

CIRCUIT DESCRIPTION

CD-5D090-01
ISSUE 1
APPENDIX 3B
DWG ISSUE 4B
DISTN CODE BT13

5ESS® SWITCHING EQUIPMENT
INTEGRATED SERVICES LINE UNIT -
DRAWER
CIRCUIT

CHANGES

B. Changes in Apparatus

- B.01 Added option S to allow KCD3B to be used in place of KCD3 (option T) Line Group Control circuit pack for 5E6 or 5EE4.2 and later generic offices.
- B.02 Add option M to allow KCB1B to be used in place of KCB1 (option N) analog circuit pack for Netherland offices.
- B.03 Added option J to allow KCB3B to be used in place of KCB3 (option K) analog circuit pack for Taiwan offices.
- B.04 Added option F to allow KCB4B to be used in place of KCB4 (option G) analog circuit pack for Korea offices.
- B.05 Added option B to allow KCB5B to be used in place of KCB5 (option E) analog circuit pack for China offices.
- B.06 Added option Q to allow KCB6B to be used in place of KCB6 (option R) analog circuit pack for domestic offices.
- B.07 Added KCB15 analog circuit pack for Spain offices.
- B.08 Added KCB17 ANSI Std. U-DSL circuit pack to be used in 5E6 or 5EE4.2 and later generic offices.
- B.09 Added option A to allow 553B to be used in place of 553A (option W) Line Group Power circuit pack for 5E6 or 5EE4.2 and later generic offices.

NOTICE

This document is either
AT&T - Proprietary, or WESTERN
ELECTRIC - Proprietary

Pursuant to Judge Greene's Order of August 5, 1983,
beginning on January 1, 1984, AT&T will cease to use
"Bell" and the Bell symbol, with the exceptions as set
forth in that Order. Pursuant thereto, any reference to
"BELL" and/or the BELL symbol in this document is hereby
deleted and "expunged".

Copyright © 1989 AT&T
All Rights Reserved.

Printed in U.S.A.

Page 1

D. Description of Change

- D.01 Add LGSYNC Lead Desig. to Symbol Nos. 28 and 29 of FS 1.
- D.02 Updated App. Figure information.
- D.03 Updated Equipment notes 202, 203 and 204.
- D.04 Updated Information notes 302, 303, 304, 307, 308, 309, 310 and 311.
- D.05 Added Information notes 317, 318 and 319 explaining 553B, KCD3B and KCB17 implementation.

AT&T BELL LABORATORIES

DEPT 55421-CHS-TMM

CIRCUIT DESCRIPTION

CD-5D090-01
ISSUE 1
APPENDIX 2B
DWG ISSUE 3B
DISTN CODE AT13

5ESS™ SWITCHING EQUIPMENT
INTEGRATED SERVICES LINE UNIT - DRAWER
CIRCUIT

CHANGES

B. Changes in Apparatus

B.1 Added option W to allow the 553A Line Group Power Supply to be used in offices of a 5E4(2) or 5EE3 generic and beyond. The 553A is a replacement for the KCD2 Line Group Power Pack. When a 553A is used within a line group, a KCB16 Auxiliary Power Pack is not required.

B.2 Add option U to allow the KCB10 U-Card to be used in offices of a 5E4(2) or 5EE3 generic and beyond. The KCB10, which is one line card circuit pack in width, is a replacement for the 6A U-Card, which is two line card circuit packs in width.

AT&T BELL LABORATORIES

DEPT 55611-CHS-MJK

Printed in U.S.A.

Page 1
1 Page

AT&T — PROPRIETARY
THIS DOCUMENT CONTAINS PROPRIETARY INFORMATION OF AT&T AND IS NOT TO
BE DISCLOSED OR USED EXCEPT IN ACCORDANCE WITH APPLICABLE AGREEMENTS.

Copyright © 1987 AT&T
Unpublished and Not for Publication
All Rights Reserved

CIRCUIT DESCRIPTION

CD-5D090-01
ISSUE 1
APPENDIX 1D
DWG ISSUE 2D
DISTN CODE 7T13

5ESS SWITCHING EQUIPMENT
INTEGRATED SERVICES LINE UNIT
DRAWER
CIRCUIT

CHANGES

D. Description of Changes

- D.1 The following changes are documentation changes only and do not affect the hardware in any way.
- D.2 Change all references of ED5D630 to 6A.
- D.3 Combine composite diagrams 1 and 2 into one composite diagram.
- D.4 The EQL's for KCD2 and KCD3 in the Apparatus Figure Table should be 11-09 and not 11-07.
- D.5 Add Note 204 stating which circuit packs can be pulled "HOT".
- D.6 Add CLEI codes to circuit packs shown in Note 304.
- D.7 Change all lead designation names of GRDJACK to -48RTN.
- D.8 Add Note 203 identifying Line Card Sparing.
- D.9 Remove Note 308.
- D.10 Modify the listing of Apparatus Figures referred to in Note 202.
- D.11 Modify the listing of circuit packs referred to in Note 307.

AT&T BELL LABORATORIES

DEPT 55615-MK-GH

Printed in U.S.A.

Page 1
1 Page

THIS DOCUMENT CONTAINS PROPRIETARY INFORMATION OF AT&T BELL LABORATORIES AND IS NOT TO BE DISCLOSED, REPRODUCED, OR PUBLISHED WITHOUT WRITTEN CONSENT. THIS DOCUMENT MUST BE RENDERED ILLEGIBLE WHEN BEING DISCARDED.

5ESS™ SWITCHING EQUIPMENT
INTEGRATED SERVICES LINE UNIT
DRAWER
CIRCUIT

TABLE OF CONTENTS	PAGE
SECTION I - GENERAL DESCRIPTION....	1
1. PURPOSE OF CIRCUIT.....	1
2. GENERAL DESCRIPTION OF OPERATION.....	1
SECTION II - DETAILED DESCRIPTION..	1
1. PHYSICAL AND ELECTRICAL DATA....	1
2. FEATURES.....	1
3. ISLU DRAWER BLOCK DIAGRAM.....	2
4. INTERFACES TO COMMON SHELF BACKPLANE.....	2
SECTION III - REFERENCE DATA.....	2
1. WORKING LIMITS.....	2
2. GLOSSARY.....	2

SECTION I - GENERAL DESCRIPTION1. PURPOSE OF CIRCUIT

1.01 The drawer unit, part of the integrated services line unit (ISLU), contains the line cards (LCs), which interface to the outside plant, and the line group (LG) backplanes that receive the line cards.

2. GENERAL DESCRIPTION OF OPERATION

2.01 The ISLU contains one to four drawers, depending on how many lines are supported. Each drawer is equipped with four LG backplanes, two facing to the right and two facing to the left. A fully equipped ISLU uses eight right and eight left LG

backplanes (total of 16) in the four drawers. Local control and power for the LCs reside on the LG backplanes. For an understanding of the entire unit, see the circuit description for the overall unit.

SECTION II - DETAILED DESCRIPTION1. PHYSICAL AND ELECTRICAL DATA

1.01 See Fig. 1, an ISLU pictorial that highlights the drawer unit. The LG backplanes are attached to the drawers. Cables from the common shelf feed downward and into the back of each drawer. These cables contain all of the signals and power for the circuits terminated on the LG backplane.

1.02 Fig. 2 is a block diagram of the ISLU. The common shelf to drawer unit cables are represented by all lines connecting the metallic access network (MAN), common data (CD), and line group (LG) boxes. The LG boxes represent the LG backplanes. Due to space limitations, this figure does not clearly show that each LG is isolated from the others.

2. FEATURES

2.01 An LG backplane can hold up to 32 line cards, i.e., one LG. Thus, four LG backplanes per drawer provide a capacity of 4 X 32, or 128, line cards per drawer; and, accordingly, four drawers per fully equipped ISLU provide a capacity of 4 X 128, or 512, line cards. Each LG is supported by a line group controller (LGC), a line group power (LGP), and, in some cases, by an

auxiliary power card (APC). A terminal field for the cables exists at one end of each backplane.

3. ISLU DRAWER BLOCK DIAGRAM

3.01 See Fig. 3. Control and data for the LG comes down from the common shelf via a line interface data bus (LIDB). The LIDB terminates on the line group controller (LGC). The LGC in turn controls and sends data to the 32 LC positions in an LG. Power for each LG comes from office battery. Those circuits that require +5V get it from the line group power (LGP) board. Some LC types require -5V and receive it from the optional auxiliary power card (APC). The APC, when needed, plugs into LC position 8.

3.02 Two tip/ring pairs are supplied to each LC position. They are run out to a tip/ring field near the back of the common shelf. The two line group buses, used for ringing and sparing of defective LCs, run to each LC position.

4. INTERFACES TO COMMON SHELF BACKPLANE

4.01 All interfaces to the rest of the unit are through the cables. A bundle of wires, containing control and

tip/ring pairs, is fed from each LG. The tip/ring pairs dress up towards the common shelf but, as previously mentioned, terminate on a connector panel bolted to the back of the frame near the common shelf. Control cables connect to the back of the common shelf. As mentioned previously, power is also run in these cables and terminates on the common shelf.

SECTION III - REFERENCE DATA

1. WORKING LIMITS

1.01	<u>Battery</u>	<u>Voltage Range</u>
	-48V	-42.75V to -52.25V

2. GLOSSARY

APC	Auxiliary power card
CD	Common data
ISLU	Integrated services line unit
LC	Line card
LG	Line group
LGC	Line group controller
LGP	Line group power
LIDB	Line interface data bus
MAN	Metallic access network

AT&T BELL LABORATORIES

DEPT 55615-RGS-GK

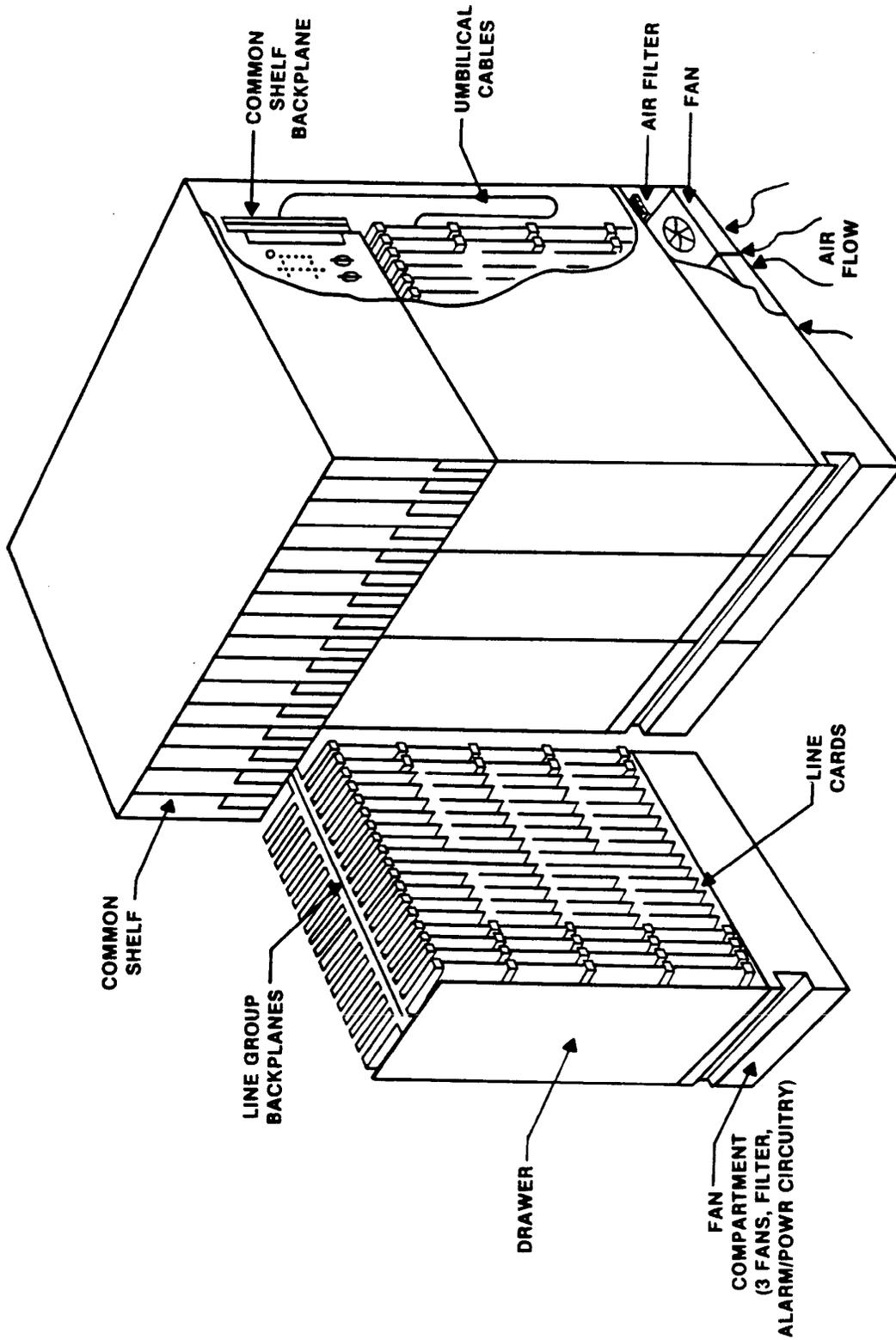


Fig.1. Drawer as Part of Integrated Services Line Unit (ISLU)

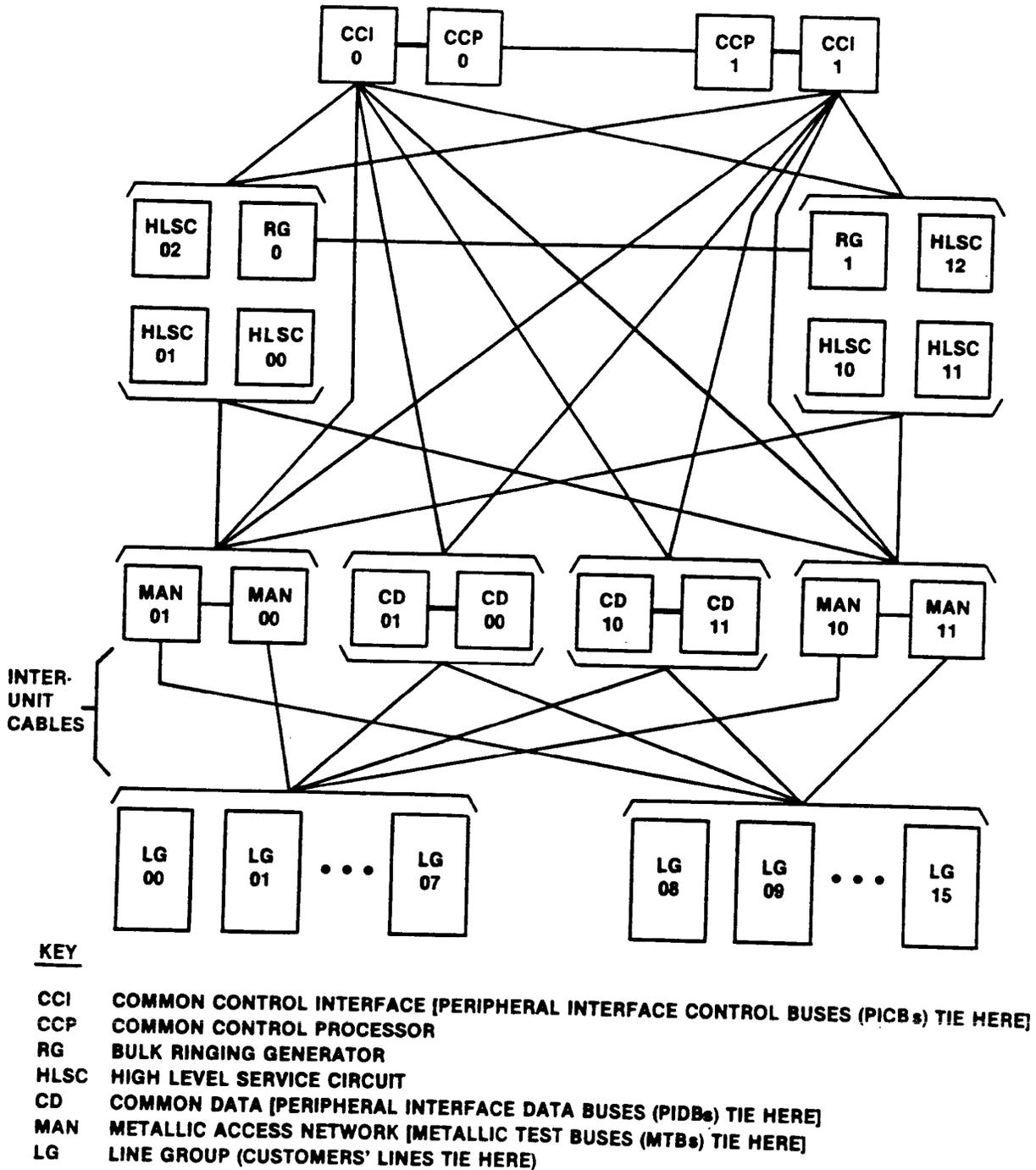
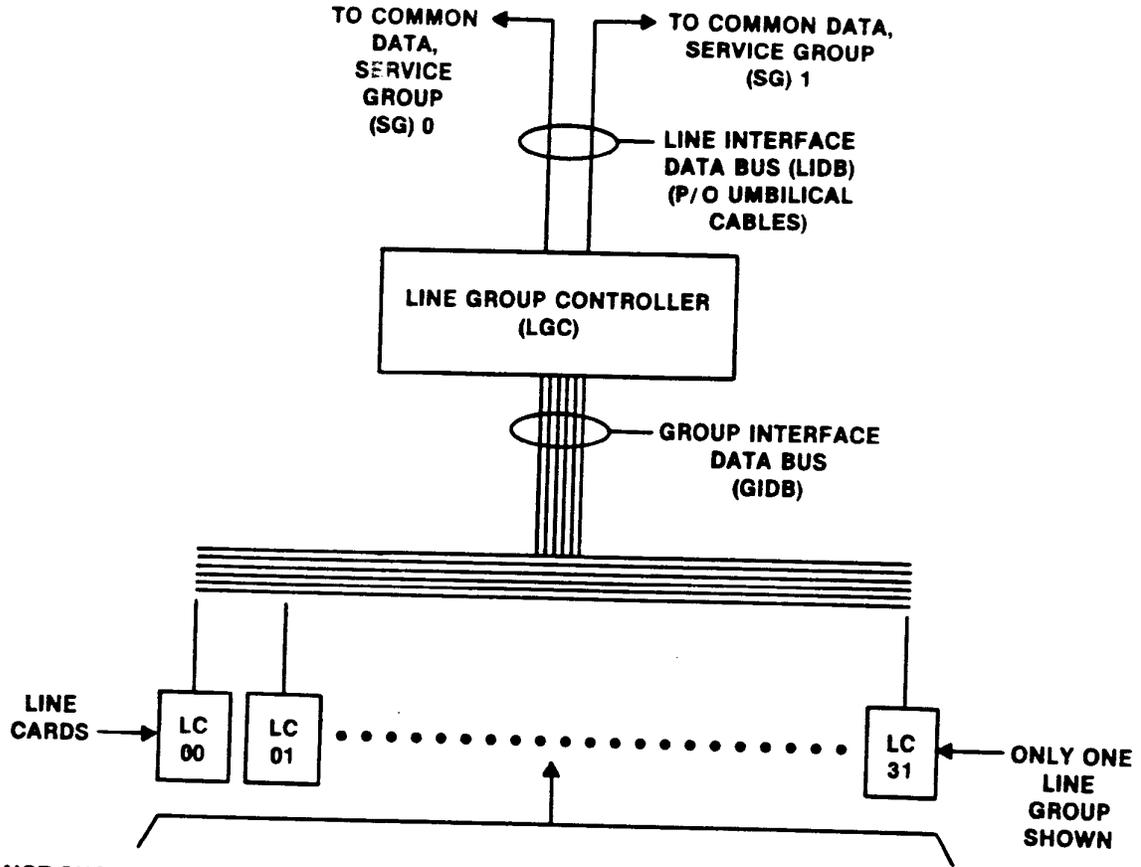


Fig.2. Integrated Services Line Unit (ISLU) Block Diagram



NOT SHOWN:

- (1) POWER TO LINE CARDS VIA LG BACKPLANE: -48V AND +5V FROM LINE GROUP POWER (LGP) CARD AND -5V (OPTIONAL) FROM OPTIONAL AUX PWR CARD (APC) (REPLACES LINE CARD 08)
- (2) TIP/RING CONNECTIONS, LINE GROUP BUS (LGBUS), RESETS TO LCs, AND SPARE BUS (SPRBUS).

Fig.3. ISLU Drawer Block Diagram