Billion

BIPAC-2AB 2.0

ISDN a/b Adaptor

User's Manual

Declaration of Conformity
Konformitätserklärung

in accordance with the Radio and Telecommunications Terminal Equipment Act (FTEG) and Directive 1999/5/EC (R&TTE Directive)

gemäß dem Gesetz über Funkanlagen und Telekommunikationsendeinrichtungen (FTEG) und der Richtlinie 1999/5/EG (R&TTE)

The Manufacturer: *Billion Electric Co., Ltd.*

Hersteller: *8F, No. 192, Sec. 2, Chung Hsing Rd.,*

Hsin Tien City, Taipei Hsien

Taiwan, R.O.C.

declares that the product: *BIPAC-2AB V2.0*

erklärt, dass das Produkt: *Telecommunications terminal equipment*

Telekommunikations(Tk-)endeinrichtung

Intended purpose: *ISDN a/b Adaptor*
Verwendungszweck:

complies with the essential requirements of §3 and the other relevant provisions of the FTEG (Article 3 of the R&TTE Directive), when used for its intended purpose.
bei bestimmungsgemäßer Verwendung den grundlegenden Anforderungen des § 3 und den übrigen einschlägigen Bestimmungen des FTEG (Artikel 3 der R&TTE) entspricht.

Harmonised standards: Health and Safety requirements contained in §3 (1) 1. (Article 3 (1) a))
Harmonisierte Normen: Gesundheit und Sicherheit gemäß §3 (1) 1. (Artikel 3 (1) a))

EN 60950:1992+A1: 1993+A2: 1993+A3: 1995+A4: 1997+A11: 1997

Harmonised standards: Protection requirements with respect to EMC §3 (1) 2, (Article 3 (1) b))
Harmonisierte Normen: Schutzanforderungen in Bezug auf die EMV §3 (1) 2, Artikel 3 (1) b))

EN 55022: 1998, Class B, EN 61000-3-2+A12: 1996, EN 61000-3-3: 1995
IEC 61000-4-2: 1995, IEC 61000-4-3: 1995, IEC 61000-4-4: 1995, IEC 61000-4-5: 1995,
IEC 61000-4-6: 1996, IEC 61000-4-11: 1994
Interface specification: Termination point of a public telecom. Network specification
Schnittstellenspezifikation: Netzabschluss eines öffentlichen TK-Netzes Spezifikation
TBR3(11.95), TBR3/A1(12.97), part of Ets 300 047-3(08.92)

This declaration is issued by:
Diese Erklärung wird verantwortlich abgegeben durch:

_____   _____   _____
(Place)   (Date)   *General Manager*

Billion Deutschland

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Chapter 1
Introduction

An Overview of the BIPAC-2AB 2.0

What is ISDN?

ISDN is an abbreviation for *I*ntegrated *S*ervices *D*igital *N*etwork. ISDN transfers information digitally and integrates all telecommunication services (such as telephone, teletext, videotex, etc.) into a single network. Using ISDN, you can transfer text, voice, data files, images, and even video.

Before the use of ISDN, telecommunications operated using analog devices, which limited the quality of telecommunication transfers. With ISDN technology, the telephone lines can transmit data digitally with much greater speed and clarity of transmission than with analog transmissions. The ISDN is capable of transmitting all kinds of information at greatly accelerated rates. A typical modem transmission has a rate of 56Kbps (*kilobits per second* or thousand bits per second). ISDN digital technology allows transfer rates of up to 128Kbps.

Because ISDN transmits data digitally, the data is virtually error free, *and* the transmission is much clearer, with fewer interruptions and slowdowns in facsimile transmissions. With ISDN devices implemented throughout the world, a truly digital network will emerge, allowing everyone fast and easy access to the global information highway.

The BIPAC-2AB 2.0 ISDN a/b Adaptor

The BIPAC-2AB 2.0 ISDN a/b adaptor allows you to make the transition from analog to digital without having to discard all your present analog devices. The BIPAC-2AB 2.0 provides an interface between your ISDN line and present analog devices such as your telephone. With a full array of convenient functions such as call waiting, call holding, call transfer, call forwarding and speed dialing among others, your BIPAC-2AB 2.0 will help you step from the world of analog communications right into the 21st century world of ISDN!
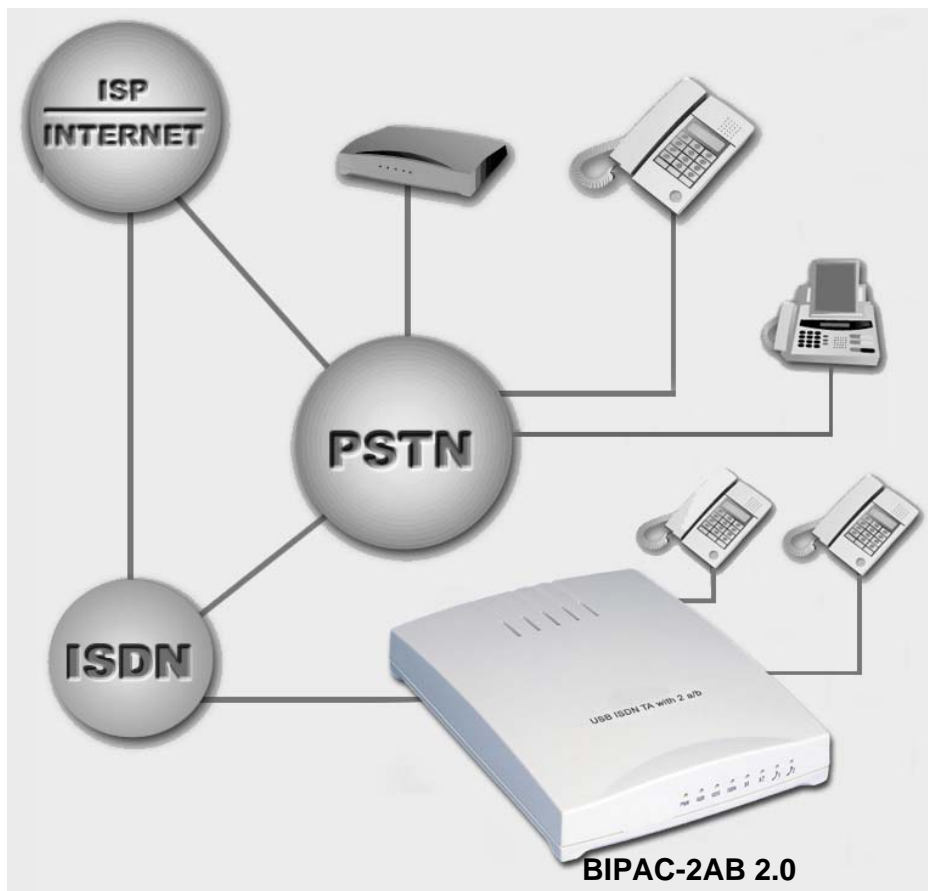

FIGURE 1: THE BIPAC-2AB 2.0 ISDN A/B ADAPTOR

Package Contents

The BIPAC-2AB 2.0 package comes with the following accessories:

1. The BIPAC-2AB 2.0 external ISDN a/b adaptor

2. One RJ-45 cable
3. One AC-to-DC power adaptor
4. This User's Manual

BIPAC-2AB 2.0 Features

The BIPAC-2AB 2.0 supports many standard and enhanced features that allow you to make full use of ISDN services with your existing analog devices, including the following:

- Caller ID
- Individual phone number (MSN) for each analog port
- Password-protected for configurations
- Inter-call
- Call waiting
- Call hold/retrieve
- Internal call transfer
- Internal call forwarding
- Call suspend/resume
- Supports "keypad protocol" for supplementary services
- Speed dialing
- Call filter
- Do not disturb
- Distinct ring pattern for different MSN

Chapter 2
Using BIPAC-2AB 2.0

Before Connecting

Make sure that you have all you need to connect the BIPAC-2AB 2.0 ISDN a/b adaptor. You should have the following:

1. At least one analog telephone (or other analog device)

2. A power outlet that supplies 220 ~ 240 volts AC

3. An ISDN basic rate S_0 interface released by PTT (Post, Telephone and Telegraph administration)

Connecting the BIPAC-2AB 2.0

Please refer to the following instructions and figures for installation procedures:

1. Connect one or two analog telephones (or other analog devices) to the RJ-11 jacks labeled "a/b 1" or "a/b 2" on the back of the BIPAC-2AB 2.0. Refer to *Figure 2*.

2. Connect your ISDN line to the RJ-45 jack labeled "ISDN S_0" on the back of the BIPAC-2AB 2.0. Refer to *Figure 2*.

3. Plug the power adaptor into the power outlet. The POWER LED will illuminate on the front panel.
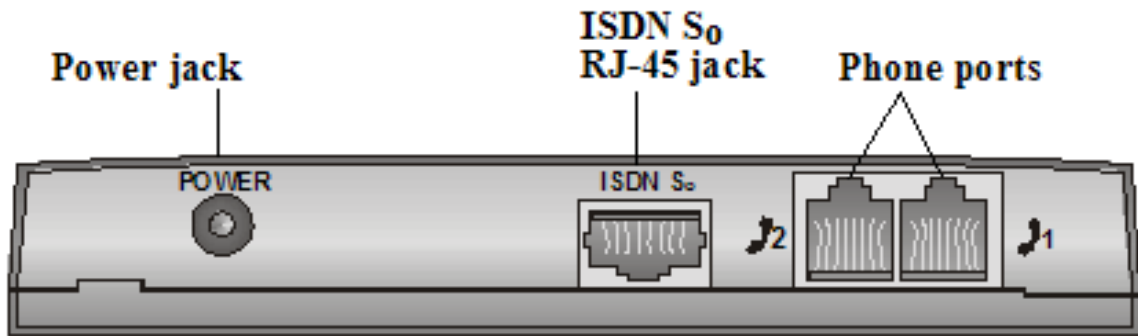
FIGURE 2: CONNECTING THE BIPAC-2AB 2.0

4. The BIPAC-2AB 2.0 ISDN a/b adaptor will run a *Power-On* self-diagnostic test. The LEDs on the front panel will blink on and off one by one and the connected analog telephones will ring.

The Front Panel LEDs

The following illustration and table describe the front panel LEDs:

FIGURE 3: THE FRONT PANEL LEDs

LED	Meaning
PWR	When lit it indicates AC power is connected.
RUN	Flashes periodically to indicate that the BIPAC-2AB 2.0 is working properly.
ISDN	When lit it indicates that the ISDN S0 bus is activated.
B1	When lit it indicates that the ISDN "B1" channel is being accessed. It will flash during data transfer.
B2	When lit it indicates that the ISDN "B2" channel is being accessed. It will flash during data transfer.
☎1	When lit it indicates that the analog device connected to the Phone 1 port is in use.
☎2	When lit it indicates that the analog device connected to the Phone 2 port is in use.

Programming the BIPAC-2AB 2.0 Functions

The functions of BIPAC-2AB 2.0 are programmed by the use of the telephone number keys (0 ~ 9), the pound key (#), and the star key (∗).

NOTE: You should hear 2 short tones if the programming is successful; otherwise, you will hear more than 6 tones indicating failure of programming.

Function Name	key	ID	key	First Field	key	Second Field	key	Third Field	key	Note
Password Setup	∗	98	∗	Old Pass	∗	New Pass	#			
Password Enabling	∗	97	∗	Pass	∗	Flag	#			Flag=0: disable password Flag=1: enable password
Factory Default	∗	96	∗	Pass	∗	Id	#			Id=0 or null: default setting
Special function Setup	∗	95	∗	Pass	∗	Func Id	∗	Flag	#	Func Id=1, PCM Law Flag=0 or null: A-Law Flag=1: μ Law Func Id=2, Bearer capability Flag=0 or null: 3.1kHz audio Flag=1: speech Flag=2: G3 Fax Func Id=3, Ring Signal Flag=0 or null: 25Hz Flag=1: 16Hz Flag=2: 50 Hz Func Id=4, Not check in-band tone Flag=0 or null: disable Flag=1: enable

Caller ID Setup	*	94	*	Pass	*	Func Id	*	Parameter	# Func Id=0, Enabling
									  Flag=0 or null: disable
									  Flag=1: enable
									Func Id=1, Caller ID Type
									  Parameter = 0~4
									Func Id=2: Caller ID Country
									  Parameter= 0~99
									Func Id=3, Date and Time
									Func Id=4, Call waiting
									Func Id=5, Insert zero number
									  Flag=0 or null: disable
									  Flag=1: enable

MSN Setup	*	89	*	Pass	*	Id	*	Number	# Id=1~3, MSN1 ~ MSN3 Number Length <= 20 If Length = 0, Clear the setting
MSN Listen Enable	*	88	*	Pass	*	Flag	#		Flag=0 or null: Listen to all MSNs Flag= 1: Listen to a specified MSNs Flag= 2: Do not disturb
Calling Party Number Setup	*	87	*	Pass	*	Number	#		Number Length <= 20 If Length = 0, Clear the setting
Speed Dialing Number Setup	*	86	*	Pass	*	Id	*	Speed Dialing Number	# Id=1~4 Number Length <= 24 If Length = 0, Clear the setting
Authority Setup Access code	*	85	*	Pass	*	Id	*	Restricted Number	# Id=1~4 Number Length <= 4 If Length = 0, Clear the setting
Call Filter Setup	*	84	*	Pass	*	Id	*	Number	# Id=1~4 Number Length <= 20 If Length = 0, Clear the setting

Ring Pattern (Alert On/Off Length) Setup	*	83	*	Pass	*	Func Id	*	Parameter	#	Func Id=0, Ring unit parameter=01~99(0.1s)
										  Default is 10 (1s)
										Func Id=5, Hold Notice
										Parameter=00~99 Ring unit
										  Default is 0
										Func Id=1~3, MSN1~3
										Func Id=4, Default Ring Pattern
										Func Id=6, Internal Ring Pattern Parameter=x_1x_2
										  $1<=x_1,x_2<=9$ Ring Unit
										  x_1=ring on , x_2=ring off
										  Default is $x_1=1$, $x_2=4$

Function Enabling	*	82	*	Pass	*	Func Id	*	Flag	#	Func Id=1, CLIR
										  Flag=0 or null: Disable
										  Flag=1: Enable one time
										  Flag=2: Enable always
										Func Id=2, No Call Waiting
										Func Id=3, Authority Setup
										Func Id=4, Call Filter
										Func Id=5, Internal Call Forwarding
										  Flag=0 or null: Disable
										  Flag=1: Enable

Volume Control Setup	*	81	*	Pass	*	Func Id	*	Flag	#	Func Id=1, MIC Volume Flag=0 (low) ~ 5 (high) Func Id=2, Speaker Volume Flag=0 (low) ~ 4 (high)

NOTE: **Shaded area can be ignored if the password is disabled.**

The factory default password is 0000.

Using the Telephone Functions

With an analog telephone connected to the phone port of the ISDN TA, you can avail of the following functions by using the number keys (0 ~ 9), the pound key (#), and the star key (∗):

Function	Description
External Calling	To make an external phone call, dial the number as you would with a regular phone system.
Inter-call or Internal Calling	To make a call to the other analog port of the ISDN a/b adaptor, you can press: *#*
Speed Dialing	To dial any of the Speed Dialing numbers that you have programmed in, use the following command: *∗ 5 ID* where *ID* is a number from 1 to 4. **Example:** If the 4th speed dialing number is 5551113, the following combination: *∗ 54* dials a call with the number 5551113.
Redial	To redial a number, use the following command: *∗ 01*
Pick Up	To answer an incoming call that is designated to the other analog port, you can press: *∗02*
Make a New Call	To disconnect an active call and then have the dial-tone for making a new call to, you can press: *∗03*
Hold/ Retrieve	To put an active call on hold, use the following command line: *∗ #* To retrieve a call that's been put on hold, press the star key and pound key (∗ #).
Disconnect and then Retrieve	To disconnect an active call and then retrieve a call that has been put on hold, use the following command line: *∗0 #*

Call Waiting	If you have an active call and the Call Waiting function is enabled, you will hear two tones when there is another incoming call. You can switch between the two calls by using the Hold/Retrieve function (∗ *#*).
Internal Call Transfer	To transfer a call to the other analog port of the ISDN TA, you can first put the call on hold by pressing: ∗ *#* Then, make an internal call with the following command: *#* After you put the telephone handset on-hook (hang up), the call will be transferred to the other port.
Suspend/ Resume	For two or more ISDN devices (for example, one ISDN a/b adaptor and one ISDN phone) connected to your ISDN line, you can suspend a call on one device (ISDN a/b adaptor) and resume the call on the other (ISDN phone). To suspend a call with the analog telephone connected to the ISDN a/b adaptor, enter this command: ∗∗ *Call ID #* *Call ID* is not required or any number up to 8 digits. You can resume the suspended call when you use the command with the same Call ID. **Example:** If you receive a call in the living room and want to continue it in another room, use this combination ∗∗ *12345 #* in the living room and hang up. Go to the other room and enter the command again: ∗∗ *12345 #* your call is resumed.

Keypad	Some telephone companies' ISDN systems are using "Keypad Protocol" for activating/deactivating some supplementary services, such as external call forwarding. To let the ISDN a/b adaptor enter "Keypad" mode, you can press: **00*
	Then, all the following keys and numbers will be sent out using "Keypad Protocol".
	Example: If your telephone company give you a keypad command of **21*number#* to activate the external call forwarding function, you can press: **00*21*number#*
	to send out **21*number#* with "Keypad Protocol". After the keypad command is sent out, all the incoming calls will be forwarded to the *number*.

Chapter 3
Troubleshooting

Troubleshooting Procedures

Error Event	Possible Cause	Remedy
The B1 LED is always lit after power up	The RAM is defective.	Consult your dealer.
The B2 LED is always lit after power up	The ISDN chip is defective.	Consult your dealer.
No dial tone from ISDN switch or PABX	1. Can not activate S_0	1. Ensure that the ISDN S_0 line is securely connected to the RJ-45 jack.
	2. No B channel available	2. Ensure no other device is on the same S_0 line and occupying the B channel.

Error Event	Possible Cause	Remedy
Can not receive incoming call.	1. Incoming call's phone number does not match any a/b port's phone number	1. Ensure that the phone number for each a/b port is correctly configured.
	2. *Do Not Disturb* function has been enabled.	2. Disable *Do Not Disturb*.
	3. *Call Forwarding* function has been enabled.	3. Disable *Call Forwarding*.
Can not have call waiting function.	1. Telephone company does not support this function.	1. Check with your telephone company to see if it supports call waiting.
	2. *Do Not Disturb* function has been enabled.	2. Disable *Do Not Disturb*.

If you continue to have problems you should contact the dealer where you bought this BIPAC-2AB 2.0. If you have any other questions you can contact *Billion Electric Co., Ltd.* directly at the following addresses:

Email: support@billion.com.tw
WWW: http://www.billion.com.tw/