Recommendation K.23

# TYPES OF INDUCED NOISE AND DESCRIPTION OF NOISE VOLTAGE PARAMETERS FOR ISDN BASIC USER NETWORKS

## 1.Purpose of this Recommendation

This Recommendation has been produced by CCITT Study Group V to meet the urgent requirements of administrations, manufacturers, and users who should evaluate equipment for its immunity to induced noise in order to design and use the ISDN.

This Recommendation identifies the types of induced noise that can cause degradation of transmission quality and malfunction of the equipment, and noise voltage parameters that should be evaluated.

## 2.Scope

This Recommendation covers the degradation of equipment performance due to induced noise voltage, which is caused by an inducing source external to the cable, or by another telecommunication system, on metallic pair cables (including residential inside wire). However, this Recommendation does not cover interference caused by transmission characteristics of cables (for example, cross talk characteristics).

This Recommendation considers the characteristics of induced noise voltages at metallic-pair ISDN interfaces at subscriber's premises. Interface locations covered by this Recommendation are the S and T interfaces (see Recommendation I.430) as well as the two wire interface of the NT1.

The communication line constituting the S/T Bus may be confined to a building, or connect two separate buildings. The connecting telecommunications line may be either aerial or below-ground.

## 3.Types of induced noise affecting the ISDN

### 3.1Mode of voltage

Two voltage modes should be considered: longitudinal voltage and transverse voltage. Figure 1 illustrates the definition of longitudinal voltage induced in telecommunication lines and the transverse voltage.