON, MDL, 2 AMP)
102. REMOVE STRAP WHEN TRANSFER RELAY AND RESERVE BATTERY EQUIPMENT IS FURNISHED IN CASE OF A.C.
103. USE 20 AWG. WIRE, TERMINATE ON 21A K.T.U.
104. USE 20 AWG. WIRE, TERMINATE ON LAST T.S. "B."
105. USE 20 AWG. WIRE, TERMINATE FOR COM. SIG. ON 1ST T.S. "B." PROVIDE ONLY WHEN COMMON SIGNAL IS USED.

UNIT, POWER, J-86731-A LIST I

SKETCH 235



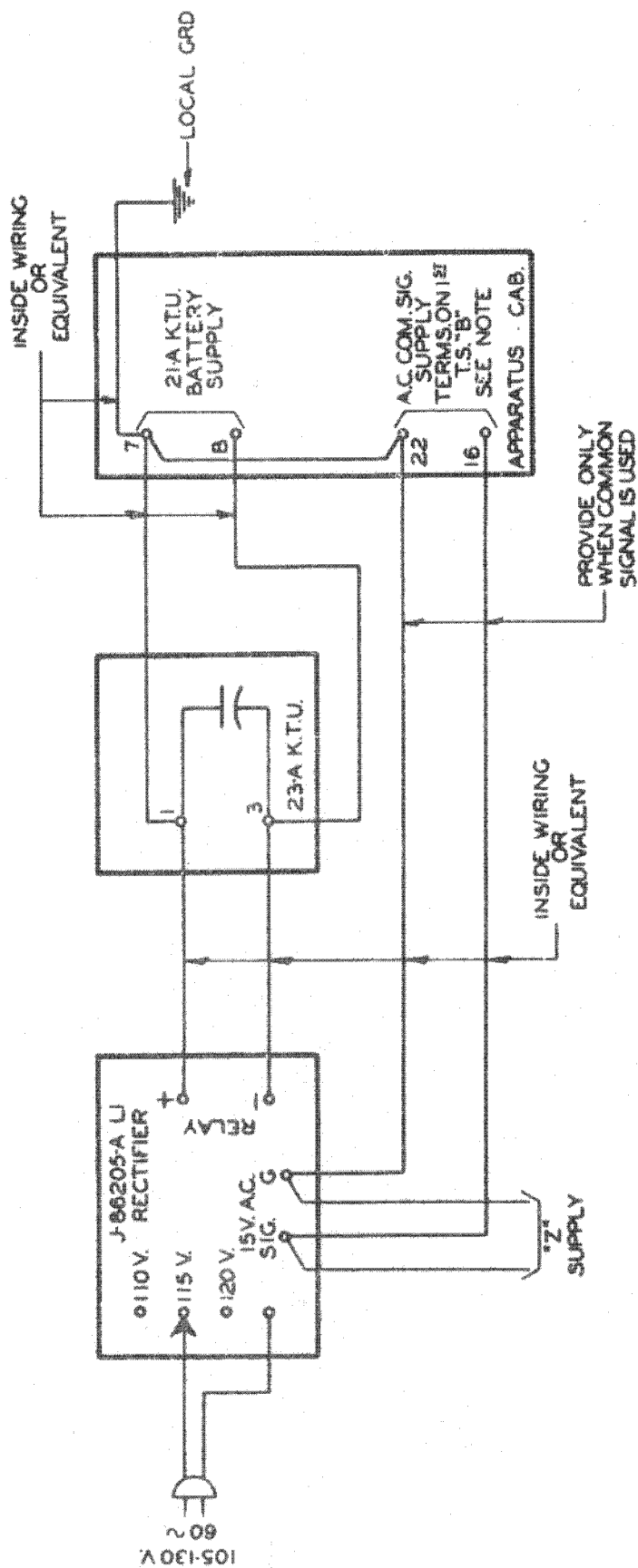
NOTE:

CONNECT TO TERMINAL 16, T.S.'B'
SEE SKETCHES 227, 228, 229.

CONNECT TO TERMINAL 15, T.S.'B'
SEE SKETCH 226

10V AC SUPPLY
393-A TRANSFORMER

SKETCH 236

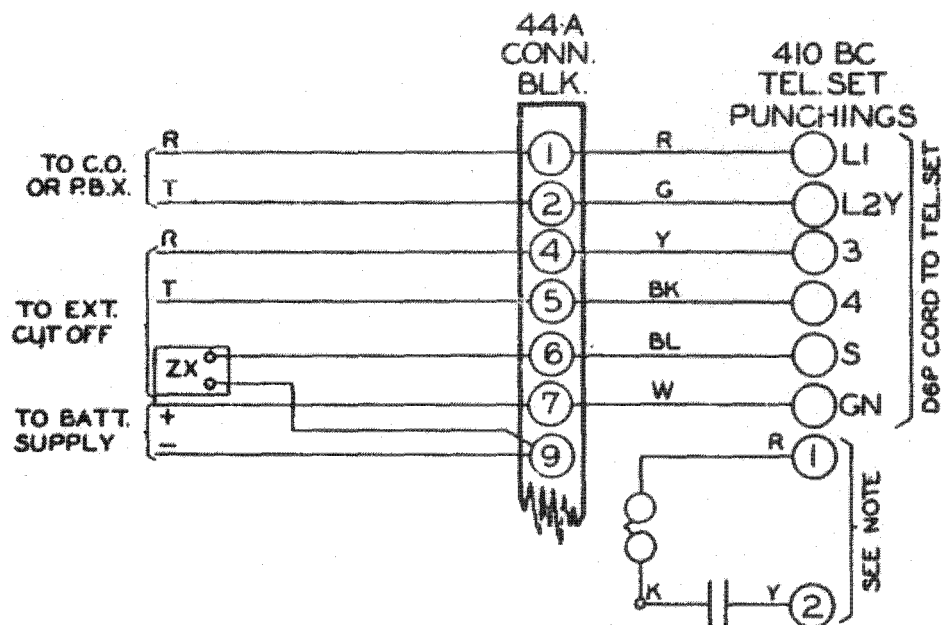


NOTE:

IF 15 VOLTS A.C. IS USED FOR COMMON SIGNAL
REMOVE STRAPS "14-22" & "16-19", 15T
TERMINAL STRIP "B": CONNECT A.C. TO 16 & 22
T.S. "B": SEE SKETCHES 226, 227, 228, 229, NOTE I

RECTIFIER
J-86205-A LIST I

SKETCH 237



NOTE- PUNCHING NUMBERS IN CIRCLES
AT TEL. SET INDICATE LEADS THAT
MUST BE CHANGED FROM CONNECTIONS
AS PROVIDED IN SHOP.

REFERENCE- DWG. SD-69104-01

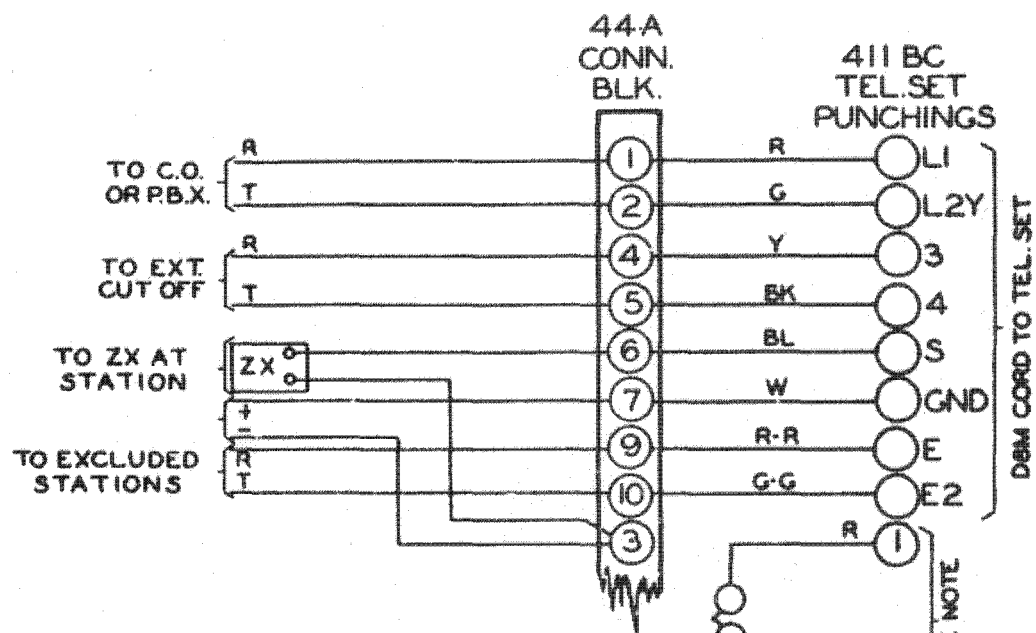
1 LINE PICK-UP, SIGNAL, EXTENSION
CUT OFF WITH RINGER TRANSFER

410 BA OR BC
1-P, 1-S, 1-C

1 TURN AND
PUSH BUTTON
KEY

SKETCH 241

ISSUE No. 2 11-1-51



NOTE- PUNCHING NUMBERS IN CIRCLES
AT TEL. SET INDICATE LEADS THAT
MUST BE CHANGED FROM CONNECTIONS
AS PROVIDED IN SHOP.

REFERENCE- DWG. SD-69104-01

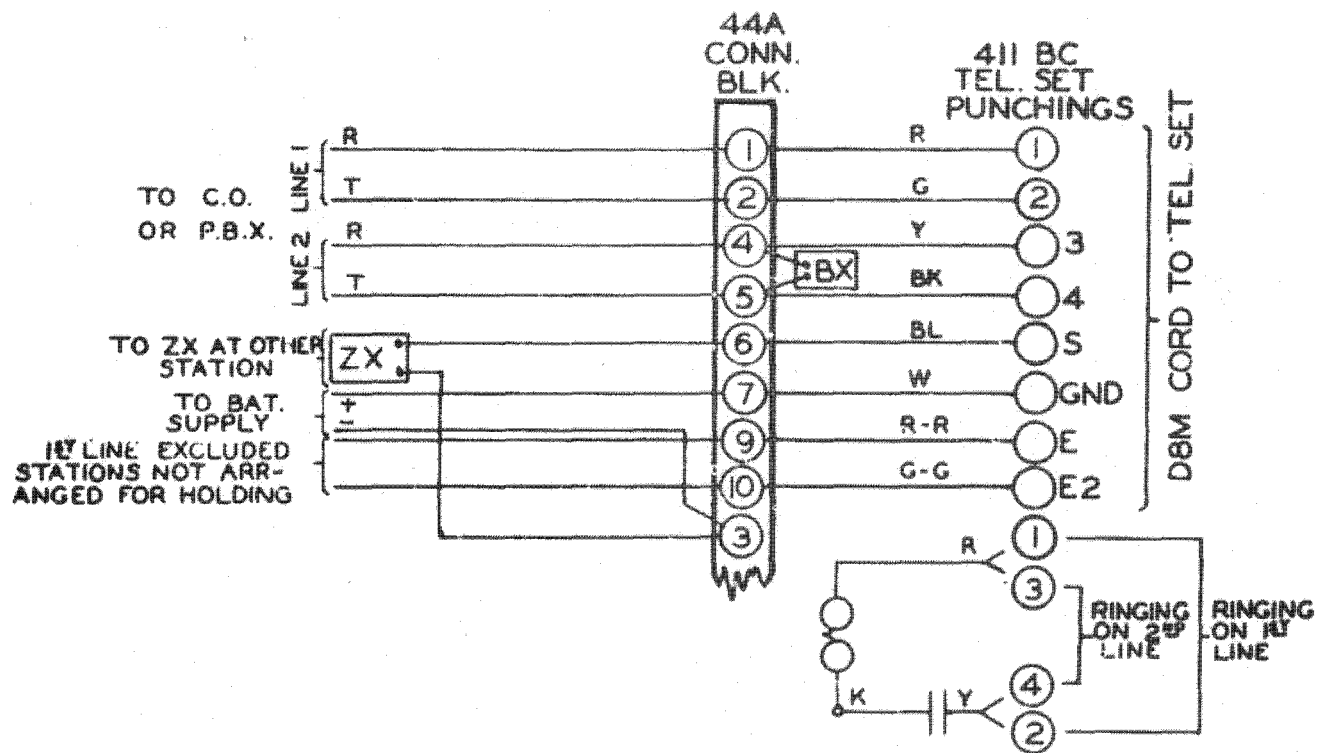
1 LINE PICK-UP SIGNAL, EXCLUSION,
EXTENSION WITH CUT OFF RINGER TRANSFER

411 BA OR BC
I-P, I-S, I-C EXCL.

 TURN AND
PUSH BUTTON
KEY

SKETCH 242

ISSUE No. 2 11-1-51



NOTE - PUNCHING NUMBERS IN CIRCLES AT
TEL. SET INDICATE LEADS THAT
MUST BE CHANGED FROM CONNECT-
AS PROVIDED IN SHOP.

REFERENCE - DWG. SD-69104-01 .

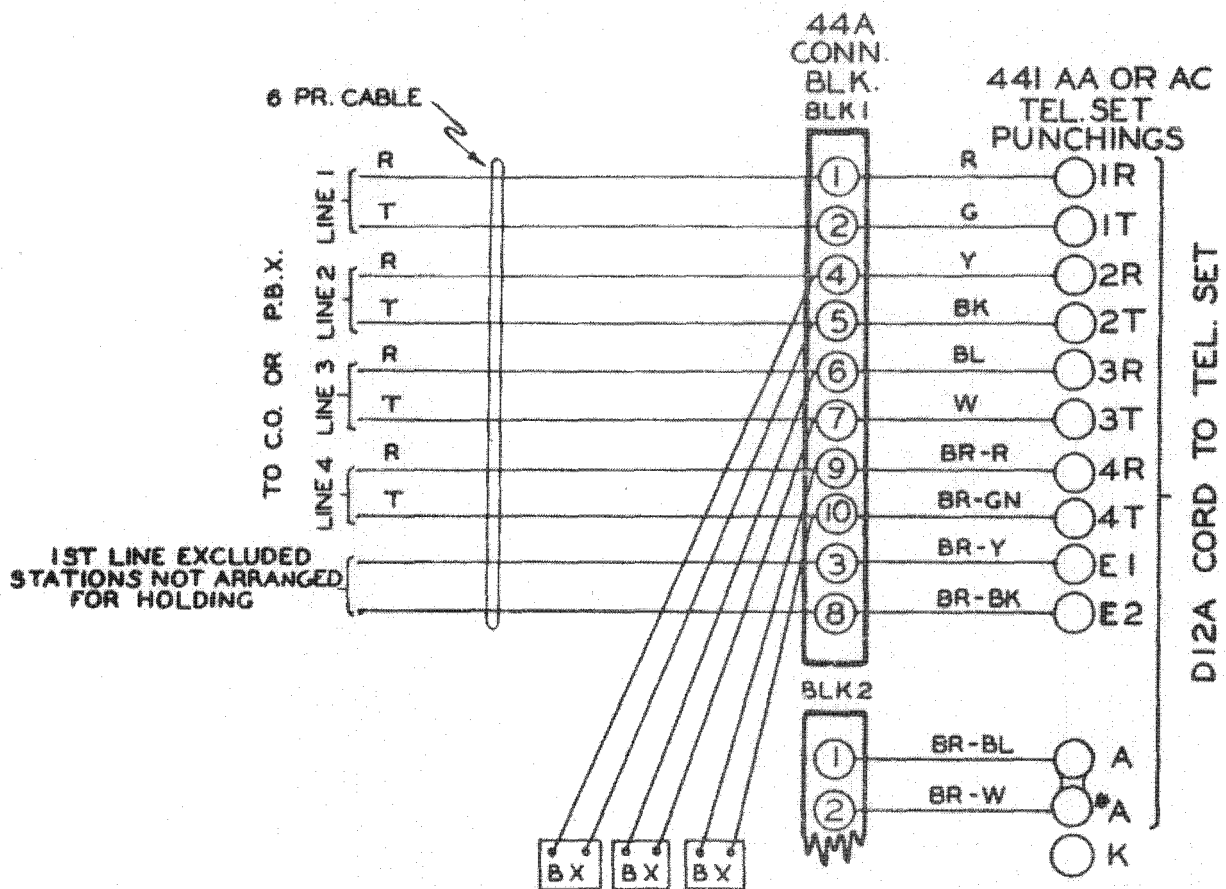
411 BA OR BC
2-P, I-S, EXCL

 TURN AND
PUSH BUTTON
KEY

2 LINE PICK-UP: EXCLUSION ON
1ST LINE AND SIGNAL

SKETCH 243

ISSUE No. 2 11-1-51



RINGER ON 1ST LINE IN TEL.
SET R TO IR, Y TO IT

REFERENCE- DWG. SD-69129-01

44I AA OR AC
4-P, EXCL.

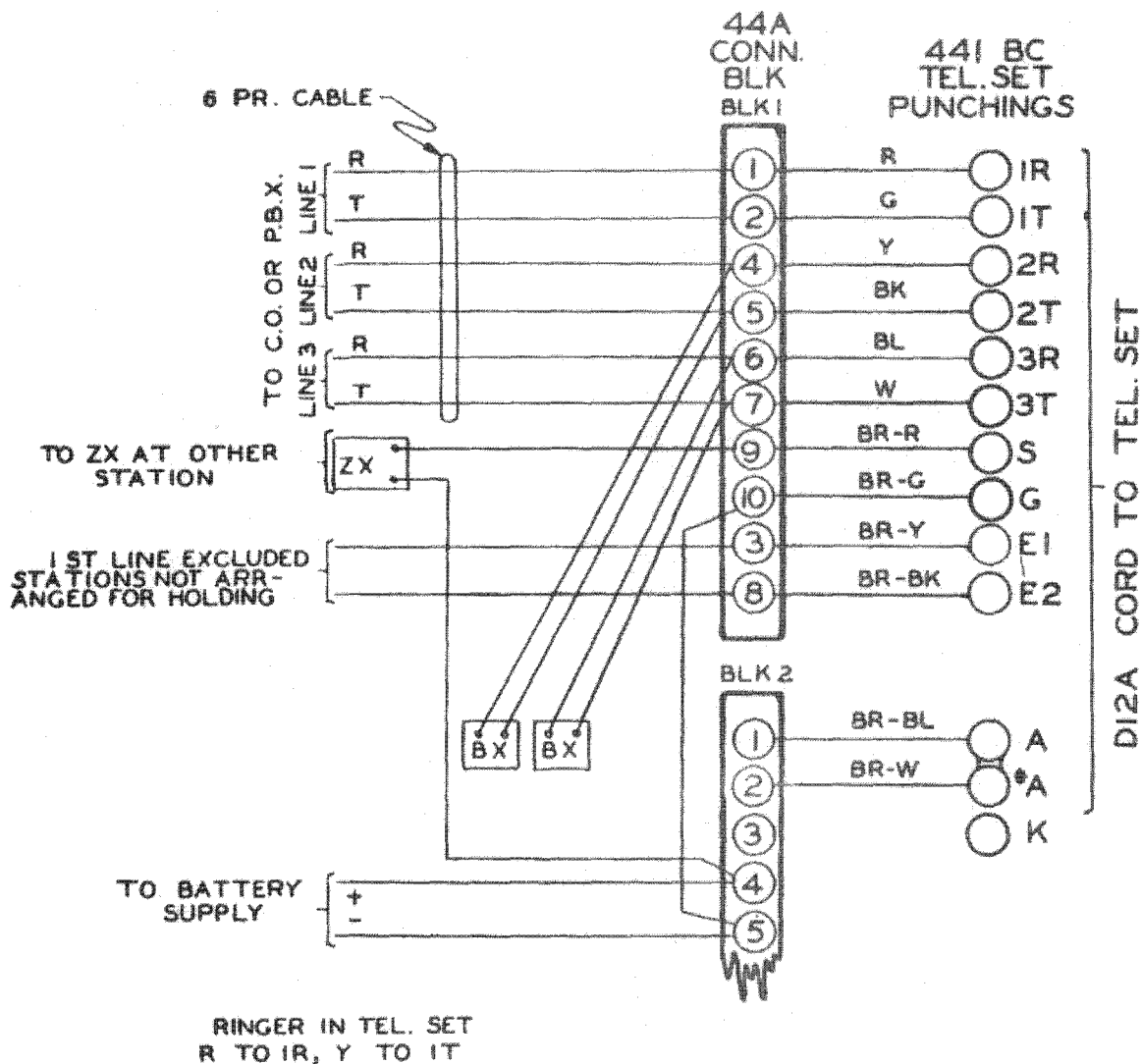


MFG. DISC.

4 LINE PICK-UP
EXCLUSION ON 1ST LINE

SKETCH 244

ISSUE No. 2 11-1-51



REFERENCE-DWG. SD-69129-01

44I BA OR BC
3-P, I-S, EXCL.

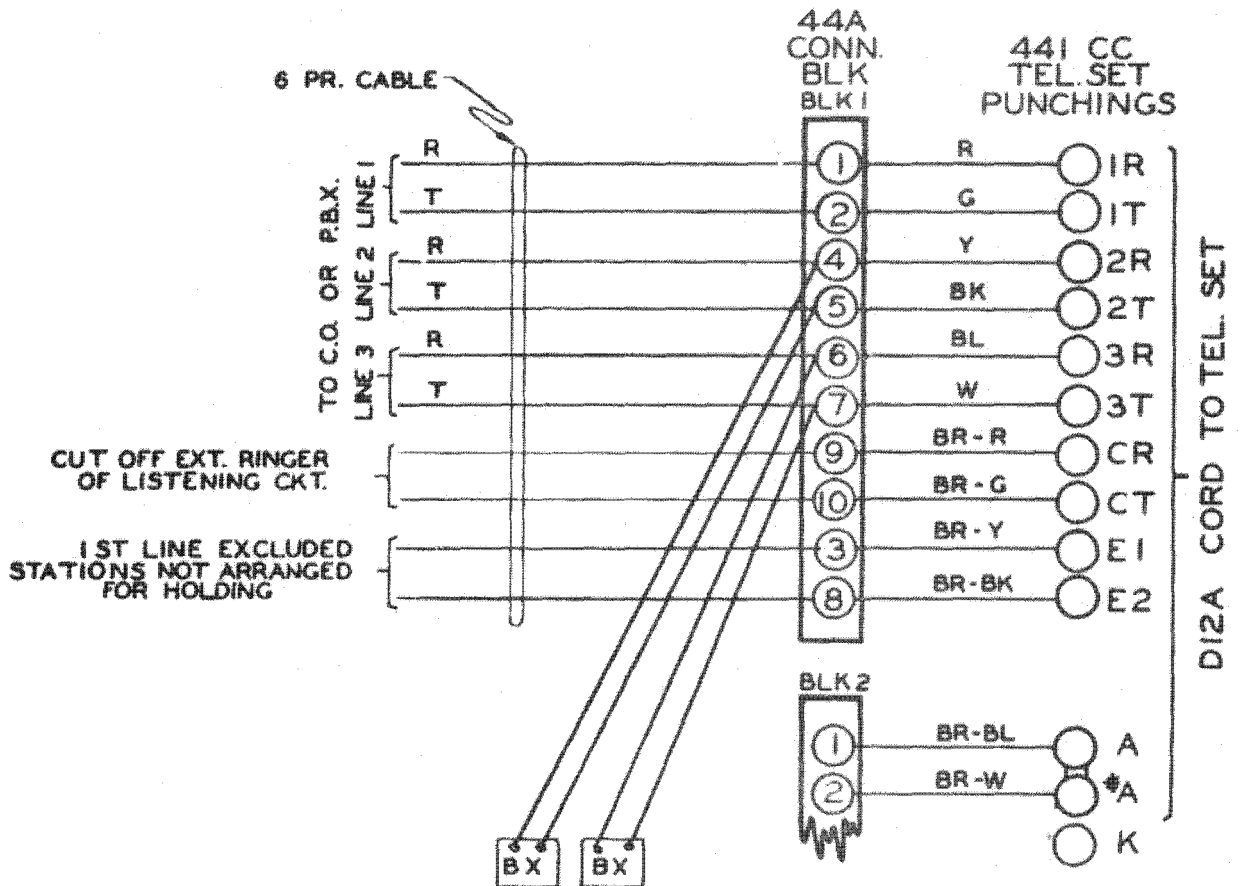
3 LINE PICK-UP:
SIGNAL AND EXCLUSION

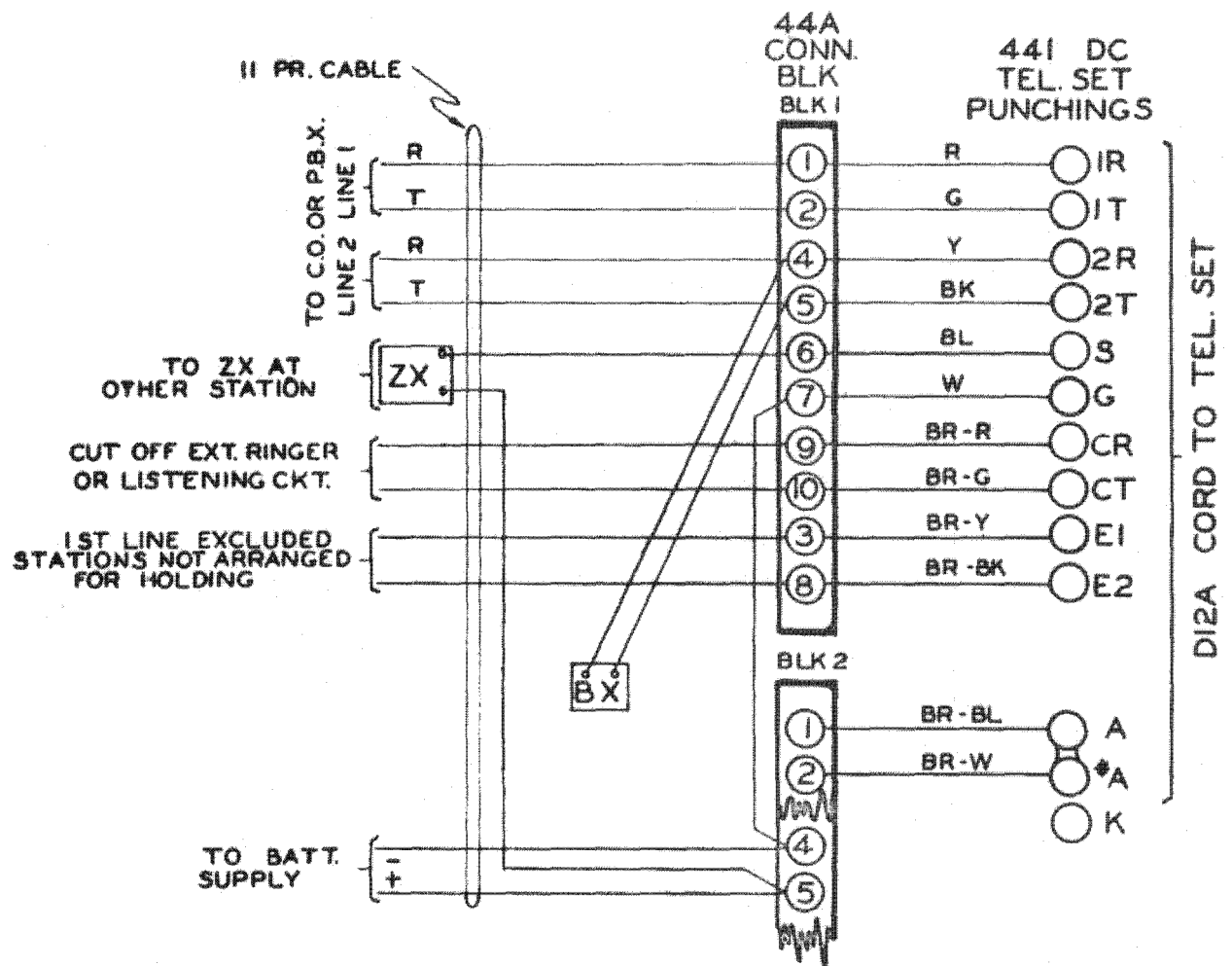


MFG. DISC.

SKETCH 245

ISSUE No. 2 11-1-51





RINGER IN TEL. SET
R TO IR, Y TO IT

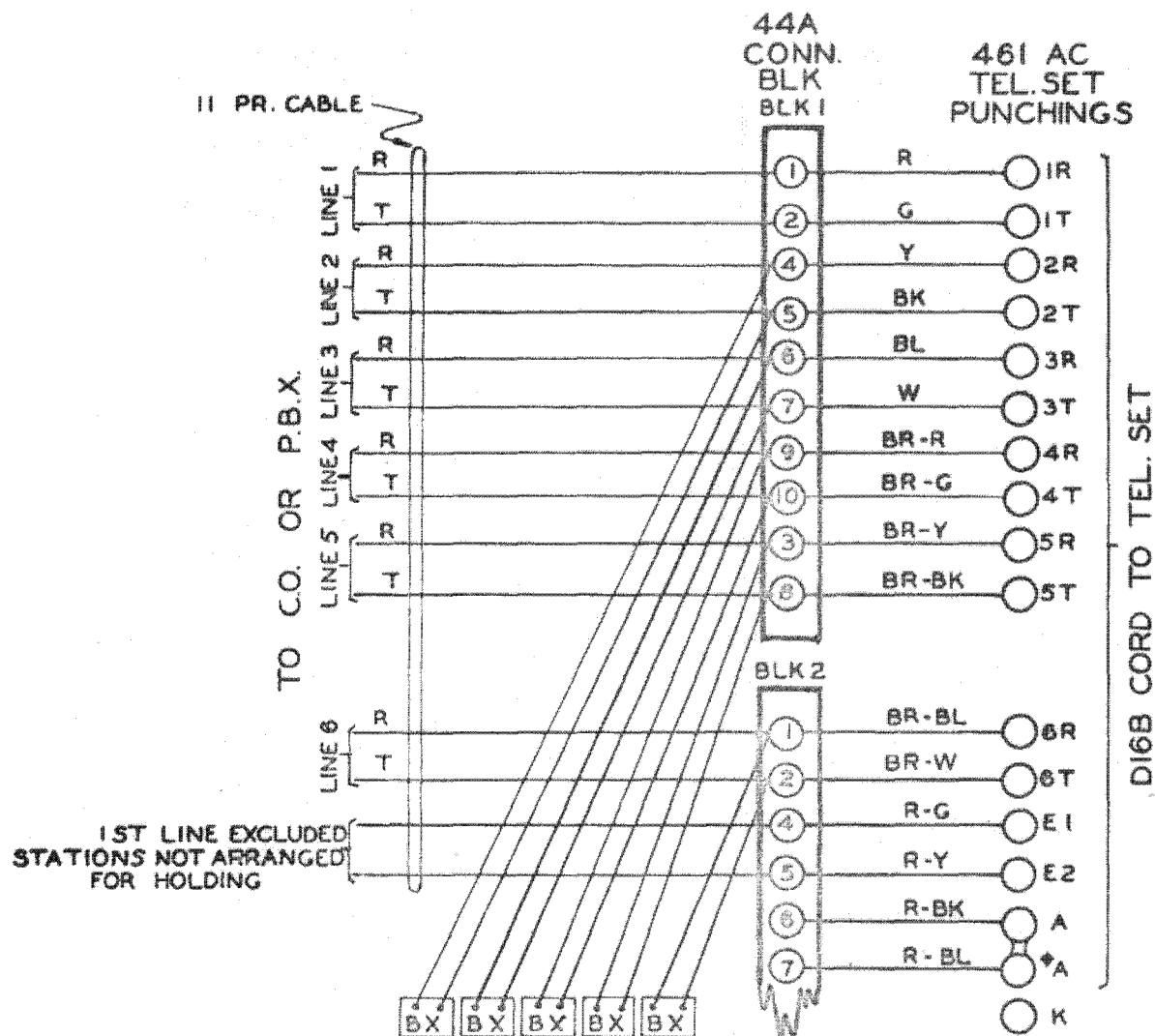
REFERENCE - DWG. SD-69129-01

(P) (P) (S) (C)

MFG. DISC.

2 LINE PICK-UP: SIGNAL KEY: CUT OFF EXT.
RINGER OR LISTENING CKT. EXCLUSION ON 1ST LINE

SKETCH 247



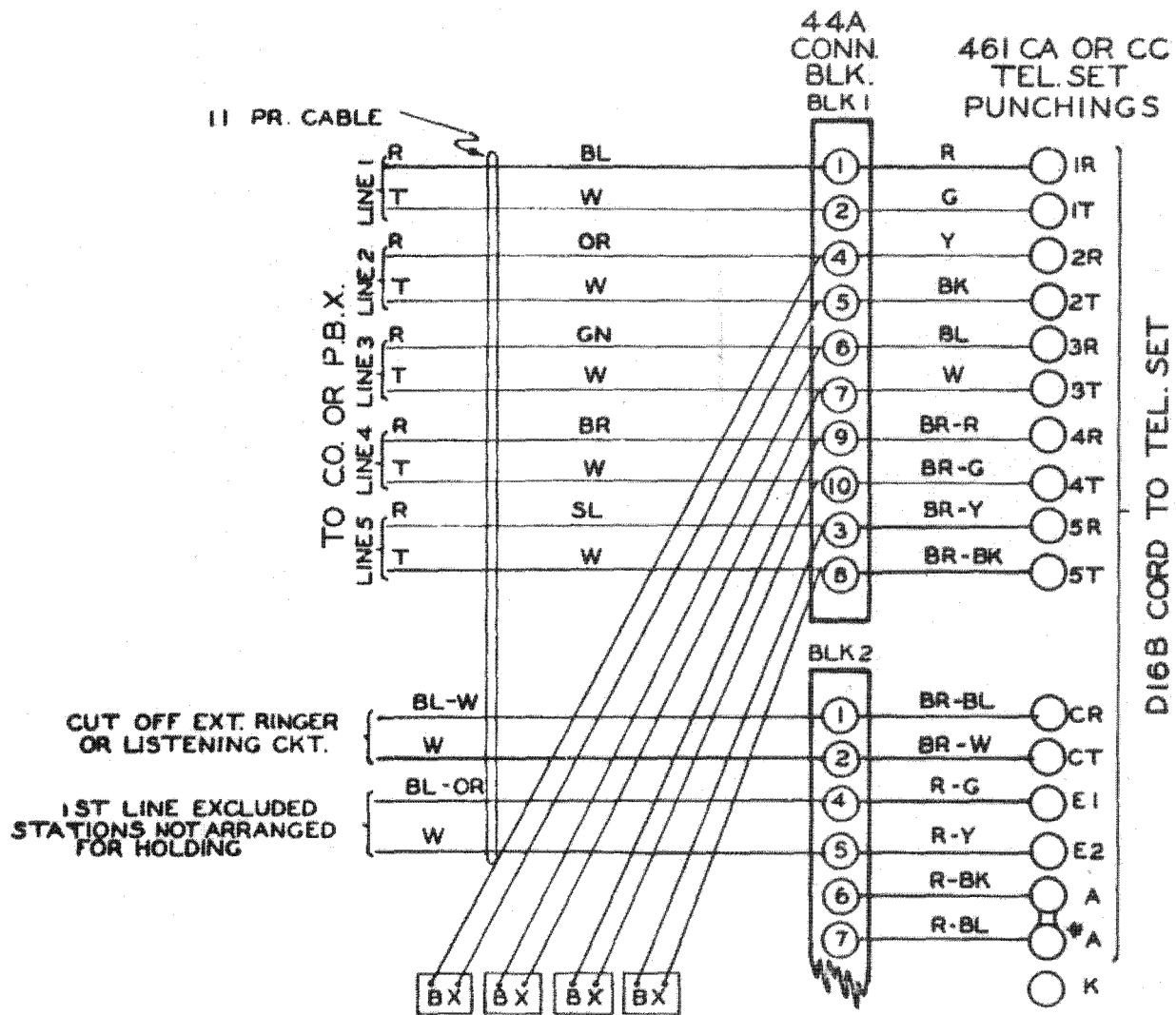
RINGER IN TEL. SET ON
1ST LINE: R TO IR, Y TO IT

REFERENCE-DWG. SD-69129-01

MFG. DISC.

6 LINE PICK-UP:
EXCLUSION ON 1ST LINE

SKETCH 248



RINGER IN TEL. SET
R TO IR, Y TO IT

REFERENCE-DWG. SD-69129-01

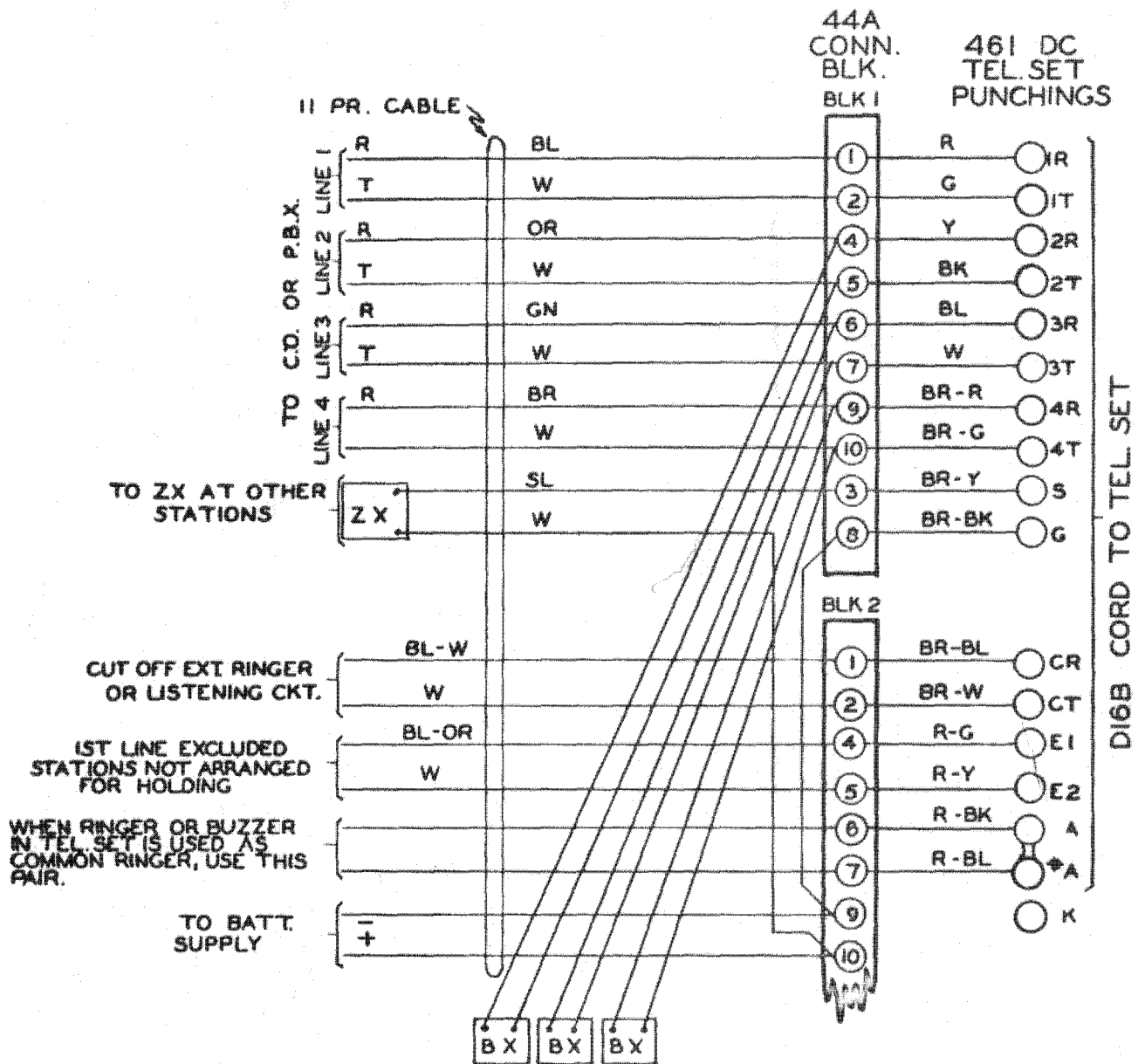
461 CA OR CC
5-P, 1-C, EXCL.



MFG. DISC.

5 LINE PICK-UP: EXCLUSION: CUT OFF
OF EXT. RINGER OR LISTENING CKT.

SKETCH 249



RINGER IN TEL. SET
R TO IR, Y TO IT

REFERENCE - SD-89129-01

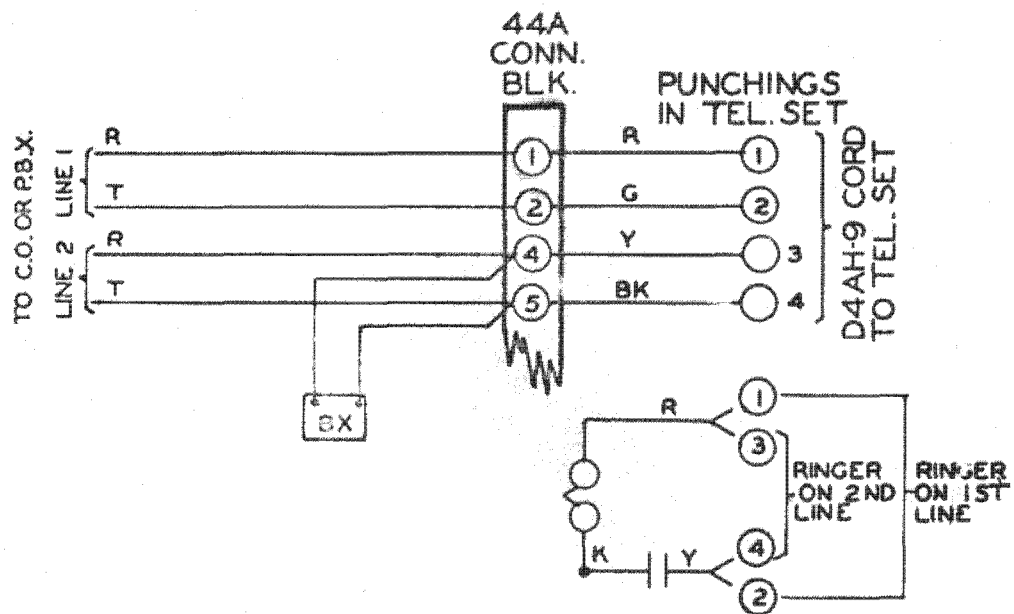
461 DC OR DA
4-P, 1-S, 1-C, EXCL.

(P) (P) (P) (P) (S) (C)

MFG. DISC.

4 LINE PICK-UP: SIGNAL KEY: CUT OFF EXT.
RINGER OR LISTENING CKT: EXCLUSION ON 1ST LINE

SKETCH 250



NOTE - PUNCHING NUMBER IN CIRCLE AT TEL. SET INDICATES LEAD THAT MUST BE CHANGED FROM CONNECTIONS AS PROVIDED IN SHOP

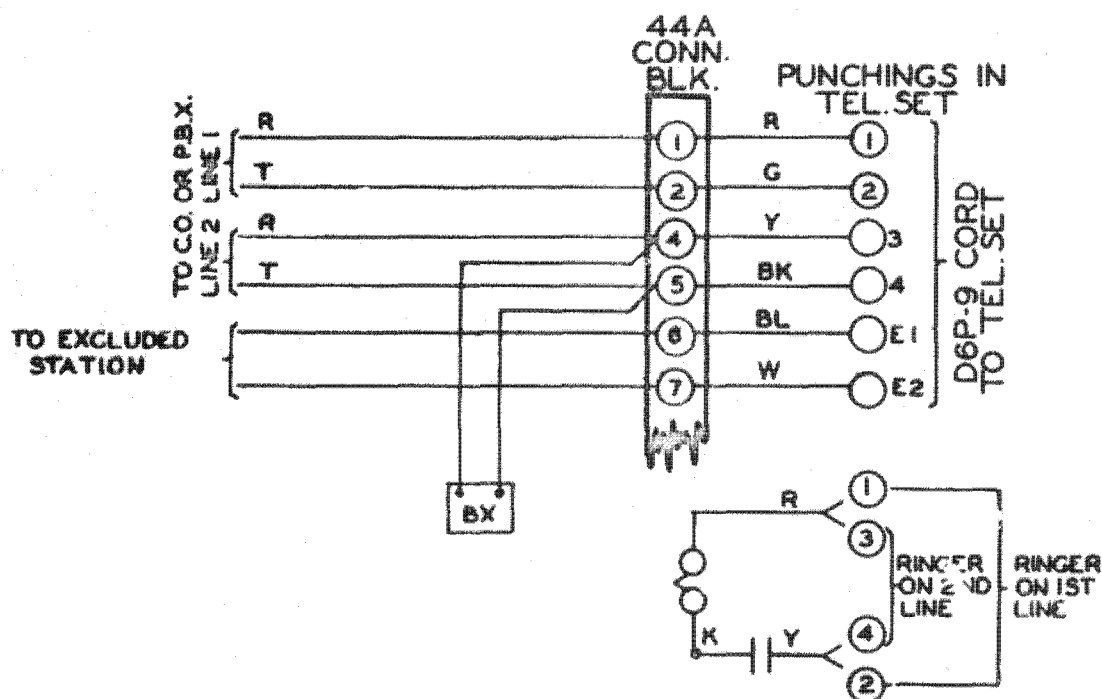
REFERENCE - DWG. SD-69104-01

PROVIDES FOR 2 LINE PICK-UP

410 AA OR AC



SKETCH 251



NOTE - PUNCHING NUMBERS IN CIRCLES AT TEL. SET INDICATES LEADS THAT MUST BE CHANGED FROM CONNECTIONS AS PROVIDED IN SHOP.

REFERENCE - DWG. SD-69104-01

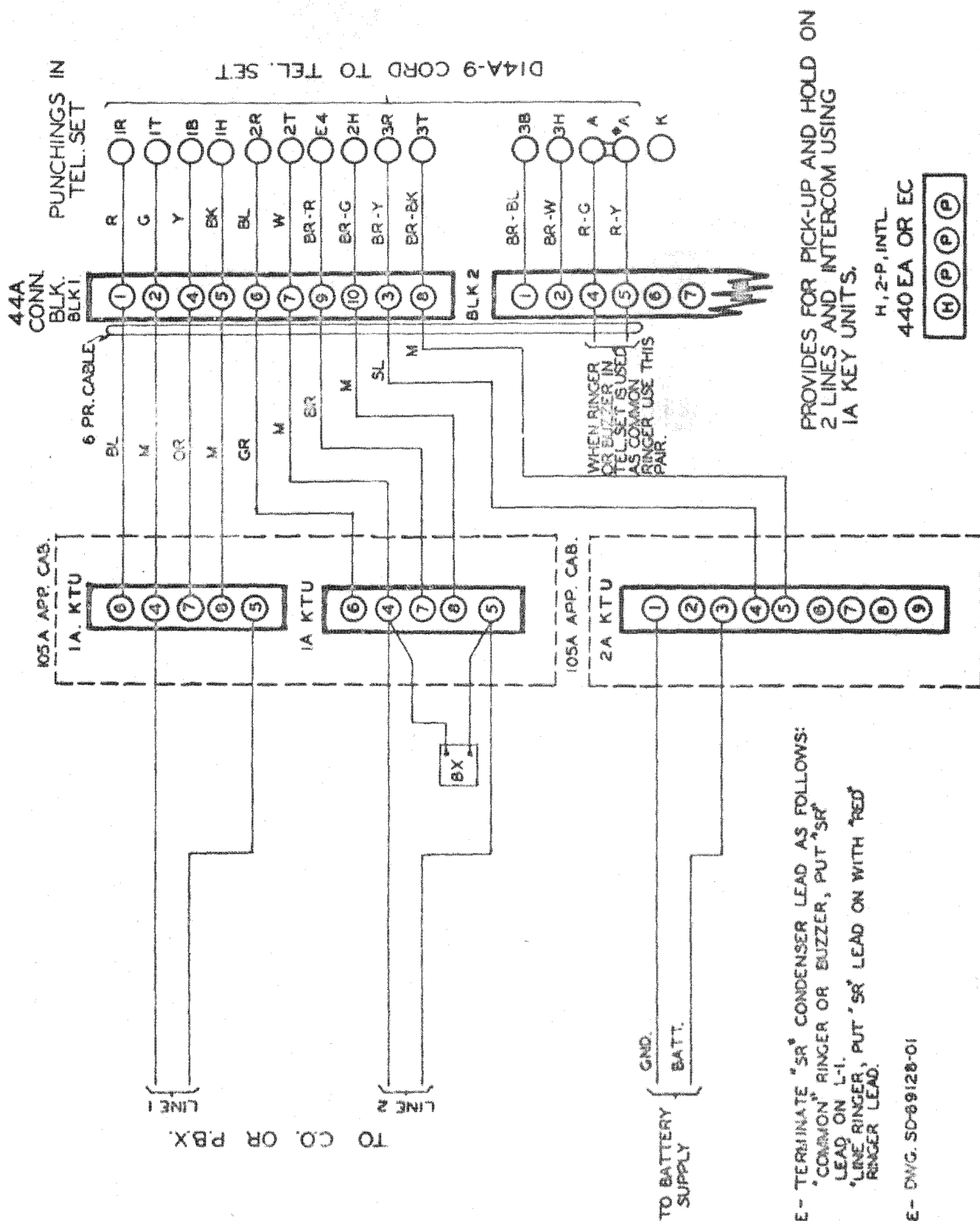
PROVIDES FOR 2 LINE PICK-UP EXCLUSION ON 1ST LINE

411AA OR AC



2-P, EXCL.

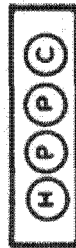
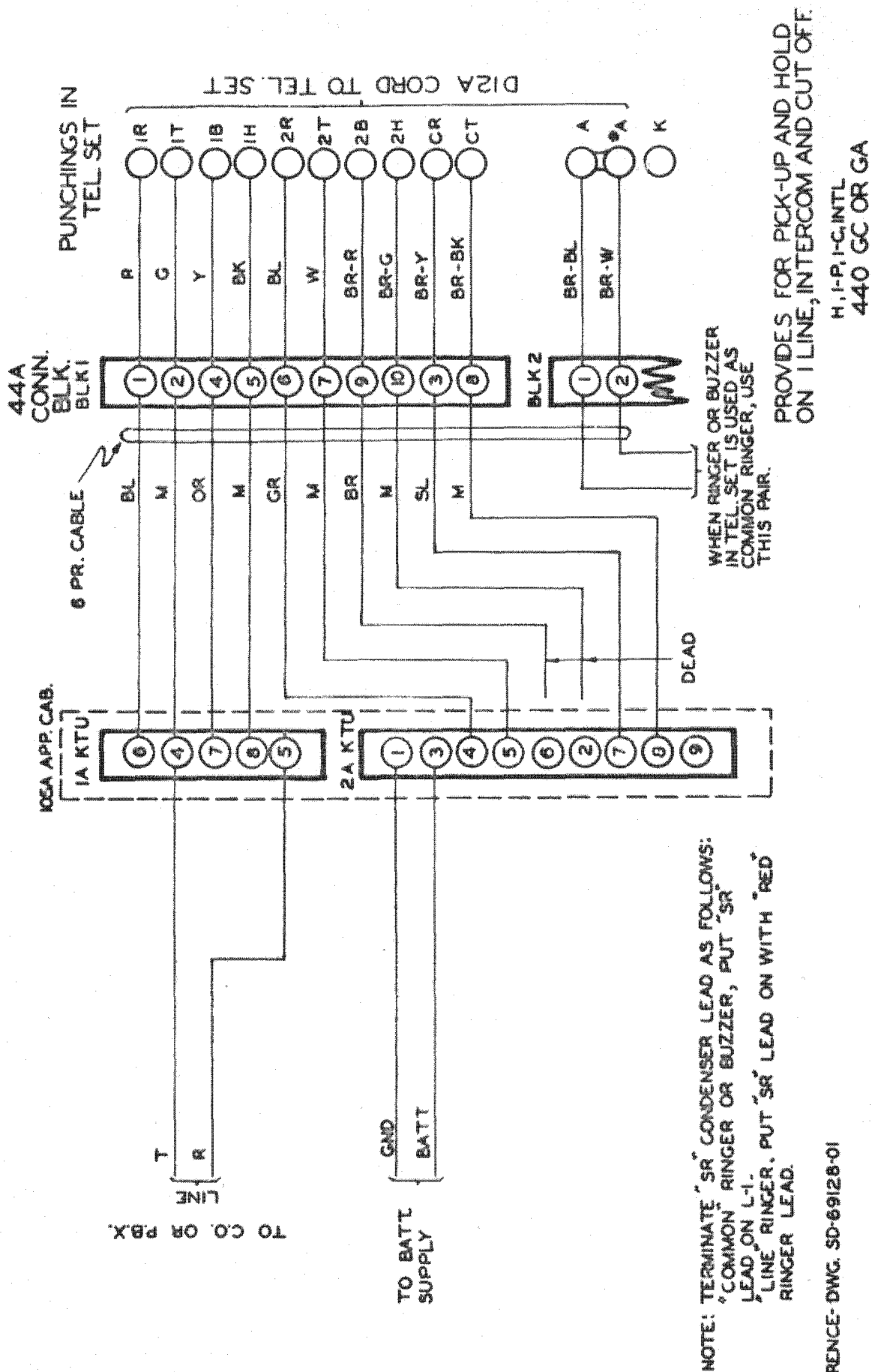
SKETCH 252



(H) (P) (P) (P)

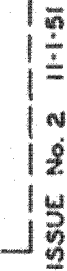
SKETCH 253

ISSUE No. 2 11-1-51

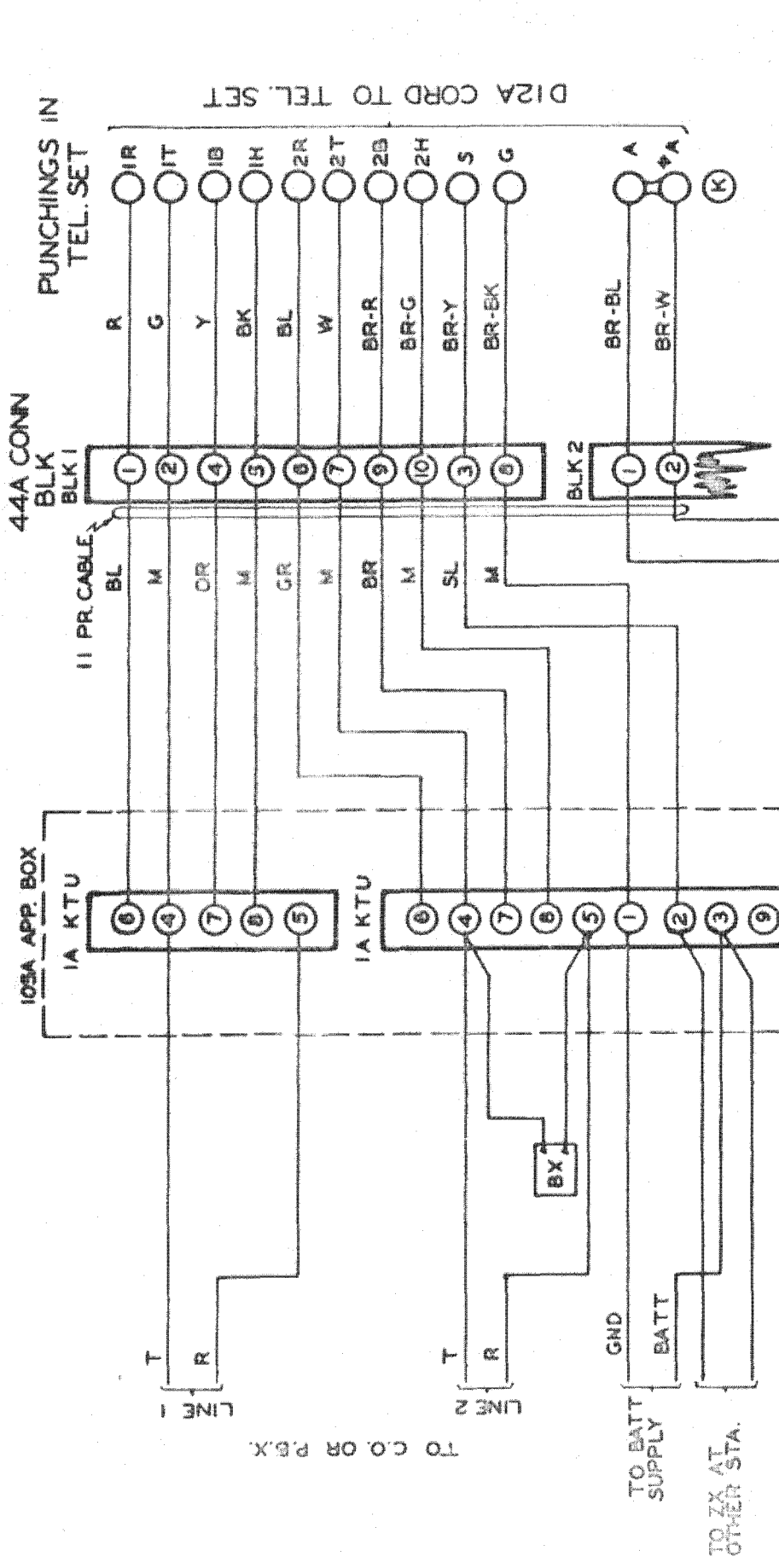


SKETCH 254

REFERENCE - DWG. SD-69128-01



а а а а



WHEN RINGER OR BUZZER IN TEL. SET IS USED AS COMMON RINGER, USE THIS PAIR.

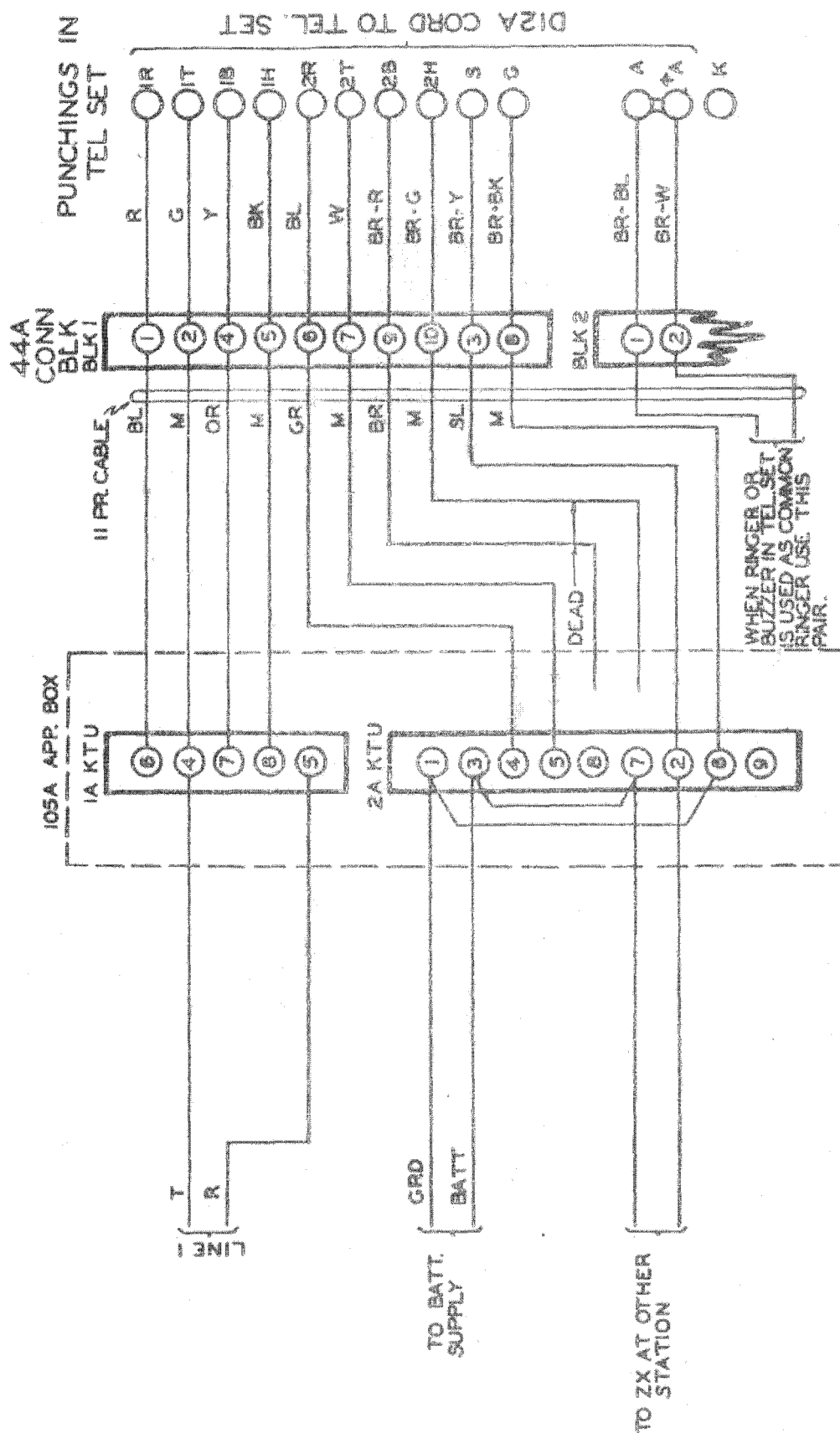
PROVIDES FOR PICK-UP AND HOLD ON 2 LINES: 1 SIGNAL.

NOTE: TERMINATE "SR" CONDENSER LEAD AS FOLLOWS:
 "COMMON" RINGER OR BUZZER, PUT "SR" LEAD ON L-1.
 "LINE" RINGER, PUT "SR" LEAD ON WITH RED RINGER LEAD.

H,2-P,1-5
 440 FA OR FC
 (H) (P) (P) (S)

REFERENCE - DWG. SD-69128-01

SKETCH 256



PROVIDES FOR PICK-UP AND HOLD
ON 1 LINE, INTERCOM AND SIGNAL.

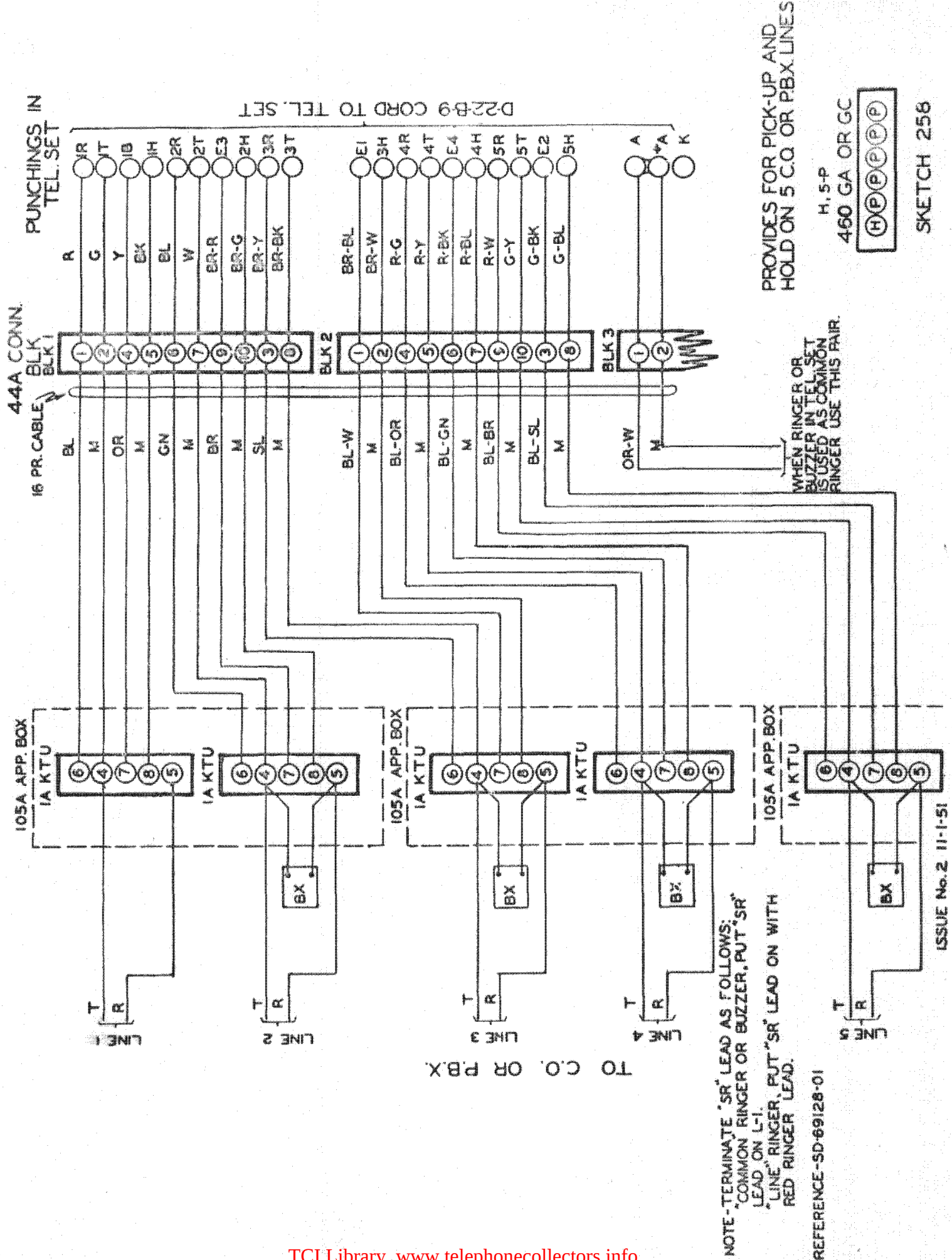
H, I-P, I-S, INTL.
440 FA OR FC

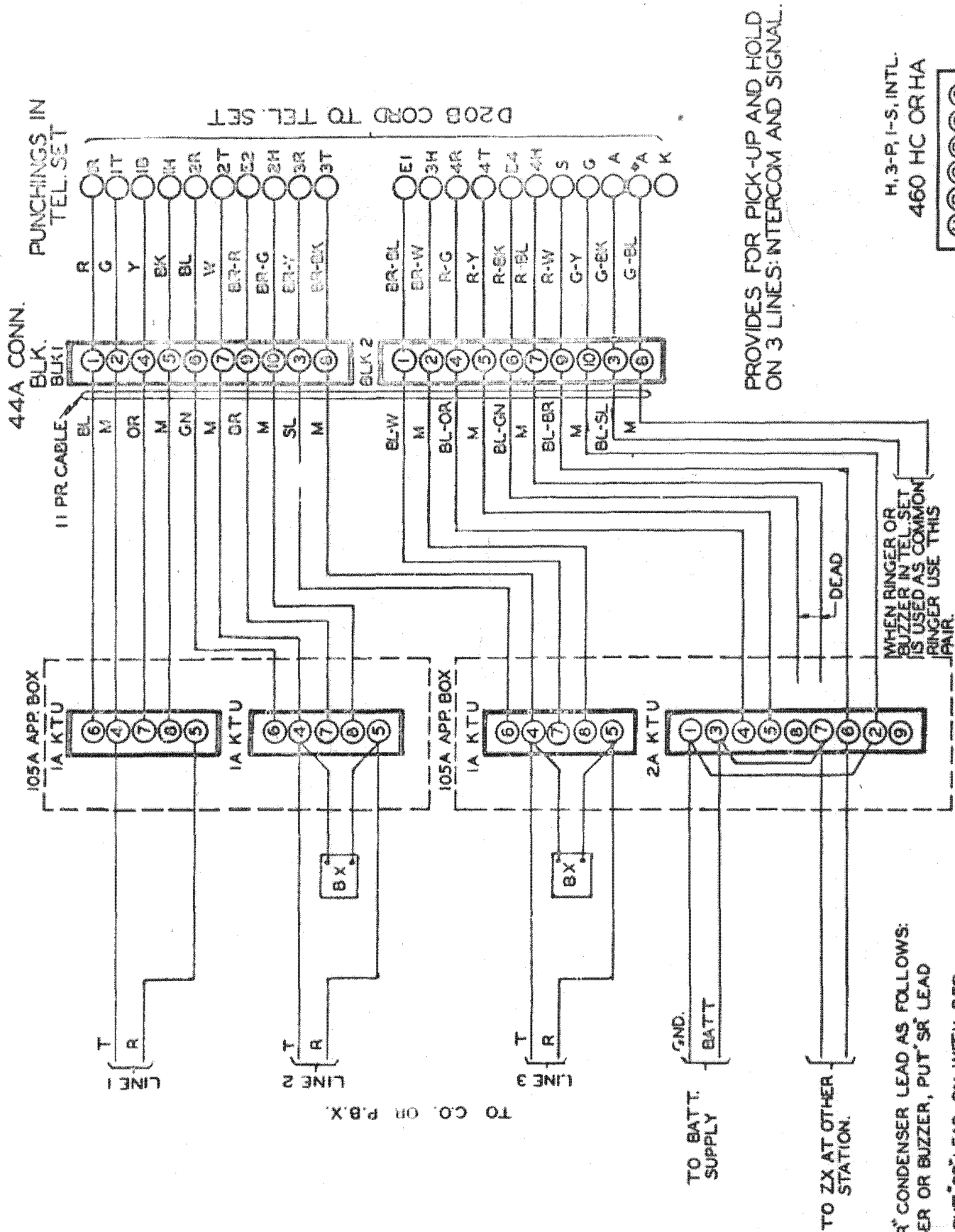


SKETCH 257

ISSUE No. 2 11-1-31

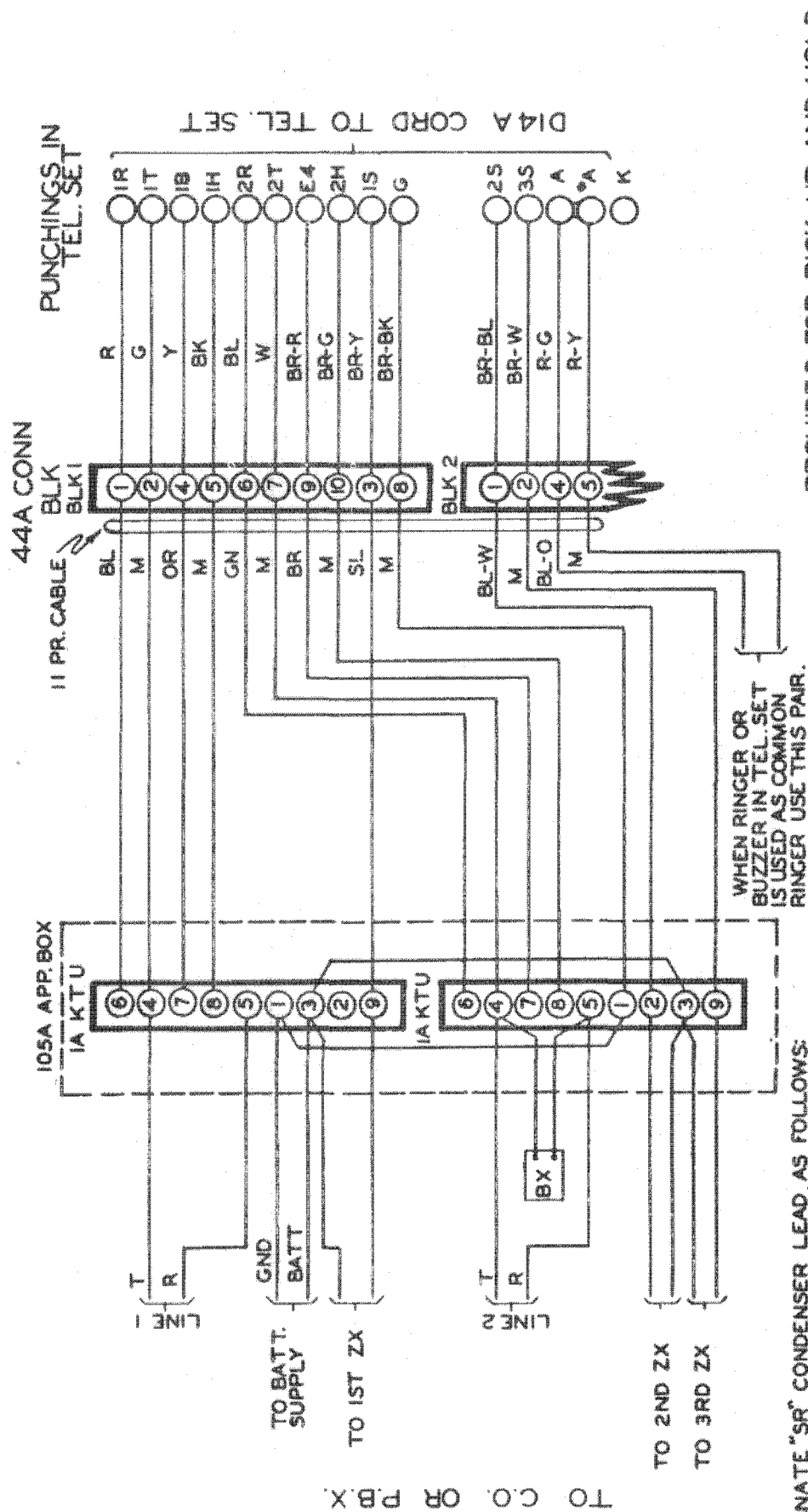
REFERENCE-DWG. SO-69128-01





H, 3-P, I-S, INTL.
 460 HC OR HA





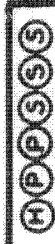
NOTE - TERMINATE "SR" CONDENSER LEAD AS FOLLOWS:
 "COMMON" RINGER OR BUZZER, PUT "SR"
 LEAD ON L-I.
 "LINE" RINGER, PUT "SR" LEAD ON WITH RED
 RINGER LEAD.

REFERENCE - DWG. SD-69128-01

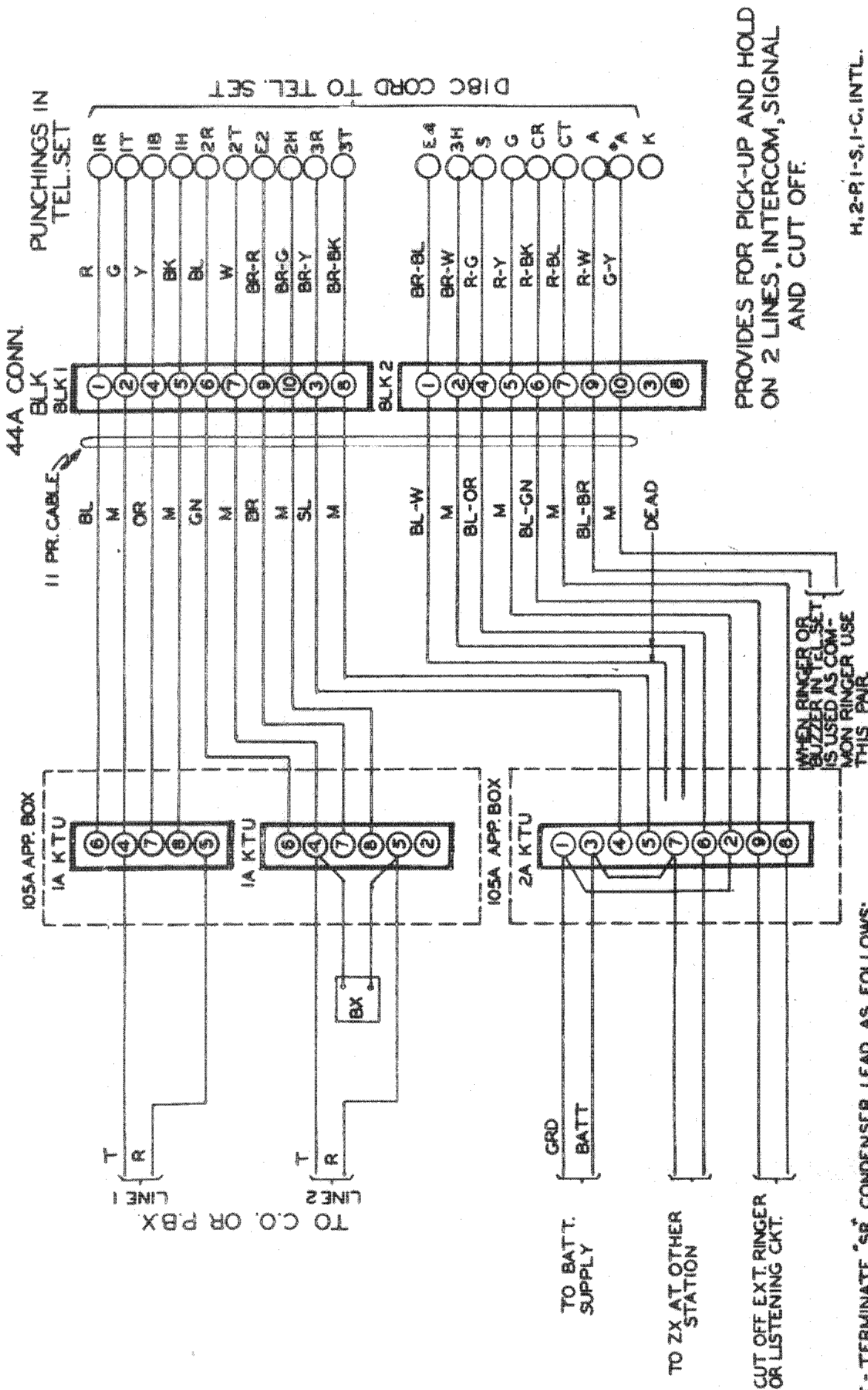
PROVIDES FOR PICK-UP AND HOLD
 ON 2 LINES: 3 SIGNALS

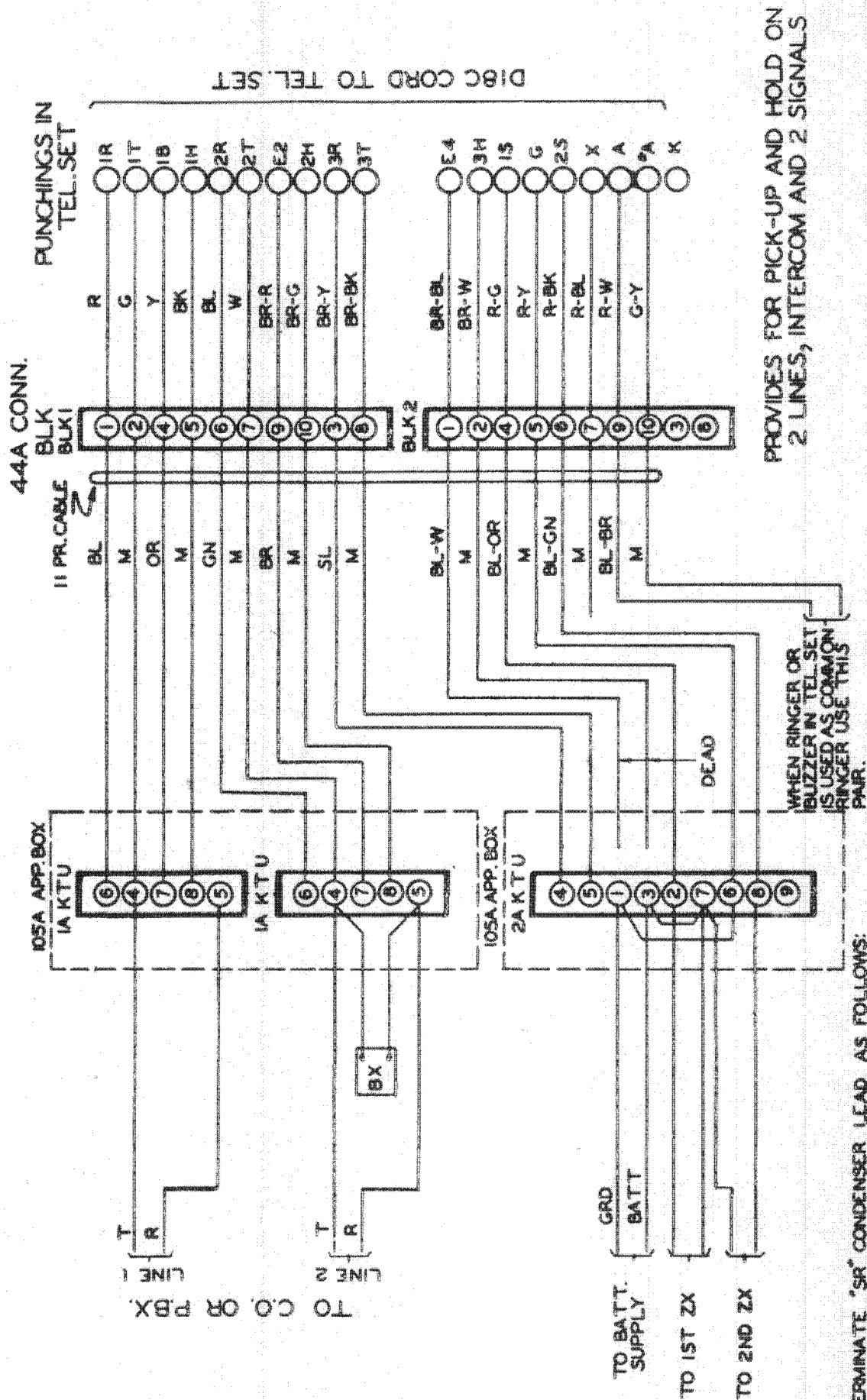
H, 2-P, 3-S

460 NA OR NC



SKETCH 261





NOTE - TERMINATE "SR" CONDENSER LEAD AS FOLLOWS:
 "COMMON" RINGER OR BUZZER, PUT "SR"
 LEAD ON L-1
 "LINE" RINGER, PUT "SR" LEAD ON WITH
 RED RINGER LEAD.

REFERENCE - SD-69128-01

H.2-P.2-S, INTL.
 460 MA OR MC

