CoSTAR Technologies www.costartech.com

### **CoSTAR Programming Utility**

#### Installation and Operation manual

**Revision 1.0** 



### Introduction

The CoSTAR Programming Utility (hereafter referred to as the CPU) is a Windows application that is used to update and check the status of the BlueSTAR 2010 module.

This manual discusses the installation and usage of the program.

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### Installation

The CPU program can be downloaded from the CoSTAR website by using the following link.

**CoSTAR Programming Utility** 

The following dialog box should pop up asking you to run or save the file.



Click Run to install the program.

61% of CPU.Setup.msi from	www.costartech.com Compl	
CPU.Setup.msi from www.costartech.com Estimated time left: 4 sec (327KB of 637KB copied) Download to: Temporary Folder Transfer rate: 72.1KB/Sec		
	Qpen Open Folder Cancel	
Smart Screen Filter threats. <u>Report an</u>	checked this download and did not report any unsafe download.	

If you get a Security Warning from Internet Explorer, click RUN.



Next, the setup wizard will launch to guide you through the rest of the install.

1 de la c	CoSTAR Programming Utility
₩ Si	etup Wizard
Th	e installer will guide you through the steps required to install CoSTAR Programming Utility on your mputer.
Un or i	ARNING: This computer program is protected by copyright law and international treaties. authorized duplication or distribution of this program, or any portion of it, may result in severe civil criminal penalties, and will be prosecuted to the maximum extent possible under the law.
	Cancel < Back Next >

Click Next to continue.

B CoSTAR Programming Utility	
Select Installation Folder	
The installer will install CoSTAR Programming Utility to th	e following folder.
To install in this folder, click "Next". To install to a differe	nt folder, enter it below or click "Browse".
Eolder: C:\Program Files\CoStar\CoSTAR Programming Utilit Install CoSTAR Programming Utility for yourself, or for a	y\     Browse       Disk Cost
<ul> <li><u>E</u>veryone</li> </ul>	
⊘ Just <u>m</u> e	
Cancel	< <u>B</u> ack <u>N</u> ext>

Select the installation folder, than select who you want to have access the program, and then click next.

At this point, the Wizard has gathered all necessary information and is ready to begin installation.

B CoSTAR Programming Utility	
Confirm Installation	
The installer is ready to install CoSTAR Programming	g Utility on your computer.
Click "Next" to start the installation.	
Can	cel < <u>B</u> ack <u>N</u> ext >

Click Next again to begin installing the CPU program.

You might be prompted for permission to install the program if you are not an administrator, you might have to log in as one to install the program.

Once all the files are copied over, the installation will complete and you will be prompted to check for any critical updates to the .NET framework.

ES COSTAR Programming Ounty		
Installation Complete		
CoSTAR Programming Utility has been successfully installed		
Click "Close" to exit.		
Please use Windows Update to check for any critical updates to the .NET Framework.		
Cancel	< Back Close	

Click Close to exit the installation wizard.

Next, connect the BlueSTAR 2010 to the PC using a mini USB cable.

If you do not already have the driver installed,

Windows will begin to search for it.

Driver Software Installation	×
Installing device driver software	
USB Serial Port	O Searching Windows Update
Obtaining device driver software from Window Skip obtaining driver software from Windows	ws Update might take a while. <u>Update</u>
	Close

If you have an internet connection, you should be able to locate the drivers automatically from Windows Update.

Driver Software Installation		×
Installing device driver software		
USB Serial Port	O Installing driver software	
		Close

Driver Software Installation		×
USB Serial Port (COM113) i	nstalled	
USB Serial Port (COM113)	🗸 Ready to use	
		Close

The drivers convert your USB port into a serial port. So when they are installed properly, you will find the new COM port in the device manager under ports.

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In this case, the port added was COM113, this will be different for each installation.

If Windows cannot find the drivers, or if you do not have an internet connection available, you can download the drivers for your particular operating system from the CoSTAR website using the following link:

http://www.ftdichip.com/Drivers/VCP.htm

With the installation complete and the device connected, we are now ready to launch the CPU.

## CPU Usage

#### **Overview**

The CPU program will allow you to access the BlueSTAR 2010 to do several features including:

- Programming Allows updating the BlueSTAR 2010 to add new features as they are released. All software upgrades are free of charge and posted on the website as they become available. Check back often to see if there have been any changes, or you can follow us on <u>Facebook</u> or <u>Twitter</u>.
- Configure Allows initial adjustment of the Microphone Gain, Output Gain and Ring Tone Selections.
- Status Allows monitoring the status of the BlueSTAR to see BlueSTAR, vehicle, and cell status
- Data Logging Future location for capturing vehicle data to remotely diagnose vehicle specific issues.



## Program

Pressing the Program button does a scan for the device and opens the programmer. If a device is not found, the following screen will appear.

CoSTAR Programming Utility - Device Discovery		
AutoDiscovery CoSTAR Device not found. Verify that the device is connected to a USB port and click Retry.		
Retry		
Manual Override If Device is not found you may manually select a port and click Ok.		
COM Port COM1		
OK Cancel		

When properly connected, the BlueSTAR will transmit a beacon symbol to the CPU which tells it which port the unit is located on. The CPU looks for this beacon and if found, will automatically connect to the BlueSTAR. If not found, you can check connections and hit Retry. Alternatively, if you know what COM port your device is on, you can select it manually from the drop down list.

Once found, the Programming screen will pop up.

OSTAR Program	mming Utility - Programmer	x
Get Version		
Select Firmware		
Upgrade		
Close		
Idle		.::

From here, we can verify the version of the software installed in the unit, by hitting the Get Version button.

CoSTAR Program	mming Utility - Programmer	
Get Version	1.1.7-3.0.1-0624	
Select Firmware		
Upgrade		
Close		
Completed	.::	

In this case, we are running BES 1.1.7, BG 3.0.1, date code 0624. BES stands for BlueSTAR Embedded Software, and BG is the BlueGiga code that runs the Bluetooth stack in the Kalimba DSP.

When a new software version is released, it is posted as a .cfw (CoSTAR FirmWare file). When downloading this form the website, internet explorer may change the extension from .cfw to .zip.

File Down	iload 📃 🔀
Do you	u want to open or save this file?
	Name: BES_0614.zip
	Type: WinRAR ZIP archive, 160KB
	From: www.costartech.com
	Open Save Cancel
<b>⊘</b> Al <u>w</u> a	ays ask before opening this type of file
3	While files from the Internet can be useful, some files can potentially ham your computer. If you do not trust the source, do not open or save this file. <u>What's the risk?</u>

To prevent this, it is recommended to save file to a location of your choice, and rename by clicking on the Save as Type: drop down menu and selecting All Files, and then changing the extension of the file from .zip to .cfw as shown below.

Save As	
COC - Wownloads > CoSTAR Update	s v 4 Search CoSTAR Updates
Organize 🔻 New folder	1== 🗸 🔞
☆ Favorites	Date modified Type
🥽 Libraries	No items match your search.
n Homegroup	
🖳 Computer	
🗣 Network	
•	4 III
File <u>n</u> ame: BES_0614.cfw	•
Save as <u>t</u> ype: All Files	•
) Hide Folders	Save Cancel

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Download complete	
Download Complete	
BES_0614.zip from www.costartech.com	
Downloaded: 160KB in 2 sec Download to: C:\Users\Chris\Downlo\BES_0614.cfw Transfer rate: 80.0KB/Sec	
Qose this dialog box when download completes	
Open Open Folde	er Close
SmartScreen Filter checked this download and did n threats. <u>Report an unsafe download.</u>	ot report any

And even though it stills says that it is downloading a .zip, it will save it as a .cfw file. Users of browsers other than IE (i.e. firefox or Chrome) do not have to do this step, as the files are saved properly.

The .cfw is actually a .zip file, but it is important NOT to unzip it, as the files are not usable by themselves, the CPU requires that they remain zipped together.

If you prefer to download it as a .zip and rename it after, make sure that you have access to the extensions of known file types by unchecking the appropriate box in the View tab of the Folder Options menu from the Control Panel.



With the file downloaded and saved properly, we can now click on the Select Firmware button to locate the file.

<ul> <li>Open</li> </ul>			ap a sea Prant	x
Chris > D	ownloads 🕨 CoSTAR Updates	<b></b>	earch CoSTAR Updates	٩
Organize 🔻 New folder			:≡ ▼ 🚺	0
☆ Favorites	Name	Date modified	Type Size	
🥽 Libraries	BES_0614.cfw	7/1/2010 10:37 PM	CFW File 161 K	(B
🔞 Homegroup				
🖳 Computer				
🗣 Network				
File <u>n</u> ar	me: BES_0614.cfw	▼ Cot	Star firmware (*.cfw)	•
			Upen V Cancel	

Notice how the default file type is \*.cfw. Once selected, hit Open, and the firmware will show in the Programmer screen.

CoSTAR Program	mming Utility - Programmer
Get Version	1.1.7-3.0.1-0624
Select Firmware	BES_0614.cfw
Upgrade	
Close	
Completed	.::

Hitting Upgrade, will cause the device to switch to programming mode, Erase the device, write the new software, and then verify it.

0	CoSTAR Program	mming Utility - Programmer	Γ
[	Get Version	1.1.7-3.0.1-0614	
[	Select Firmware	BES_0614.cfw	
[	Upgrade		
[	Close		
		Verifying	

If all goes well, you'll see the status bar show Completed: Upgrade.

CoSTAR Program	nming Utility - Programmer				
Get Version	1.1.7-3.0.1-0614				
Select Firmware	BES_0614.cfw				
Upgrade					
Close					
Completed: Upgrade					

Click the Get Version button, to make sure the new version is detected.

Hi Close to close the Programmer and go back to the main CPU screen.

# Configure

The configure tab, allows you to adjust the Microphone Gain, set the Microphone Pre-Amplifier, set the Output Gain, and set the Ring Tones.

۲	CoSTA	R Progra	amming	Utility	- Confi	gurati	on	×	
	Sound	Settings							
			Microp	hone Ga	ain (dB):	0			
	1 1 1						1 1	Pre Amp	
	-24	-12	0	12	24	33	42		
				t Gain (d	B): 0		1 1		
	-24	-12	0	12	24	33	42		
	Арр	ly [	Cancel				Res	store Defaults	
	Ring To	ones							
	Dixie						Re	fresh	
	S	et			Pla	iy 🛛			
									-
	-	_	_				_		8

#### Microphone Gain

The microphone gain adjusts the amount of amplification that the microphone sees. If the people on the other end of the call are experiencing an echo (they here themselves talking delayed a short time), or if there is excessive background noise, the microphone gain can be lowered by moving the slider to the left. Each step is 3dB or about half level, so usually one or two steps is all that is required. If your callers are saying that they can't hear you , you should move the microphone slider to the right to increase the microphone gain. In rare cases, or when using an alternative microphone to the built in onstar mic, you can select the PreAmp check box to add 24 dB of gain. It is not recommended to select this when using the onstar mic as it will overload the audio circuits yielding distorted voice quality.

#### **Output Gain**

The output gain allows you to adjust the output from the BlueSTAR 2010 that feeds the radio amplifier. It is strongly recommended that this be left at its default position of 0dB. The output level can easily be adjusted using the VOLUME control in the STATUS screen. Should this slider be moved from 0dB, changing the Volume gain by the STATUS screen or alternatively by using the Mirror buttons ( and in some cases the steering wheel controls on early CLASS2 vehicles) the output level will be undefined and not act as expected.

#### **Ring Tones:**

Ring tones can be selected here. There is a separate application note on how to create your own ring tone if desired.

**Ringtone App Note** 

#### **Status**

The Status tab, allows you to monitor the State of the BlueSTAR 2010, check the detected vehicle protocol, check the BlueSTAR 2010 health status, Mirror LED indications, Button Press Status, Set the Current Volume, and if linked to a Cell phone, it will also display the cell phone status.

CoSTAR Programming Utility -	Status				
State			Protocol		
Reset Voice Dia	al 💿 Sleep	Volum	e 🔘 Class2		
◎ Linking ◎ Ringing	Standby	Redia	GMLAN-11		
Linked O Call Activ	re 🔘 Muted	🔘 On Ho	old O GMLAN-29		
Health	LED Indicator	Button Pres	SS Volume		
Battery: 3.318 V	Off	White	Current: 6		
Temp: 27C/80.6F	Green	Blue			
	◎ Red	Red	0 🚔 Set		
Cell Phone					
Power	Signal		all Status		
Battery Charge:	Signal Strength: 🧧		Incoming Call		
Battery Warning	Service	[	Connected		
Charger Connected	Roam	[	On Hold		
	Network: "Verizor	CallerID: n/a			
			Exit		

The State can be used to verify connection status, and should be primarily in Standby or Linked.

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Most of the data on this screen is informational, and can be used as a diagnostic tool to aid in trouble shooting connection issues.

Volume is shown and can be adjusted here in the range of 1 to 15. Default volume is 9. If set very low, the audio can usually not be heard, so be careful when setting this below 6. This can also be modified by using the Volume adjust procedure with the mirror buttons, as defined in the BlueSTAR 2010 users guide.

# Data Logging

This tab is not yet implemented but will be used to capture data to aid in vehicle specific trouble shooting.