



Synway AST Series

SynAST Application Platform-Trixbox Installation Manual

Version 1.0.0.0

Synway Information Engineering Co., Ltd

www.synway.net

Contents

Contents	i
Copyright Declaration	ii
Software License Agreement.....	iii
Revision History	iv
Preface	v
Chapter 1 Installation & Automatic Configuration	1
1.1 Trixbox.....	1
1.1.1 <i>Preparation</i>	1
1.1.2 <i>Trixbox System Installation</i>	1
1.1.3 <i>Driver Installation</i>	1
1.1.4 <i>Configuration</i>	2
1.1.5 <i>Trixbox Startup</i>	2
Chapter 2 Manual Configuration	3
2.1 Zaptel/Dahdi Configuration.....	3
2.2 Trixbox Configuration	3
Chapter 3 Test.....	5
3.1 Preparation.....	5
3.2 Test Example.....	5
3.2.1 <i>Trixbox Environment</i>	5
Appendix A Technical/Sales Support	6

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Revision History

Version	Date	Comments
Version 1.0.0.0	2009-7	Initial publication.

Note: Only major revisions to this manual itself recorded herein.

Preface

When you use the Synway AST series boards to set up a Trixbox application system, this file provides the help for software installation, configuration and test. It aims at those people who use the Synway AST series boards in Trixbox for the first time, and takes the use of TEJ-4A/PCI and FXM-16A/PCIe in Trixbox CE2.6.1.13(Stable) for example. (Note: This file is also applicable to Elastix-1.3-stable-29sep2008.)

Chapter 1 introduces how to install and automatically configure the driver of Synway AST series boards in Trixbox.

Chapter 2 tells how to manually configure the system.

Chapter 3 shows how to test the Synway AST series boards in Trixbox.

Appendix A gives the contact way of technical support and sales department in Synway.

Although Synway has scrupulously checked through this manual, but cannot guarantee the absence of errors and omissions. We sincerely apologize for any consequent inconvenience brought to you and will be very grateful if you kindly give your advice regarding amendments to this book.

Chapter 1 Installation & Automatic Configuration

1.1 Trixbox

For detailed information about Trixbox, visit the official website of Trixbox: <http://www.trixbox.org>.

Note: This file is also applicable to Elastix system (<http://www.elastix.org>)

1.1.1 Preparation

Obtain the resource package you need for Trixbox installation. See Table 1-1 below for details.

Resource Package	Version Recommendation	Address	Description
zaptel-1.4.x.tar.gz	corresponding version downloaded from internet	http://downloads.digium.com/pub/zaptel/releases/	Command: #rpm -q zaptel, to check the version
Synast-x.x.x.x.tar.gz	1.0.0.0 or above	http://www.sanhuid.com	None

Table 1-1 Resource Packages for Trixbox Installation

1.1.2 Trixbox System Installation

Step 1: Install Trixbox.

Download the file Trixbox ISO from internet and make it an installation disk for Trixbox system. Then complete the installation.

Note: The entire HD will be formatted when the Trixbox system is being installed.

Step 2: Install the compilation environment.

```
#yum install gcc                                # install the compiler gcc
#yum install kernel-devel`uname -r`             # install the kernel source code tree
```

1.1.3 Driver Installation

Step 1: Stop zaptel service.

```
#service asterisk stop                        # stop asterisk service
#service zaptel stop                          # stop zaptel service
```

Step 2: Install the zaptel driver and the SynAST driver.

Refer to Chapter 3 Driver Installation & Configuration in the file *SynAST_UserManual.pdf*.

1.1.4 Configuration

Note: You may choose either the method listed here or the manual configuration (See [Chapter 2 Manual Installation](#)) by individual requirement.

```
#astcfg_zaptel trixbox
```

1.1.5 Trixbox Startup

```
#service zaptel start
```

```
# start zaptel service
```

```
#service asterisk start
```

```
# start asterisk service
```

Chapter 2 Manual Configuration

This chapter takes the FXM-16A/PCIe board and the TEJ-4A/PCI board for example to show you how to configure a system.

2.1 Zaptel/Dahdi Configuration

Refer to Section 3.2.2 Manual Configuration in the document *SynAST_UserManual.pdf*.

2.2 Trixbox Configuration

Modify the configuration file according to Table 2-1 below.

Board Config Model File	TEJ-4A/PCI				FXM-16A/PCIe (top 4 slots: trunk; bottom 4 slots: station)
	E1 Mode		T1/J1 Mode		
	ISDN	SS1	ISDN	SS1	
/etc/ asterisk/ zapata.conf	[trunkgroups] [channels] usecallerid=yes hidecallerid=no callwaiting=no threewaycalling=yes transfer=yes rxgain=0.0 txgain=0.0 echocancel=yes echocancelwhenbridged=yes busydetect=yes busycount=7 relaxdtmf=yes				
	Context=from-pstn signalling=pri_cpe switchtype=euroisdn channel=>1-15,17-31 channel=>32-46,48-62 channel=>63-77,79-93 channel=>94-108,110-124		context=from-pstn signalling=pri_cpe switchtype=national channel=>1-23 channel=>25-47 channel=>49-71 channel=>73-95	context=from-pstn signalling=em_w switchtype=national channel=>1-23 channel=>25-47 channel=>49-71 channel=>73-95	;fxo Module context=from-pstn signalling=fxs_ks channel=>1-8 ;fxs Module context=from-internal signalling=fxo_ks channel=>9-16
/etc/ asterisk/ unicall.conf	[channels] language=en usecallerid=yes echocancel=yes rxgain=0 txgain=0 group=1 callgroup=0				

		pickupgroup=0 amaflags=default accountcode=avantel musiconhold=default context=pstn-incoming loglevel=255 protocolclass=mfc2 protocolvariant=[See Table 2-2] category=NATIONAL_SUBSCRIBER channel=>1-15,17-31 channel=>32-46,48-62 channel=>63-77,79-93 channel=>94-108,110-124			
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Table 2-1 Trixbox Configuration

Notes:

- 1) **Change *pri_cpe* to *pri_net* if using the network side in ISDN.**
- 2) **In *E1+SS1*, the value of the field *protocolvariant* in the configuration file *unicall.conf* should be set according to the country or the communication operator. See Table 2-2 below for details.**

Country/Operator	protocolvariant
China	protocolvariant=cn,20,7
Argentina/Telecom E1	protocolvariant=ar,10,4
Brazil/ Embratel	protocolvariant=br,20,4,8
Brasil/ Telecom	protocolvariant=br,20,4
Brasil/ Telefonica	protocolvariant=br,20,20
GVT	protocolvariant=br,20,20
Telemar	protocolvariant=br,20,20
Colombia/ ETB	protocolvariant = ar,20,4
Telefónica /Telecom	protocolvariant = br,10,7,7
Mexico/ Telmex and Avantel	protocolvariant=mx,10,4
Phillippines/ Nextel	protocolvariant=ph,12,18,1

Table 2-2 Value of protocolvariant Field

- 3) **Do not configure a channel repeatedly in */etc/asterisk/unicall.conf* and */etc/asterisk/zapata.conf*; otherwise, errors occur.**
- 4) **Use the following command to correct if the system reports error in *chan_unicall.so* at the start of Asterisk.**
chcon -t texrel_shlib_t /usr/lib/asterisk/modules/chan_unicall.so

Chapter 3 Test

3.1 Preparation

Use an FXM-16A/PCle board and a TEJ-4A/PCI board for example. The former 4 modules on the FXM-16A/PCle board are FXO and the latter 4 are FXS. Meanwhile, configure the TEJ-4A/PCI board with E1+ISDN mode.

Examine the configuration of zaptel:

```
#ztcfg -vv
```

3.2 Test Example

3.2.1 Trixbox Environment

Step 1: Examine the configuration of Trixbox.

```
#asterisk -vv
```

```
*CLI>zap show channels
```

Step 2: Test Example 1 (FXM-16A/PCle).

- 1) Open the Trixbox WEB management window. Add extensions respectively to Channel 13 and Channel 15 by pbx ->system setting->extensions.
- 2) Test the call with Channel 13 and Channel 15.

Step 3: Test Example 2 (TEJ-4A/PCI).

- 1) Open the Trixbox WEB management window. Register a sip channel by pbx ->system setting->extensions.
- 2) Use such soft terminals as eyebeam to register a sip terminal.
- 3) Add rules for calling out through TEJ channels by pbx->system setting->outbound route.
- 4) Test outbound calls via sip.

Appendix A Technical/Sales Support

Thank you for choosing Synway. Please contact us should you have any inquiry regarding our products. We shall do our best to help you. However, our technicians and salesmen are mainly responsible for maintaining our boards and providing relative technical support. If there are problems about Asterisk, please keep touch with Digium Inc. for help.

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