3. National ISDN Solutions

This section consists of three parts, each containing application guides highlighting the features of a specific ISDN interface. Section 3.1 contains guides which use National ISDN-1 Basic Rate Interfaces (BRIs). Section 3.2 contains guides to illustrate the additional functionality of the National ISDN-2 BRI. Although they are not repeated here for space reasons, all the guides in Section 3.1 could also be implemented using NI-2 BRI. Section 3.3 demonstrates solutions using the National ISDN-2 Primary Rate Interface (PRI).

Each guide in the Catalog contains the following components (in order of presentation): an application description with potential benefits to the end user, the configuration of the example solution identifying alternate configurations, a short description of how the solution works, equipment required, and capabilities to be requested from the ISDN service provider. Each guide concludes with "technical notes" which provide further details about the operation of the solution and possible options. Additional implementation information, which is of particular interest to equipment designers, application developers and system integrators, is provided in Section 5 of this Catalog. This supplementary material is referenced where useful in the Technical Notes.

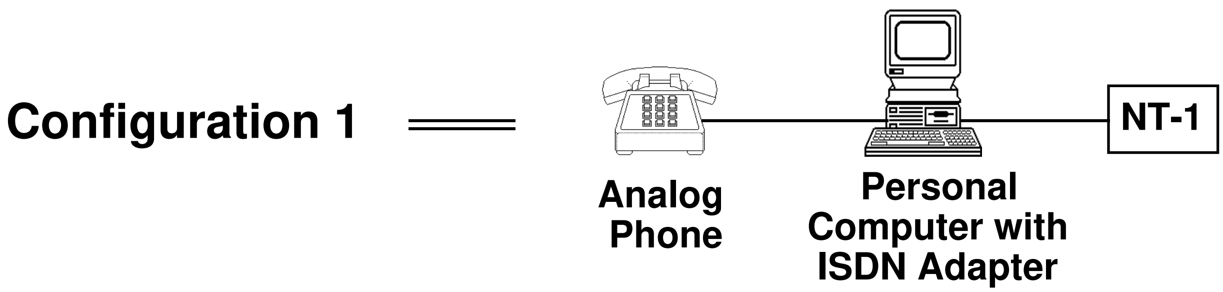
Integrated Voice and Data Terminal Configurations for BRI Solutions

In many applications, the users benefit from integrated voice and data. Their phones and computers are closely coupled in an "integrated voice and data system", and both take advantage of ISDN.

With the variety of products available, the users can "package" their phone, personal computers and connection to ISDN in one of several ways. To demonstrate this flexibility, yet not exhaust the overwhelming number of possibilities, this document focuses on five typical packages. Most of the BRI guides in Sections 3.1 and 3.2 utilize one of the five packages, or configurations, shown below. Because PRI configurations are more complex, no similar packaging for PRI is used in the guides in Section 3.3.

The guides in the catalog are example solutions. Above most of the solution guides' configuration diagram, a list of configuration numbers appears. Because of space limitations, only the configuration number in bold and underlined (e.g., **2**) is fully explained in the guide. The other configuration numbers shown identify packaging alternatives for that solution, but other alternatives may exist.

1. Personal Computer (or workstation) equipped with an ISDN Adapter



Note - Some suppliers allow a headset to be used instead of an analog phone. If the ISDN adapter is designed to power the analog phone (or headset) from the PC power supply, then turning off the PC will result in loss of phone service. See Section 5.1.8.5.

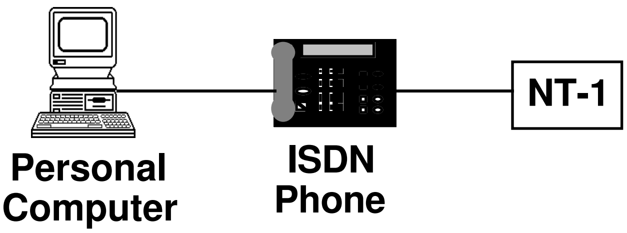
The following guides are illustrated using Configuration 1:

3.1.1	**3.1.8**	**3.1.26**	**3.1.35**
3.1.2	**3.1.16**	**3.1.27**	**3.1.39**
3.1.6	**3.1.21**	**3.1.32**	**3.2.3**
3.1.7	**3.1.24**	**3.1.33**	

Note: Because of the previously described packaging alternatives, some guides which are illustrated in this document using other configurations may also be implemented using Configuration 1.

2. ISDN Phone with Personal Computer interface

Configuration 2 ══



The following guides are illustrated using Configuration 2:

3.1.7

3.1.14

3.1.15

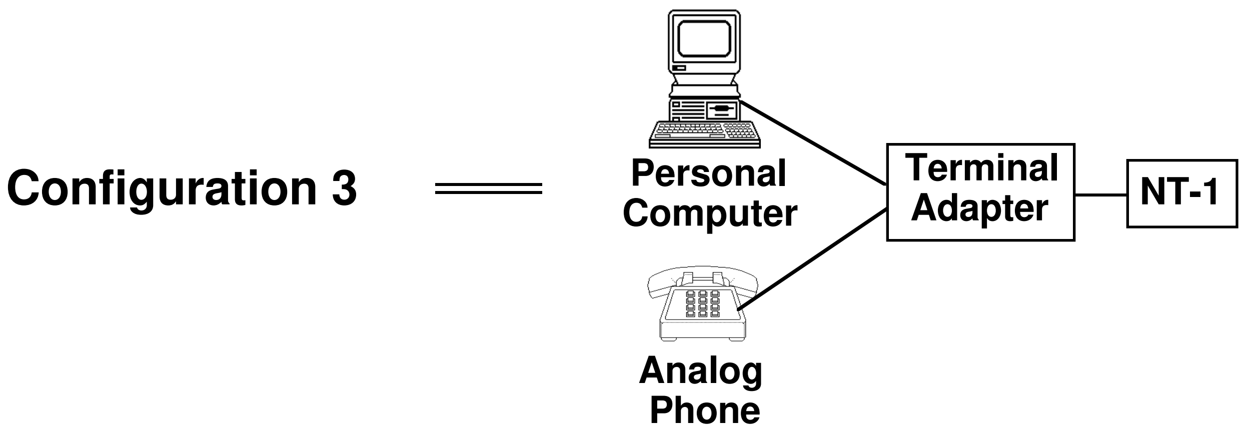
3.1.19

3.1.34

3.2.3

Note: Because of the previously described packaging alternatives, some guides which are illustrated in this document using other configurations may also be implemented using Configuration 2.

3. ISDN Terminal Adapter with Personal Computer and phone interface

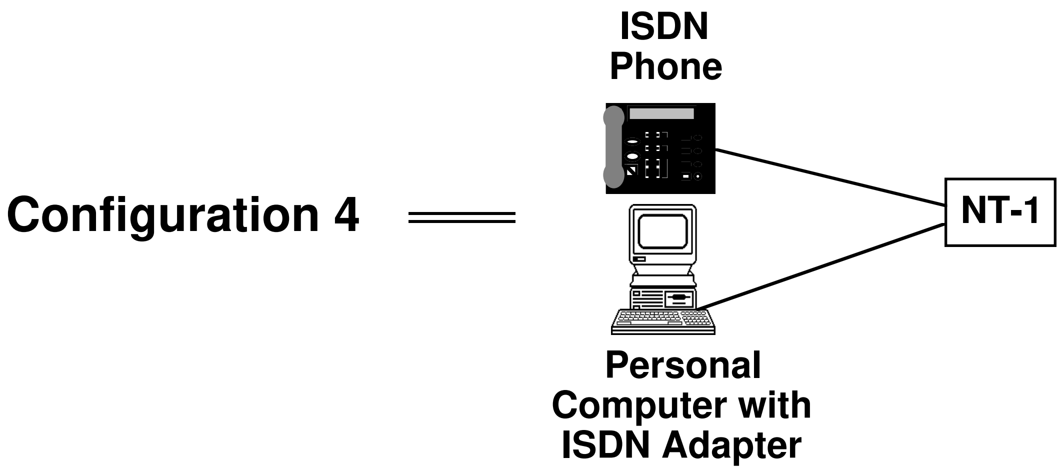


The following guides are illustrated using Configuration 3:

3.1.6	**3.1.20**	**3.2.3**
3.1.7	**3.1.29**	
3.1.16	**3.1.37**	
3.1.17	**3.1.38**	

Note: Because of the previously described packaging alternatives, some guides which are illustrated in this document using other configurations may also be implemented using Configuration 3.

4. ISDN Phone and Personal Computer, each with a separate ISDN physical interface



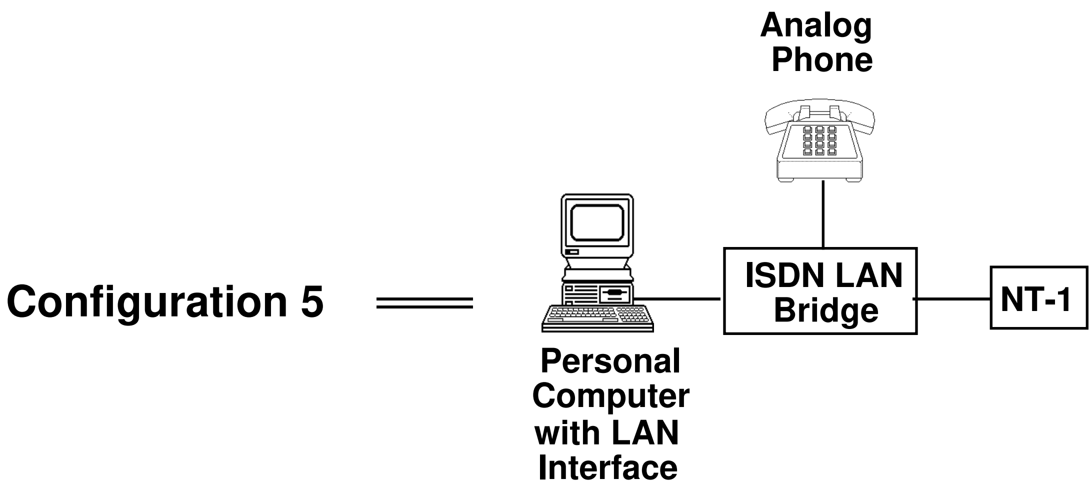
The following guides are illustrated using Configuration 4:

3.1.12

3.2.4

Note: Because of the previously described packaging alternatives, some guides which are illustrated in this document using other configurations may also be implemented using Configuration 4.

5. Personal Computer (or workstation) with LAN interface and ISDN LAN Bridge



Note - Some suppliers integrate the telephone functions into the personal computer. Similarly, some suppliers provide all necessary LAN bridging and ISDN call control functionality on a single personal computer adapter card. An ISDN phone can also be plugged into the NT-1, as shown in Configuration 4. Potentially, routing functions can be part of the system as well.

The following guides are illustrated using Configuration 5:

3.1.3	**3.1.22**
3.1.4	**3.1.25**
3.1.5	
3.1.8	

Note: Because of the previously described packaging alternatives, some guides which are illustrated in this document using other configurations may also be implemented using Configuration 5.

3.1 National ISDN-1 BRI Solutions

The guides in Section 3.1 use the capabilities of the National ISDN-1 Basic Rate Interface (BRI). This interface offers two bearer channels (B channels) that can transport voice or circuit-data at a speed of 64 kbps, and a 16 kbps delta channel (D channel), which carries signaling information and may be configured to carry packet-data. While the full interface is often referred to as "2B+D," some service providers offer interface configurations such as "1B+D", "2B", or even "D" at reduced rates. In this document, each guide uses the minimum interface configuration required for the application. Most ISDN users will have more than one ISDN application

The guides in this section are ordered in groups, where each group reflects a particular category of user applications. The nine application groups covered are listed in the table below, followed by the numbers of the individual guides that belong to each group.

LANS	SCREEN SHARING	VIDEO	VOICE & DATA	FILE TRANSFER	WORK-AT-HOME	FAX & IMAGE	TRANS-ACTIONS	OTHER
3.1.1	3.1.6	3.1.9	3.1.12	3.1.15	3.1.19	3.1.23	3.1.28	3.1.32
3.1.2	3.1.7	3.1.10	3.1.13	3.1.16	3.1.20	3.1.24	3.1.29	3.1.33
3.1.3	3.1.8	3.1.11	3.1.14	3.1.17	3.1.21	3.1.25	3.1.30	3.1.34
3.1.4				3.1.18	3.1.22	3.1.26	3.1.31	3.1.35
3.1.5						3.1.27		3.1.36
								3.1.37
								3.1.38
								3.1.39
								3.1.40