

Issue 1.0

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LL300U.doc

PRODUCT LL300
SINGLE CHANNEL TELEPHONE LINE
EXTENDER

USER MANUAL

18 February, 2003

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USER MANUAL

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1. PRODUCT DESCRIPTION

1.1 GENERAL

The LL300 provides an optical interface between an exchange and a telephone. The exchange side unit is a 3U high, rack mounted card and the telephone side unit is housed in a metal enclosure.

1.2 FEATURES

1.2.1 INDICATIONS

The unit has 5 leds which indicate the following:

	<u>Exchange side</u>	<u>Telephone side</u>
Offhook	Telephone was picked up	Telephone picked up
LinkOK	Communications from Telephone	Communications from Exchange
Ring	Waiting for exchange to ring	Telephone ringing
Ring detect	Exchange is ringing	-
Power	indicates Power to the System	

2. SYSTEM CONFIGURATION

2.1 FAMILY TREE and STOCK CODES.

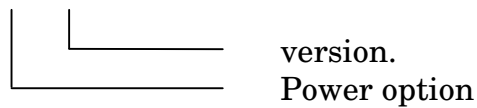
The following table indicates the make up and various options of the product.

LL300E sub units	A
POWER SUPPLY	110/220V AC
SINGLE EXCHANGE CARD	

LL300T sub units	A
POWER SUPPLY	110/220V AC
SINGLE TELEPHONE CARD	

2.2 MODEL NUMBERS

LL300-[x]-[ver]



POWER SUPPLY OPTION

Stock Code	Power Supply
A	220/110 VAC

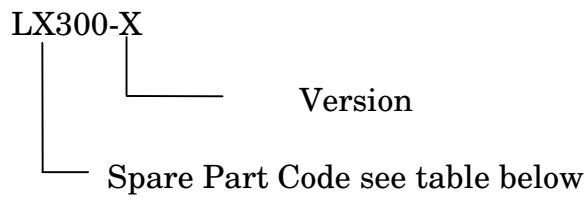
2.3 PRODUCT STOCK CODES.

LL300-X See tables above.
 _____ POWER SUPPLY OPTIONS

LL300-A.....110/220V AC
 LL300E.....Exchange card
 LL300T.....Telephone card
 LL300 USER.....L300-USER MANUAL.

2.4 SPARE PART CODES

Define stock code and add spare part code in second character position.



SPARE PART OPTION

Spare Part Code	Description
A	LL300E Exchange card CARD
B	LL300T Telephone card
C	Exchange side power supply card
D	Telephone side power supply card
E	POWER CABLE

2.5 VERSION HISTORY

LL300-/a - FIRST PRODUCTION VERSION

3. PREPARATION FOR USE

3.1 UNPACKING

Check for physical damage caused during transportation. Return any damaged equipment.

3.2 INSTALLATION

Check the voltage supply matches that of the equipment before installation commences. Connect the power cable. The DC. power connections are shown on the rear panel. The equipment has no ON/OFF switch and is therefore active as soon as power is connected.

Connect the exchange/telephone cables.

3.3 COMMISSIONING

If the link is correctly connected then telephone communications should be operational as if the optical fibre interface were not present.

4. OPERATORS INSTRUCTIONS

The unit needs no operator intervention to function. If a fault arises, it is necessary to observe the led indications and to perform such procedures as first line maintenance as described in the proceeding chapter.

See maintenance instructions for any other functions.

5. MAINTENANCE INSTRUCTIONS

No routine maintenance is required on this equipment.

5.1 INSTRUMENTS AND TOOLS REQUIRED

- Multimeter

5.2 FIRST LINE MAINTENANCE

When arriving at a suspect link it is always necessary to ensure that the unit has been correctly coupled (refer to block diagrams Annexure 'A') and to observe correct LED operation.

First observe the power indicator. If the power indicator is off then check if the supply voltage is correct for that particular power supply. The unit has a fuse on the PSU and also one in the kettle plug connector if the 110/220V AC option is used. Replace faulty fuses with those of the correct value only.

Under non-operational conditions the following LED's should be on.

	Exchange side	Telephone side
Offhook	OFF	OFF
LinkOK	OFF	OFF
Ring	ON(waiting for ring)	OFF
Ring detect	OFF	OFF
Power	ON	ON

6. EXPLANATION OF TECHNICAL DIAGRAMS AND SOFTWARE

6.1 CONNECTING THE UNIT

Connect LL300 as shown in the block diagram Annexure 'A' Using an RJ11 plug for both the Exchange and Telephone side connections. Connect the fibres taking care to distinguish between transmit and receive directions.

6.2 BASIC CIRCUIT OPERATION

Refer to block diagram on Annexure 'A'.

System operation when the Telephone is picked up to make a call:

- | | | |
|----|---------------|--|
| 1) | Loopdet(T) | ON - data is now sent through the fibre |
| 2) | The LinkOK(E) | ON - data received. |
| 3) | Ring(E) | OFF- switched over to loop circuit. |
| 4) | Loopdet(E) | ON - exchange detected, data sent to telephone |
| 5) | LinkOK(T) | ON - data received by telephone |

System operation when exchange calls the telephone:

- | | | |
|----|------------|--|
| 1) | RingDet(E) | ON - exchange ringing, data sent to telephone. |
| 2) | LinkOK(T) | ON - data received |
| 3) | Ring(T) | ON - telephone rings till user picks up |
| 4) | Ring(T) | OFF |
| 5) | Loopdet(T) | ON - detects phone picked up, data to exchange |
| 6) | LinkOK(E) | ON - data received |
| 7) | Ringdet(E) | OFF |
| 8) | Ring(E) | ON - switched over to loop circuit |

7. PHYSICAL AND ELECTRICAL SPECIFICATION

7.1 ELECTRICAL:

- *Power Supply (5 Watt) - 115/230 VAC 50/60Hz
- *Maximum distance - 2km between units

7.2 FUNCTIONS AND CHARACTERISTICS:

- *Indicators - Loopdet, LinkOK, Ring, Ringdet, Power.
- *Physical - Telephone unit
 - Depth: 180mm Height: 42mm
 - Width: 202mm Weight: 1.5 Kg
- Exchange unit in 19" rack

- *Environmental conditions - Temperature: 0 - 40 degrees Celsius
- Humidity: 0 - 95 % non-condensing

ANNEXURE 'A' WIRING INTERFACE UNIT BLOCK DIAGRAM.

