1.0

MDCBTASC32

User's Guide & Manual

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1. Introduction:

The **MDCBTAXX32** is designed to provide Modem and Bluetooth functions on a MDC form Factor card. The Bluetooth function is based on CSR BlueCore03-ROM Single Chip, which implements the full speed class 2 Bluetooth operations with full 7 slave Pico-net support. The Bluetooth function of **MDCBTAXX32** to host system is USB compliant with USB V1.1 standard interface. The AZALIA mobile daughter card (MDC) specification provides a mobile form-factor module and interface for audio/modem codec solutions based upon the AZALIA Specification, revision 0.7. The MDC specification is open to the industry to facilitate IHV validation on AZALIA based code.

2. Features:

Data Modem

- V.92 / 56 Kbps (K56Flex and V.90)
- V.34 (4.8 Kbps to 33.6 Kbps)
- V.32 bis (4.8 Kbps to 14.4 Kbps)
- V.22 bis (50 bps to 2.4 Kbps)
- V21, Bell 103 / Bell 212
- V.42 bis/MNP 5 data compression
- V.42/MNP 2-4 error correction
- Virtual Com port with a throughput of up to 460.8 Kbps
- Hayes AT Command set
- TIES escape code

Fax Modem Standard

Send and receive rates up to 14.4 kbps, V.17, V.29, V.27ter ITU-T V.17, V.29, V.27ter, V.21 Ch2 and TIA/EIA 578 Class1 FAX

Bluetooth

- CSR BC03 ROM / V1.2 Single chip Bluetooth System
- Full speed USB interface support OHCI, UHCI compliant USB V1.1
- Full embedded to RFCOMM
- Bluetooth specification V1.2
- USB specification V1.1
- Support BT_ON control Bluetooth ON / OFF feature
- Faster Connection
- Adaptive Frequency Hopping (AFH)

Telephony Services

- Country Select function
- TAM

System Requirements

- Pentium based (233 MHz and above)
- Windows 98SE, Windows ME, Windows 2000 and Windows XP
- MDC 1.0 / 30 pin Slot
- 8 Mbytes RAM (Drivers occupy ~ 1MB)

Bus Interface

Modem :Compliant to Intel Mobile Audio/Modem Daughter Card Specification 1.0 Bluetooth : USB 1.1 Compliant

Hardware

- MDC Modem support Secondary Operating Modes
- Bluetooth V1.2 and USB specification V1.1

Power Management

Supports ACPI Power Management and Modem wake-up on Ring.

3. Driver support:

MDC Modem : Windows 98SE, Windows 2000, Windows ME and Windows XP **Bluetooth** : Windows 98SE, Windows 2000, Windows ME and Windows XP

4. Driver installation:

Before install this modem driver please make sure your PC or Notebook soundcard driver is ready.

-Windows 98 installation:

Insert the modem card into your PC or Notebook MDC slot and then power on.

1. After start, please check device manager from control panel, you will see an exclamation mark on PCI Card this device, please select this device and then click **"Properties"**.

System Properties
General Device Manager Hardware Profiles Performance
• View devices by type • View devices by connection
Computer Image: Second state of the
Properties Refresh Remove Print
OK Cancel

2. Select "Reinstall Driver".

PCI Card Properties	? ×
General Driver Resources	
PCI Card	
Device type: Other devices	
Manufacturer: None specified.	
Hardware version: 160	
Device status	
The drivers for this device are not installed (Code 28.).To reinstall the drivers for this device, click Reinstall Driver	
Rejnstall Driver	
Device usage Disable in this hardware profile Exists in all hardware profiles	
OK Cano	el

3. System will popup **"Update Device Driver Wizard**" window, and then click the **"Next**" Button.



4. Select "Display a list of all the drivers..." and then click the "Next" Button .



5. Insert the driver disk and select the driver location, then click the "Next" Button.

Update Device Driver Wizard	
	Windows will search for updated drivers in its driver database on your hard drive, and in any of the following selected locations. Click Next to start the search.
	< <u>B</u> ack Next > Cancel

6. Windows 98 will search and recognize the driver of the Device. Click the "Next" Button.



7. Windows will automatically copy the driver files and related files into your system. After copying the driver files, click the **"Finish"** Button.

Add New Hardware Wize	ard
	Vindows has finished installing the software that your new hardware device requires.
	< Back Finish Cancel

8. The modem will be detected, repeat steps from 4th to 6th and then click the **"Next"** Button.

Add New Hardware Wizard	
	Windows driver file search for the device:
	HSP56 V92 Modern (Intel) Windows is now ready to install the best driver for this device. Click Back to select a different driver, or click Next to continue. Location of driver: E:\TEST9\WIN98\SCMNCMMK.INF
	< <u>B</u> ack Next > Cancel

9. Click on the **"Finish"** Button to complete the installation.

-Windows ME installation:

Insert the device into your PC or Notebook MDC slot and power on.

1. After start, please check device manager from control panel, you will see an exclamation mark on PCI Card this device, please select this device and click **"Properties"**.

System Properties
General Device Manager Hardware Profiles Performance
• View devices by type • View devices by connection
Computer Image: Second secon
OK Cancel

2. Select "Reinstall Driver".

F	PCI Card Properties		
	General Driver Resources		
	PCI Card		
	Device type: Other devices		
	Manufacturer: None specified.		
	Hardware version: 160		
	Device status		
	The drivers for this device are not installed (Code 28.).To reinstall the drivers for this device, click Reinstall Driver		
	Reinstall Driver		
	Device usage Disable in this hardware profile Exists in all hardware profiles		
	OK Cancel		

3. System will popup "Update Device Driver Wizard" window, select "Specify the location of the drivers" and also select "Specify the location", then click "Next".

Update Device Driver Wizard	
	This wizard searches for updated drivers for: PCI Card Windows can search for and install an updated driver to replace the one currently being used by your hardware. Or, you can specify the location of another driver. What would you like to do? Automatic search for a better driver (Recommended) Specify the location of the driver (Advanced)
	< Back Next > Cancel

4. Select **"Specify the location of the driver. (Advanced)"** Insert the driver CD or diskette, then select the driver location by keying the driver path.



5. Windows ME will automatically copies the driver files and related files into the system.

Update Device Driver Wizard		
	Windows driver file search for the device: PCI Modem Enumerator Windows is now ready to install the best driver for this device. Click Back to select a different driver, or click Next to continue. Location of driver: E:\DRIVER\WINME\SCMNCM2K.INF	
	< <u>B</u> ack Next> Cancel	

8. The modem will be detected, repeat steps from 4th to 6th and then click the **"Next"** Button.



9. Click on the **"Finish"** Button to complete the installation.



-Windows 2000 installation

1. Insert the modem card into your PC or Notebook MDC slot and then power on.

Check device manager from control panel, you will see an exclamation mark on PCI Card this device, please select this device and click "**Properties**".



2. Select "Update Driver".

PCI Devic	e Properties		<u>l</u> ×
General	Driver Resource	es	
- Portage - Alice - Al	PCI Device		
	Driver Provider:	Unknown	
	Driver Date:	Not available	
	Driver Version:	Not available	
	Digital Signer:	Not digitally signed	
No driv the driv this dev	er files are required o er files for this devic- rice, click Update Dr Driver Details	or have been loaded for this device. To uninsta e, click Uninstall. To update the driver files for river.	
		OK Cance	

3. The system will popup **"Update Device Driver Wizard"** window then click **"Next"** button.



4. Please select "Search for a suitable driver for my device (recommended)" then click "Next".

Upgrade Device Driver Wizard
Install Hardware Device Drivers A device driver is a software program that enables a hardware device to work with an operating system.
This wizard upgrades drivers for the following hardware device:
Upgrading to a newer version of a device driver may add functionality to or improve the performance of this device.
What do you want the wizard to do? Search for a suitable driver for my device (recommended)
Display a list of the known drivers for this device so that I can choose a specific driver
< <u>B</u> ack <u>N</u> ext > Cancel

5. Insert the driver disk and select the **"Specify a location"** then click **"Next"** button.

Upgrade Device Driver Wizard
Locate Driver Files Where do you want Windows to search for driver files?
Search for driver files for the following hardware device:
PCI Device
The wizard searches for suitable drivers in its driver database on your computer and in any of the following optional search locations that you specify.
To start the search, click Next. If you are searching on a floppy disk or CD-ROM drive, insert the floppy disk or CD before clicking Next.
Optional search locations: Floppy <u>disk</u> drives CD-ROM drives
Specify a location
Microsoft Windows Update
< <u>B</u> ack <u>N</u> ext > Cancel

6. Key in the driver path and then click the **"Next"** button.

Upgrade I	Device Driver Wizard	×
2	Insert the manufacturer's installation disk into the drive selected, and then click OK.	OK Cancel
	Copy manufacturer's files from: E:\driver\win2000	Browse

7. Windows 2000 will search and recognize the driver of the device and click the **"Next"** button.



8. Windows will automatically copy the driver files and related files into the system. The Windows shows **"Digital Signature not Found"**, then click **"Yes"** to continue.

Digital Signature Not Found		
	The Microsoft digital signature affirms that software has been tested with Windows and that the software has not been altered since it was tested. The software you are about to install does not contain a Microsoft digital signature. Therefore, there is no guarantee that this software works correctly with Windows. HSP56 V92 Modem (Intel)	
	If you want to search for Microsoft digitally signed software, visit the Windows Update Web site at http://windowsupdate.microsoft.com to see if one is available. Do you want to continue the installation?	
	<u>Yes</u> <u>N</u> o <u>M</u> ore Info	

9. After copying the driver files, the device installation is completed please click the **"Finish"** button.



-Windows XP installation

 Insert the modem card into your PC or Notebook MDC slot and then power on. The system will recognize the device by displaying the "Found New Hardware Wizard" dialog box. Select "Install from a list or specify location (Advanced)", and insert the accompanying CD then click the "Next" button.

Found New Hardware Wizard		
	Welcome to the Found New Hardware Wizard	
	This wizard helps you install software for:	
	PCI Modem	
	If your hardware came with an installation CD or floppy disk, insert it now.	
	What do you want the wizard to do?	
	 Install the software automatically (Recommended) Install from a list or specific location (Advanced) 	
	Click Next to continue.	
	< <u>B</u> ack <u>N</u> ext > Cancel	

2. Mark " **Include this location in the search**", then enter the directory where the driver located in.

Hardware Update Wizard			
Please choose your search and installation options.			
Search for the best driver in these locations. Use the check boxes below to limit or expand the default search, which includes local.			
paths and removable media. The best driver found will be installed.			
Search removable media (floppy, CD-ROM)			
✓ Include this location in the search:			
E:\driver\win2000_xp Browse			
O Don't search. I will choose the driver to install.			
Choose this option to select the device driver from a list. Windows does not guarantee that the driver you choose will be the best match for your hardware.			
< <u>B</u> ack <u>N</u> ext> Cancel			

3. The following massage will pop up during driver installing, please click the **"Continue Anyway"** button to continue and complete the process.



5. Installing Bluetooth software for Windows

Methods for registering new devices using the Bluetooth Utility shall now be described. A Bluetooth mouse shall be connected and set up using [Bluetooth Settings] as an example.

[Bluetooth Settings] provides two set-up methods: "Express Mode" and "Custom Mode."

Express Mode

[Bluetooth Settings] will automatically detect and register services. If several services (profiles) are supported by the device the service that has been set to the highest priority shall be selected and registered.

Express Mode is normally recommended for device set-up.

Custom Mode

After having been detected, the services supported by the device are displayed as a list, from which you can select the desired function(s). Custom Mode must be used to set up a device if, for example, you wish to use a modem station to send a fax (because in Express Mode, the DUN profile will be

automatically selected since it has a higher priority than the FAX profile).

The differences between setting up the same device (a Bluetooth mouse) using Express Mode and Custom Mode are described on the following pages.

5.1 Express Mode Set-up

5.1.1 Starting Bluetooth Settings

1. Click [Start]→[All Programs]→[Bluetooth]→[Bluetooth Settings].

(Under Windows 2000, click [Start] \rightarrow [Programs] \rightarrow [Bluetooth] \rightarrow [Bluetooth Settings].)

Note

 \cdot The same result can be achieved by right-clicking on the Bluetooth icon in the task tray and selecting [Bluetooth Settings] from the menu that appears.

Bluetooth Settings	
Add New Connection	
Device Properties	
Options 🕨	
Help	
Exit	
<u> </u>	10:29 PM

The [Bluetooth Settings] window below will appear when other devices have already been registered.

Bluetooth Settings	
Bluetooth View Help	
	Bluetooth'
BT-Modem [Dial-up connection]	
New Connection	🕜 Detail) 🔀 Delete

Please click the [New Connection] button to open the [Add New Connection Wizard] window. If no devices have been registered yet, please proceed directly to "Detecting Bluetooth Devices."

5.1.2 Detecting Bluetooth devices

The [Add New Connection Wizard (Welcome to the Add New Connection Wizard)] window will appear.

- 1. Switch the device power ON to make it connectable via Bluetooth.
- 2. Confirm that [Express Mode] has been selected in the [Add New Connection Wizard (Welcome to the Add New Connection Wizard)] window, and click on the [Next] button.



Searching for Bluetooth devices will start.

Add New Connection W	fizard 🛛 🛛 🕅
Searching for Bluetoo	th devices.
	Searching for Bluetooth devices.

When the device has been detected, the name and address of the device will appear in the [Add New Connection Wizard (Select Device)] window.

Select a device			
	Please choose the Bluet Bluetooth device addre Device list	ooth device you wish to use.	
6	Device Name	Device Address	^
10	BT-Mouse-1	00:03:74:08:75:89	
			~
3		Re	fresh

If no device is found, please confirm that the device has been made connectable via Bluetooth, and click on the [Update] button.
A further device search will be performed.

5.1.3 Detecting services

1. Select the device name from [Device List] and click on the [Next] button.

dd New Connection Select a device	n Wizard		Į
	Please choose the Bluet Bluetooth device addr Device list	ooth device you wish to use.	
FCAN	Device Name	Device Address	^
40	BT-Mouse-1	00:03:7A:08:75:89	
			~
0		Ref	resh
	< Ba	ck Next> (Cancel

Bluetooth device detection will commence.



 \cdot If several services (profiles) are supported by the device, the service that has been set to the highest priority shall be automatically selected and set up in Express Mode. Please use Custom Mode if you wish to select desired services manually.

 \cdot When a service has been detected, a window prompting you to enter the Bluetooth passkey (PIN code) may appear. Please enter the passkey and click on the [OK] button.

	Bluetooth Passkey (PIN):	
-	(If left blank, the d	efault PIN will be used.)
	Request Device	
	Bluetooth Device Address:	00:07:61:01:B1:DE
	Bluetooth Device Name:	BT-Mouse-1

 \cdot If you have not entered your Bluetooth passkey after a certain amount of time has passed, the connection process will be cancelled for security reasons. Please perform the passkey entry process again.

A message will appear prompting you to prepare the device for connection.

2. Click on the [OK] button.

Bluetoo	th Settings 🛛 🔀
•	Prepare to connect to the remote HID device, then click OK.
	ОК

 \cdot When the settings information has been registered, a window prompting you to enter your Bluetooth passkey (PIN code) may appear. Please enter your passkey and click on the [OK] button.

	Bluetooth Passkey (PIN):	
-4	(If left blank, the d	efault PIN will be used.)
	Request Device	
	Bluetooth Device Address:	00:07:61:01:B1:DE
	Bluetooth Device Name:	BT-Mouse-1

• If you have not entered your Bluetooth passkey after a certain amount of time has passed, the connection process will be cancelled for security reasons. Please perform the passkey entry process again.

The [Add New Connection Wizard (Connection Name Setup)] window will appear if a service has been properly detected.

3. Select the type and name of the icon to be displayed once the device has been registered, and click on the [Next] button.

Enter a name and select an icon.	
	Set up the connection name and icon. Setting information Connection Name: BT-Mouse-1 Icon Change Icons
	Create a shortcut on the desktop

 \cdot If you wish to change the icon, please click on the [Change Icon] button and select your preferred icon from the list that appears.



5.1.4 Registering settings information

The [Add New Connection Wizard (Completing the Add New Connection Wizard)] window will appear.

1. Click on the [Finish] button

Add New Connection W	fizard 🛛 🕅
Completing the Add N	ew Connection Wizard
	Registration of connection information complete.

The [Bluetooth Settings] window will appear.

The icons of the registered devices will appear, and the devices will be ready to use.

Bluetooth Settings	
	🕄 Bluetooth
BT-Mouse-1)))
New Connection	🔁 Detal 💢 Delete

5.2 Custom Mode Set-up

5.2.1 Starting Bluetooth Settings

Click [Start]→[All Programs]→[Bluetooth]→[Bluetooth Settings]. (Under Windows 2000, click [Start]→[Programs]→[Bluetooth]→[Bluetooth Settings].)

Note

 \cdot The same result can be achieved by right-clicking on the Bluetooth icon in the task tray and selecting [Bluetooth Settings] from the menu that appears.



The [Bluetooth Settings] window below will appear when other devices have already been registered.

Bluetooth Settings	
Poeroori New Reb	Bluetooth'
BT-Modem [Dial-up connection]	
New Connection	🔁 Detail) 🔀 Delete

Please click the [New Connection] button to open the [Add New Connection Wizard] window. If no devices have been registered yet, please proceed directly to "Detecting Bluetooth Devices."

5.2.2 Detecting Bluetooth devices

The [Add New Connection Wizard (Welcome to the Add New Connection Wizard)] window will appear.

- 1. Switch the device power ON to make it connectable via Bluetooth.
- 2. Confirm that [Custom Mode] has been selected in the [Add New Connection Wizard (Welcome to the Add New Connection Wizard)] window, and click on the [Next] button.

Add New Connectio	n Wizard
welcolle to the A	du New Connection Wizaru
	This wizard registers the connection information of a remote device. Select the wizard mode. Express Mode (Recommended) The most useful service on a remote device is set up. Qustom Mode An available service on a remote device is selected and set up.
	Cancel

Searching for Bluetooth devices will start.



When the device has been detected, the name and address of the device will appear in the [Add New Connection Wizard (Select Device)] window.

Add New Connection Wizard Select a device			
	Please choose the Bluet	ooth device you wish to use.	
6	Device Name BT-Mouse-1	Device Address 00:03:7A:08:75:89	
S		Ref	resh
	- < Ba	ck Next> C	Cancel

Note

 \cdot If no device is found, please confirm that the device has been made connectable via Bluetooth, and click on the [Update] button.

• A further device search will be performed.

5.2.3 Detecting services

1. Select the device name from [Device List] and click on the [Next] button.

Select a device			
	Please choose the Bluet Bluetooth device addr Device list	Please choose the Bluetooth device you wish to use. Bluetooth device address Device list	
	Device Name	Device Address	
The N	BT-Mouse-1	00:03:7A:02:C9:87	
12	BT-Modem	00:03:7A:09:AA:46	
S		<u>R</u> efresh	

Bluetooth device detection will commence.



Note

 \cdot When a service has been detected, a window prompting you to enter the Bluetooth passkey (PIN code) may appear. Please enter the passkey and click on the [OK] button.

	Bluetooth Passkey (PIN):	
-	(If left blank, the d	efault PIN will be used.)
	Request Device	
	Bluetooth Device Address:	00:07:61:01:B1:DE
	Bluetooth Device Name:	BT-Mouse-1

 \cdot If you have not entered your Bluetooth passkey after a certain amount of time has passed, the connection process will be cancelled for security reasons. Please perform the passkey entry process again.

• If you try to register a device that has already been registered, the following message will appear, and you will not be able to proceed with further operation. Please click on the [OK] button to close the message.

Bluetooth Settings	
1	This HID device is already registered.
	ок

The services supported by the device will be displayed.

2. Select the desired service and click on the [Next] button.

Select a service.		
AS	Please choose the service	to use.
2	Service selection	Can inc Name
6	Human Interface	Device Cordless Presenter
10		
le	<]	
	,	
	Rack	Next > Canal

· When a device supports several services

If the device supports several services, you can use Custom Mode to manually select the services (profiles) you wish to use from the list that appears under [Select Services].

Example: List of wireless modem station services

Service Class	Service Name	
Dial-up Netwo	Dial-up networking	
Fax	Fax	1
Serial Port	Serial Port	

If Express Mode is used to perform the set-up, the highest-priority service in the device will be automatically selected and configured.

3. Click on the [OK] button.



 \cdot When the settings information has been registered, a window prompting you to enter your Bluetooth passkey (PIN code) may appear. Please enter your passkey and click on the [OK] button.

	Bluetooth Passkey (PIN):	
A	(If left blank, the default PIN will be used.)	
	Request Device	
	Bluetooth Device Address:	00:07:61:01:B1:DE
	Bluetooth Device Name:	BT-Mouse-1

 \cdot If you have not entered your Bluetooth passkey after a certain amount of time has passed, the connection process will be cancelled for security reasons. Please perform the passkey entry process again.

The [Add New Connection Wizard (Connection Name Setup)] window will appear if a service has been properly detected.

4. Select the type and name of the icon to be displayed once the device has been registered, and click on the [Next] button.

Add New Connection Wizard	
Enter a name and se	lect an icon.
	Set up the connection name and icon. Setting information Connection Name: BT:Mouse:1 Icon Change Icons Change Icons Change Icons
	< Back Next > Cancel

 \cdot If you wish to change the icon, please click on the [Change Icon] button and select your preferred icon from the list that appears.



5.2.4 Registering settings information

The [Add New Connection Wizard (Completing the Add New Connection Wizard)] window will appear.

1. Click on the [Finish] button



The [Bluetooth Settings] window will appear.

The icons of the registered devices will appear, and the devices will be ready to use.



Federal Communication Commission Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

IMPORTANT NOTE:

FCC Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

This device is intended only for OEM integrators under the following conditions: As long as 2 conditions above are met, further transmitter test will not be required. However, the OEM integrator is still responsible for testing their end-product for any additional compliance requirements required with this module installed (for example, digital device emissions, PC peripheral requirements, etc.).

IMPORTANT NOTE: In the event that these conditions can not be met (for example certain laptop configurations or co-location with another transmitter), then the FCC authorization is no longer considered valid and the FCC ID can not be used on the final product. In these circumstances, the OEM integrator will be responsible for re-evaluating the end product (including the transmitter) and obtaining a separate FCC authorization.

End Product Labeling

The final end product must be labeled in a visible area with the following: "Contains TX FCC ID: NLF-MDCBTASC32".

Manual Information That Must be Included

The OEM integrator has to be aware not to provide information to the end user regarding how to install or remove this RF module in the users manual of the end product which integrate this module.

The users manual for OEM integrators must include the following information in a prominent location "IMPORTANT NOTE: To comply with FCC RF exposure compliance requirements. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.