

Telecommunications Technology and Applications Series 5

# The ISDN Subscriber Loop

NICK BURD



CHAPMAN & HALL

Published by Chapman & Hall, 2-6 Boundary Row, London SE1 8HN, UK

Chapman & Hall, 2-6 Boundary Row, London SE1 8HN, UK

Chapman & Hall GmbH, Pappelallee 3, 69469 Weinheim, Germany

Chapman & Hall USA, 115 Fifth Avenue, New York, NY 10003, USA

Chapman & Hall Japan, ITP-Japan, Kyowa Building, 3F, 2-2-1 Hirakawacho, Chiyoda-ku, Tokyo 102, Japan

Chapman & Hall Australia, 102 Dodds Street, South Melbourne, Victoria 3205, Australia

Chapman & Hall India, R. Seshadri, 32 Second Main Road, CIT East, Madras 600 035, India

Sci  
TK  
5103,75  
.B87  
1997

First edition 1997

© 1997 Nick Burd

Printed in Great Britain by Cambridge University Press

ISBN 0 412 49730 1

Apart from any fair dealing for the purposes of research or private study, or criticism or review, as permitted under the UK Copyright Designs and Patents Act, 1988, this publication may not be reproduced, stored, or transmitted, in any form or by any means, without the prior permission in writing of the publishers, or in the case of reprographic reproduction only in accordance with the terms of the licences issued by the Copyright Licensing Agency in the UK, or in accordance with the terms of licences issued by the appropriate Reproduction Rights Organization outside the UK. Enquiries concerning reproduction outside the terms stated here should be sent to the publishers at the London address printed on this page.

The publisher makes no representation, express or implied, with regard to the accuracy of the information contained in this book and cannot accept any legal responsibility or liability for any errors or omissions that may be made.

A catalogue record for this book is available from the British Library

Printed on permanent acid-free text paper, manufactured in accordance with ANSI/NISO Z39.48-1992 and ANSI/NISO Z39.48-1984 (Permanence of Paper).

be applied by splitting each line-side transformer winding into two equal halves and connecting them with a capacitor. The capacitor enables AC signals to pass without attenuation but blocks DC voltages. Components are added to this configuration to protect the circuitry from excessively high voltages caused by lightning strikes.

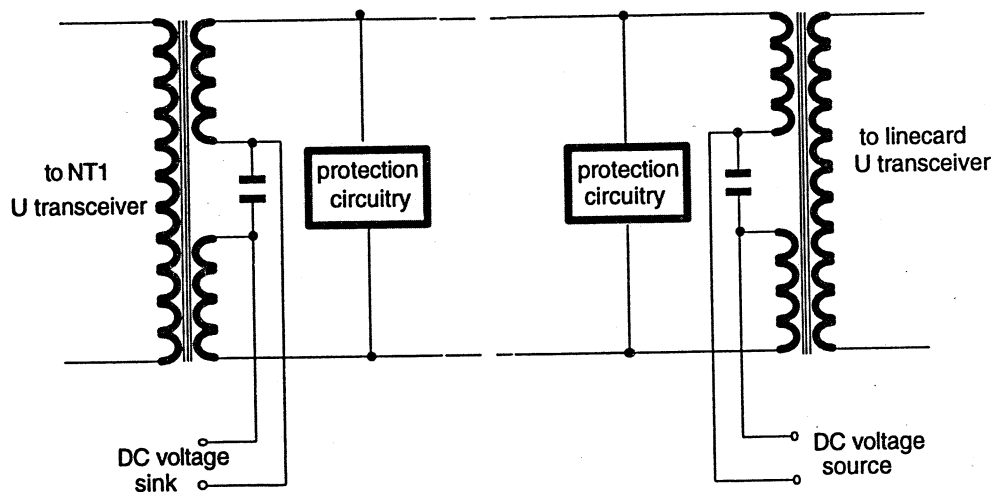


Fig. 4.13 Power feed configuration at the U interface.

In European ISDNs, the U transceiver side of an NT1 for both 2B1Q and 4B3T systems will typically be powered remotely from the network across the transmission cable, thus allowing the network operator to maintain full control over the U transmission system at all times. The S/T user-network interface may under normal conditions be powered locally from the NT1 using a local power source such as mains or batteries, and is backed-up with remote power from the network under emergency power conditions where the local power source fails. When active, the NT1 must consume no more than 500 mW of power from the network, and in a deactivated state must consume no more than 120 mW. Under emergency power conditions when the NT1 is expected to also power the user's designated terminal across the user-network interface, then the power consumption of an active NT1 is allowed to rise to a maximum of 1.1 W<sup>8</sup>. This power is delivered as a DC voltage and current that varies between different ISDNs due to the different safety requirements and subscriber loop configurations. The minimum voltage at the NT1 required for correct operation is 28 V, while the

In both local local status using mess the r the l dyin stora soure A of a build This

Table

NT1 st

All pow  
Second

Primar

Dying

4.5.3

As a  
Ame:  
mode  
loop  
some