

# SynAST Driver Upgrade Instruction

## 1. Release Version: SynAST-1.0.0.0

**Release Date:** February, 2009

**Supported Board Models:**

Series	Model	Related Documents	Note
FXM	FXM-8A/PCI FXM-16A/PCle	AST_FXM001.pdf AST_FXM001intro.pdf	
TEJ	TEJ-1A/PCI TEJ-2A/PCI TEJ-4A/PCI	AST_TEJ001.pdf AST_TEJ001intro.pdf	
CDC	CDC-1522A/PCI CDC-2522A/PCI CDC-3522A/PCI	AST_CDC001.pdf AST_CDC001intro.pdf	

### Release Notes:

SynAST-1.0.0.0 not only integrates fxm8apci-1.0.0, fxm16apcie-1.0.0.0, tejaxpci-1.0.0 and cdcx522apci-1.0.0, but also improves in functions and features.

Series	Improvement in Features	Note
FXM, TEJ, CDC	Change the way to deal with interruption, which enhances the accuracy for interruption.	
	Fix the bug that the driver could not load automatically.	
	Add the installation, configuration and test instruction of Trixbox and FreeSwitch to relative user manuals.	
	Consummate the FAQ section in our user manual.	
FXM, TEJ	Mend the echo cancellation arithmetic, improving the quality of tone.	
FXM	Support composite modules.	
	Solve the problem that it takes a relative long time to detect the ring in case the line from GSM Modem is connected with the board.	
TEJ	Support the clock configuration item of zaptel.	

## 2. Release Version: SynAST-1.1.0.0

**Release Date:** July, 2009

**Supported Board Models:**

Series	Model	Related Documents	Note
FXM	FXM-8A/PCI FXM-16A/PCle	AST_FXM001.pdf AST_FXM001intro.pdf	
TEJ	TEJ-1A/PCI TEJ-2A/PCI TEJ-4A/PCI	AST_TEJ001.pdf AST_TEJ001intro.pdf	

CDC	CDC-1522A/PCI CDC-2522A/PCI CDC-3522A/PCI	AST_CDC001.pdf AST_CDC001intro.pdf	
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**Release Notes:**

Besides zaptel, this version SynAST-1.1.0.0 supports the dahdi driver and provides manuals on how to install, configure and test such platforms as yate, callweaver, elastix, asteriskNOW for our SynAST driver.

Series	Improvement in Features	Note
FXM, TEJ, CDC	Add description in our user manual on how to install and configure the DAHDI driver.	
	Add new files especially on how to install, configure and test the platforms yate, callweaver, elastix and asteriskNOW.	
	Add the driver codes used in DAHDI.	
TEJ	Support channelBank.	
	Support the setting of 75ohm or 120ohm as the impedance.	

### 3. Release Version: SynAST-1.2.0.0

**Release Date: August, 2009**

**Supported Board Models:**

Series	Model	Related Documents	Note
FXM	FXM-8A/PCI FXM-16A/PCIe	AST_FXM001.pdf AST_FXM001intro.pdf	
	FXM3201P	AST_FXM002.pdf AST_FXM002intro.pdf	
TEJ	TEJ-1A/PCI TEJ-2A/PCI TEJ-4A/PCI	AST_TEJ001.pdf AST_TEJ001intro.pdf	
CDC	CDC-1522A/PCI CDC-2522A/PCI CDC-3522A/PCI	AST_CDC001.pdf AST_CDC001intro.pdf	

**Release Notes:**

This version SynAST-1.2.0.0 newly supports the FXM3201P board.

Series	Improvement in Features	Note
FXM	Newly support the FXM3201P board.	
TEJ	Add the instruction on the configuration to support channel bank.	
	Fix the bug that link status cannot be shown correctly by dahdi_tool and zttool.	

### 4. Release Version: SynAST-1.3.0.0

**Release Date: September, 2009**

**Supported Board Models:**

Series	Model	Related Documents	Note
FXM	FXM-8A/PCI FXM-16A/PCIe	AST_FXM001.pdf AST_FXM001intro.pdf	
	FXM3201P FXM3201E	AST_FXM002.pdf AST_FXM002intro.pdf	
TEJ	TEJ-1A/PCI TEJ-2A/PCI TEJ-4A/PCI	AST_TEJ001.pdf AST_TEJ001intro.pdf	
	TEJ201E TEJ101E	AST_TEJ002.pdf AST_TEJ002intro.pdf	
CDC	CDC-1522A/PCI CDC-2522A/PCI CDC-3522A/PCI	AST_CDC001.pdf AST_CDC001intro.pdf	

**Release Notes:**

This version SynAST-1.3.0.0 newly supports the FXM3201E, TEJ201E and TEJ101E boards.

Series	Improvement in Features	Note
FXM	Newly support the FXM3201E board.	
TEJ	Newly support the TEJ201E and TEJ101E boards.	
FXM	Improve the capability of echo cancellation for FXM-8A/PCI, FXM-16A/PCIe, TEJ-1A/PCI, TEJ-2A/PCI and TEJ-4A/PCI boards.	
TEJ		

**5. Release Version: SynAST-1.4.0.0**

**Release Date: November, 2009**

**Supported Board Models:**

Series	Model	Related Documents	Note
FXM	FXM-8A/PCI FXM-16A/PCIe	AST_FXM001.pdf AST_FXM001intro.pdf	
	FXM3201P FXM3201E FXM3200P FXM3200E	AST_FXM002.pdf AST_FXM002intro.pdf	
TEJ	TEJ-1A/PCI TEJ-2A/PCI TEJ-4A/PCI	AST_TEJ001.pdf AST_TEJ001intro.pdf	
	TEJ201E TEJ101E TEJ201P TEJ101P	AST_TEJ002.pdf AST_TEJ002intro.pdf	
CDC	CDC-1522A/PCI	AST_CDC001.pdf	

	CDC-2522A/PCI CDC-3522A/PCI	AST_CDC001intro.pdf	
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**Release Notes:**

This version SynAST-1.4.0.0 newly supports the FXM3200P, FXM3200E, TEJ201P and TEJ101P boards. Testings are all passed on dahdi-linux-complete-2.2.0.2+2.2.0 and the below versions.

Series		Improvement in Features	Note
AST	FXM	Newly support the FXM3200P and FXM3200E boards.	
		Add a feature of clock configuration to the FXM32 series boards.	
		Fix the bug on the echo cancellation switch of FXM32 series.	
	TEJ	Newly support the TEJ201P and TEJ101P boards.	
	Optimize the process of auto installation and configuration.		

## 6. Release Version: SynAST-1.5.0.0

**Release Date: December, 2009**

**Supported Board Models:**

Series	Model	Related Documents	Note
FXM	FXM-8A/PCI FXM-16A/PCIe	AST_FXM001.pdf AST_FXM001intro.pdf	
	FXM3201P FXM3201E FXM3200P FXM3200E	AST_FXM002.pdf AST_FXM002intro.pdf	
TEJ	TEJ-1A/PCI TEJ-2A/PCI TEJ-4A/PCI	AST_TEJ001.pdf AST_TEJ001intro.pdf	
	TEJ201E TEJ101E TEJ201P TEJ101P TEJ200E TEJ100E TEJ200P TEJ100P	AST_TEJ002.pdf AST_TEJ002intro.pdf	
CDC	CDC-1522A/PCI CDC-2522A/PCI CDC-3522A/PCI	AST_CDC001.pdf AST_CDC001intro.pdf	

**Release Notes:**

SynAST-1.5.0.0 newly supports the TEJ200E, TEJ100E, TEJ200P and TEJ100P boards. Testings are all passed on dahdi-linux-complete-2.2.0.2+2.2.0 and the below versions.

Series	Improvement in Features	Note
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AST	TEJ	Newly support the TEJ200E, TEJ100E, TEJ200P and TEJ100P boards.	
		Improve the algorithm for echo cancellation.	
		Add a new function to determine the order of loading boards in the same kind by board number.	
		Add descriptions on receiving FSK caller information by FXM series boards and some other information about the DAHDI tool.	

## 7. Release Version: SynAST-1.6.0.0

**Release Date: March, 2010**

**Supported Board Models:**

Series	Model	Related Documents	Note
FXM	FXM-8A/PCI FXM-16A/PCIe	AST_FXM001.pdf AST_FXM001intro.pdf	
	FXM3201P FXM3201E FXM3200P FXM3200E	AST_FXM002.pdf AST_FXM002intro.pdf	
TEJ	TEJ-1A/PCI TEJ-2A/PCI TEJ-4A/PCI	AST_TEJ001.pdf AST_TEJ001intro.pdf	
	TEJ201E TEJ101E TEJ201P TEJ101P TEJ200E TEJ100E TEJ200P TEJ100P	AST_TEJ002.pdf AST_TEJ002intro.pdf	
CDC	CDC-1522A/PCI CDC-2522A/PCI CDC-3522A/PCI	AST_CDC001.pdf AST_CDC001intro.pdf	

### Release Notes:

SynAST-1.6.0.0 fixes a fatal bug on FXM3200E and FXM3200P, improves the echo cancellation and faxing capabilities of the boards. Several relative files are modified or given new content. Testings are all passed on dahdi-linux-complete-2.2.0.2+2.2.0 and the below versions.

Series	Improvement in Features	Note
AST	Fix the bug that the driver cannot be loaded on FXM3200E and FXM3200P.	
	Improve the algorithm for echo cancellation.	
	Optimize the faxing capability of FXM32 series boards.	

		Provide a special interface for gain adjustment.	
	TEJ	Add the YELLOW warning status.	
	CDC	Support Dahdi.	
		Add a manual switch for echo cancellation.	
		Add step-by-step installation manuals on Asterisk and Trixbox.	
		Change the 'doc' folder structure, correcting some errors in description.	

## 8. Release Version: SynAST-1.7.0.0

**Release Date: May, 2010**

**Supported Board Models:**

Series	Model	Related Documents	Note
FXM	FXM-8A/PCI FXM-16A/PCIe	AST_FXM001.pdf AST_FXM001intro.pdf	
	FXM3201P FXM3201E FXM3200P FXM3200E	AST_FXM002.pdf AST_FXM002intro.pdf	
	FXM3211P FXM3210P	AST_FXM003.pdf AST_FXM003intro.pdf	
TEJ	TEJ-1A/PCI TEJ-2A/PCI TEJ-4A/PCI	AST_TEJ001.pdf AST_TEJ001intro.pdf	
	TEJ201E TEJ101E TEJ201P TEJ101P TEJ200E TEJ100E TEJ200P TEJ100P	AST_TEJ002.pdf AST_TEJ002intro.pdf	
	TEJ401E TEJ801E TEJ400E TEJ800E	AST_TEJ003.pdf AST_TEJ003intro.pdf	
CDC	CDC-1522A/PCI CDC-2522A/PCI CDC-3522A/PCI	AST_CDC001.pdf AST_CDC001intro.pdf	

### Release Notes:

SynAST-1.7.0.0 newly supports the FXM3211P, FXM3210P, TEJ401E, TEJ801E, TEJ400E and TEJ800E boards. Multiple relative files are modified or given new content. Testings are all passed on

dahdi-linux-complete-2.3.0+2.3.0 and the below versions.

Series		Improvement in Features	Note
AST	FXM	Newly support the FXM3211P and FXM3210P boards.	
	TEJ	Newly support the TEJ401E, TEJ801E, TEJ400E and TEJ800E boards.	
		Fix the bug that the channel becomes unavailable after it keeps an SS1 call for a long time.	
		Fix the bug that the driver fails to be manually loaded for TEJ200E, TEJ100E, TEJ200P, TEJ100P.	
	Add a step during the driver installation to query whether to enable the switch for echo cancellation in hardware.		
	Fix the driver installation failure in dahdi-2.3.0.		
	Change the way to set the order of loading multiple boards: There will no longer pop up the prompt during the driver installation to ask you to set the order of loading boards; if necessary, you may execute the script 'SynAST_driver_init' to set.		
	Add step-by-step installation manuals on Elastix, AsteriskNow and Freeswitch.		
	Improve the description in relative documents, correcting some errors.		

## 9. Release Version: SynAST-1.8.0.0

**Release Date:** March, 2011

**Supported Board Models:**

Series	Model	Related Documents	Note
FXM	FXM-8A/PCI	AST_FXM001.pdf	
	FXM-16A/PCIe	AST_FXM001intro.pdf	
	FXM3201P FXM3201E FXM3200P FXM3200E	AST_FXM002.pdf AST_FXM002intro.pdf	
	FXM3211P FXM3210P	AST_FXM003.pdf AST_FXM003intro.pdf	
TEJ	TEJ-1A/PCI TEJ-2A/PCI TEJ-4A/PCI	AST_TEJ001.pdf AST_TEJ001intro.pdf	
	TEJ201E TEJ101E TEJ201P TEJ101P TEJ200E TEJ100E TEJ200P TEJ100P	AST_TEJ002.pdf AST_TEJ002intro.pdf	

	TEJ401E TEJ801E TEJ400E TEJ800E TEJ401P TEJ801P TEJ400P TEJ800P	AST_TEJ003.pdf AST_TEJ003intro.pdf	
	TEJ101P(SSW) TEJ100P(SSW) TEJ201P(SSW) TEJ200P(SSW) TEJ401P(SSW) TEJ400P(SSW) TEJ801P(SSW) TEJ800P(SSW)	AST_TEJ004.pdf AST_TEJ004intro.pdf	
CDC	CDC-1522A/PCI CDC-2522A/PCI CDC-3522A/PCI	AST_CDC001.pdf AST_CDC001intro.pdf	

#### Release Notes:

SynAST-1.8.0.0 newly supports the TEJ400P, TEJ401P, TEJ800P, TEJ801P, TEJ400P(SSW), TEJ401P(SSW), TEJ800P(SSW), TEJ801P(SSW), TEJ100P(SSW), TEJ101P(SSW), TEJ200P(SSW) and TEJ201P(SSW) boards. Multiple relative files are modified or given new content. Testings are all passed on dahdi-linux-complete-2.3.0+2.3.0 and the below versions.

Series		Improvement in Features	Note
AST	TEJ	Newly support the TEJ400P, TEJ401P, TEJ800P, TEJ801P, TEJ400P(SSW), TEJ401P(SSW), TEJ800P(SSW), TEJ801P(SSW), TEJ100P(SSW), TEJ101P(SSW), TEJ200P(SSW) and TEJ201P(SSW) boards.	
		Fix the error in warning information for the TEJ-2A and TEJ-4A boards.	
		Fix the bug that there were no methods provided in SynAST-1.7.0.0 to uninstall the Zaptel.	
		Improve the description in relative documents, correcting some errors.	

## 10. Release Version: SynAST-1.9.0.0

**Release Date: November, 2011**

#### Supported Board Models:

Series	Model	Related Documents	Note
FXM	FXM-8A/PCI	AST_FXM001.pdf	
	FXM-16A/PCle	AST_FXM001intro.pdf	



	FXM3201P FXM3201E FXM3200P FXM3200E	AST_FXM002.pdf AST_FXM002intro.pdf	
	FXM3211P FXM3210P	AST_FXM003.pdf AST_FXM003intro.pdf	
TEJ	TEJ-1A/PCI TEJ-2A/PCI TEJ-4A/PCI	AST_TEJ001.pdf AST_TEJ001intro.pdf	
	TEJ201E TEJ101E TEJ201P TEJ101P TEJ200E TEJ100E TEJ200P TEJ100P	AST_TEJ002.pdf AST_TEJ002intro.pdf	
	TEJ401E TEJ801E TEJ400E TEJ800E TEJ401P TEJ801P TEJ400P TEJ800P	AST_TEJ003.pdf AST_TEJ003intro.pdf	
	TEJ101P(SSW) TEJ100P(SSW) TEJ201P(SSW) TEJ200P(SSW) TEJ401P(SSW) TEJ400P(SSW) TEJ801P(SSW) TEJ800P(SSW)	AST_TEJ004.pdf AST_TEJ004intro.pdf	
CDC	CDC-1522A/PCI CDC-2522A/PCI CDC-3522A/PCI	AST_CDC001.pdf AST_CDC001intro.pdf	

**Release Notes:**

SynAST-1.9.0.0 newly supports dahdi-2.4. Multiple relative files are modified or given new content.

Series		Improvement in Features	Note
AST	FXM32	Fix the bug that the driver can not support 4 FXM32 boards to work at the same time.	
		Fix the bug that the board driver will give warning information when dahdi-2.3.0.1 is being loaded.	

	Fix the bug that system death will occur when the driver module is being loaded with Linux-2.6.9 kernel.	
	Improve the description in relative documents, adding information on how to use OpenR2 and libss7.	

## 11. Release Version: SynAST-1.10.0.0

**Release Date: January, 2012**

**Supported Board Models:**

Series	Model	Related Documents	Note
BRI	BRI1611 BRI1610	AST_BRI001.pdf AST_BRI001intro.pdf	
FXM	FXM-8A/PCI FXM-16A/PCIe	AST_FXM001.pdf AST_FXM001intro.pdf	
	FXM3201P FXM3201E FXM3200P FXM3200E	AST_FXM002.pdf AST_FXM002intro.pdf	
	FXM3211P FXM3210P	AST_FXM003.pdf AST_FXM003intro.pdf	
TEJ	TEJ-1A/PCI TEJ-2A/PCI TEJ-4A/PCI	AST_TEJ001.pdf AST_TEJ001intro.pdf	
	TEJ201E TEJ101E TEJ201P TEJ101P TEJ200E TEJ100E TEJ200P TEJ100P	AST_TEJ002.pdf AST_TEJ002intro.pdf	
	TEJ401E TEJ801E TEJ400E TEJ800E TEJ401P TEJ801P TEJ400P TEJ800P	AST_TEJ003.pdf AST_TEJ003intro.pdf	
	TEJ101P(SSW) TEJ100P(SSW) TEJ201P(SSW)	AST_TEJ004.pdf AST_TEJ004intro.pdf	

	TEJ200P(SSW) TEJ401P(SSW) TEJ400P(SSW) TEJ801P(SSW) TEJ800P(SSW)		
CDC	CDC-1522A/PCI CDC-2522A/PCI CDC-3522A/PCI	AST_CDC001.pdf AST_CDC001intro.pdf	

#### Release Notes:

SynAST-1.10.0.0 newly supports dahdi-2.5 and the board models BRI1611P, BRI1610P. Multiple relative files are modified or given new content.

Series		Improvement in Features	Note
AST	BRI	Newly support the BRI16 series boards.	
	FXM32	Speed up the module detection during the load of the driver	
		Improve the description in relative documents.	

## 12. Release Version: SynAST-1.11.0.0

**Release Date:** April, 2012

#### Supported Board Models:

Series	Model	Related Documents	Note
BRI	BRI1611 BRI1610	AST_BRI001.pdf AST_BRI001intro.pdf	
FXM	FXM-8A/PCI FXM-16A/PCle	AST_FXM001.pdf AST_FXM001intro.pdf	
	FXM3201P FXM3201E FXM3200P FXM3200E	AST_FXM002.pdf AST_FXM002intro.pdf	
	FXM3211P FXM3210P	AST_FXM003.pdf AST_FXM003intro.pdf	
TEJ	TEJ-1A/PCI TEJ-2A/PCI TEJ-4A/PCI	AST_TEJ001.pdf AST_TEJ001intro.pdf	

	TEJ201E TEJ101E TEJ201P TEJ101P TEJ200E TEJ100E TEJ200P TEJ100P	AST_TEJ002.pdf AST_TEJ002intro.pdf	
	TEJ401E TEJ801E TEJ400E TEJ800E TEJ401P TEJ801P TEJ400P TEJ800P	AST_TEJ003.pdf AST_TEJ003intro.pdf	
	TEJ101P(SSW) TEJ100P(SSW) TEJ201P(SSW) TEJ200P(SSW) TEJ401P(SSW) TEJ400P(SSW) TEJ801P(SSW) TEJ800P(SSW)	AST_TEJ004.pdf AST_TEJ004intro.pdf	
CDC	CDC-1522A/PCI CDC-2522A/PCI CDC-3522A/PCI	AST_CDC001.pdf AST_CDC001intro.pdf	

#### Release Notes:

SynAST-1.11.0.0 newly supports dahdi-2.6. Multiple relative files are modified or given new content.

Series		Improvement in Features	Note
AST	TEJ	Fix the bug that the interrupt count of the driver for TEJ800, TEJ400 series boards are inaccurate.	
	Improve the description in relative documents.		

### 13. Release Version: SynAST-1.12.0.0

Release Date: June, 2012

#### Supported Board Models:

Series	Model	Related Documents	Note
BRI	BRI1611	AST_BRI001.pdf	
	BRI1610	AST_BRI001intro.pdf	
FXM	FXM-8A/PCI	AST_FXM001.pdf	
	FXM-16A/PCIe	AST_FXM001intro.pdf	

	FXM3201P FXM3201E FXM3200P FXM3200E	AST_FXM002.pdf AST_FXM002intro.pdf	
	FXM3211P FXM3210P FXM3211E FXM3210E	AST_FXM003.pdf AST_FXM003intro.pdf	
TEJ	TEJ-1A/PCI TEJ-2A/PCI TEJ-4A/PCI	AST_TEJ001.pdf AST_TEJ001intro.pdf	
	TEJ201E TEJ101E TEJ201P TEJ101P TEJ200E TEJ100E TEJ200P TEJ100P	AST_TEJ002.pdf AST_TEJ002intro.pdf	
	TEJ401E TEJ801E TEJ400E TEJ800E TEJ401P TEJ801P TEJ400P TEJ800P	AST_TEJ003.pdf AST_TEJ003intro.pdf	
	TEJ101P(SSW) TEJ100P(SSW) TEJ201P(SSW) TEJ200P(SSW) TEJ401P(SSW) TEJ400P(SSW) TEJ801P(SSW) TEJ800P(SSW)	AST_TEJ004.pdf AST_TEJ004intro.pdf	
CDC	CDC-1522A/PCI CDC-2522A/PCI CDC-3522A/PCI	AST_CDC001.pdf AST_CDC001intro.pdf	

**Release Notes:**

SynAST-1.12.0.0 newly supports the FXM3211E and FXM3210E boards. Multiple relative files are modified or given new content.

Series		Improvement in Features	Note
AST	FXM	Newly support the FXM3211E and FXM3210E boards	

	Digital Boards	Add a new feature to record the original data over the signaling time slot for driver debugging.	
	Improve the description in relative documents, correcting some errors.		