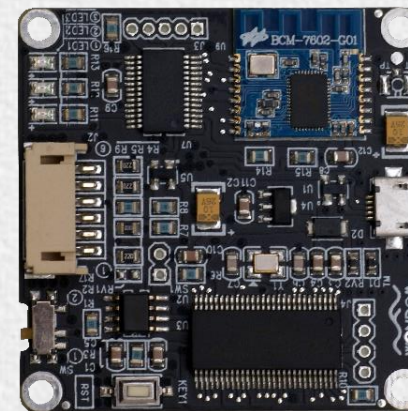


How to realize APP control of APM2/JAB3 with WONDOM ICP3?



Miumax



ICP3

In-Circuit Programmer with Bluetooth BLE for APP Control

Various Applications Required Products and Instructions

Function	PRODUCT LIST WITH DSP INTEGRATED	ICP PRODUCTS	Software	INSTRUCTION	VIDEO
Programming with SigmaStudio	APM2 + APM3 JAB3 - 160 JAB3 - 1100 JAB3 - 230 JAB3 - 250	ICP1	SigmaStudio	How to Program APM2 with WONDOM ICP How to Program JAB3 with WONDOM ICP	How To Re-Program DSP To Get More Functions
		ICP3			How To Reprogram DSP Function of Amplifier Board With DSP
APP Control		ICP3	Miumax (APP)	How to Realize APP Control with WONDOM ICP	How To Use APP To Change DSP Settings Of Your Amplifier?
		ICP5			
PC UI Control		ICP5	Miumax (PC UI)	How to Realize PC UI Control with WONDOM ICP	Video

Note: The products and documentation in red are processing and will be released soon.

Open Source Files for APP CONTROL

Products	Function		Version	File
APM2	Demonstration of Signal Flow Chart	APM2_APPCtrl.dspproj	-	Download
	Restoring Program	APM2_APPCtrl_V1.0.Hex	V1.0 (For Miumax V1.0)	Download
		APM2_APPCtrl_V2.0.Hex	V2.0 (For Miumax V2.0)	Download
JAB3 - Mono	Demonstration of Signal Flow Chart	JAB3_APPCtrl_MONO.dspproj	-	Download
	Restoring Program	JAB3_APPCtrl_MONO_E2Prom_V1.0.Hex	V1.0 (For Miumax V1.0)	Download
		JAB3_APPCtrl_MONO_E2Prom_V2.0.Hex	V2.0 (For Miumax V2.0)	Download
JAB3 - Stereo	Demonstration of Signal Flow Chart	JAB3_APPCtrl_STEREO.dspproj	-	Download
	Restoring Program	JAB3_APPCtrl_STEREO_E2Prom_V1.0.Hex	V1.0 (For Miumax V1.0)	Download
		JAB3_APPCtrl_STEREO_E2Prom_V2.0.Hex	V2.0 (For Miumax V2.0)	Download
ICP3	Demonstration of Signal Flow Chart	ICP3-DB-DP11224_CtrlFirmware_V1.0.hex	V1.0 (For Miumax)	Download
		ICP3-DB-DP11224_CtrlFirmware_V2.0.hex	V2.0 (For Miumax V2.0)	Download
ICP5	-	-	-	-

Version Update Declaration

V1.0	Supporting APP - Miumax V1.0
V2.0	Supporting APP - Miumax V2.0

NOTES:

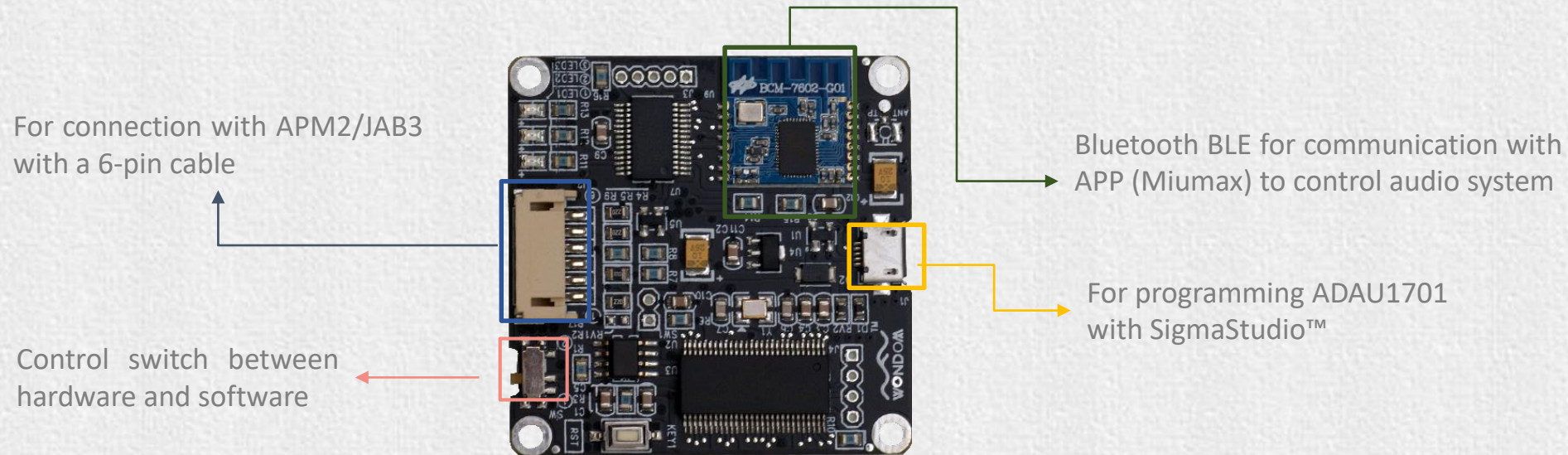
1. All the "Demonstration of Signal Flow Chart" files are just for signal flow chart demonstration and customers can not use them as running programming. If customers want JAB3 or APM2 to be recognized by PC UI or APP, please burn in the corresponding "Restoring Program" documentation we provide;
2. We will provide the ICP3_Ctrl.hex and ICP5_Ctrl.hex for customers but we will not provide C source code and support in the programming. If customers want to program, please use Microchip Kit3/Kit4.
3. The products in red are processing and will be released soon.

Overview

Function: Programming + APP Control

WONDOM ICP3 is an in-circuit programmer inheriting all functions of ICP1. We had implemented firmware upgrade and control data transmission from Bluetooth BLE, this means, with ICP3, customers can adjust the basic parameters like volume, gain, EQ through APP.

With Bluetooth integrated, customers can control audio system with DSP through APP (Miumax), which is a quick and simple start for customers who are not familiar with SigmaStudio™ software. This document is used as guide for how to realize APP control of whole audio system built with WONDOM APM2/JAB3 via WONDOM ICP3.



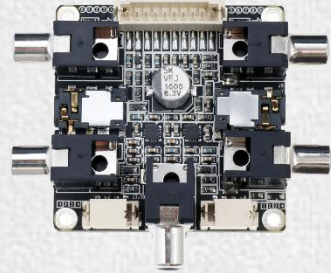
Checklist

Before starting, please make sure you have the following items on hand.

1 WONDOM APM2+Extension Kit (APM3)/JAB3



+



OR



3 'Miumax' APP

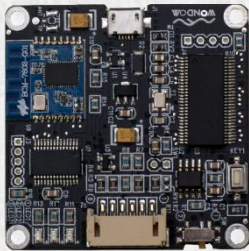


Please go to App Store and search "Miumax".

Android

iOS

2 WONDOM ICP3 with a 6-pin cable



4 Accessories

Speakers

Cables

Phone

...

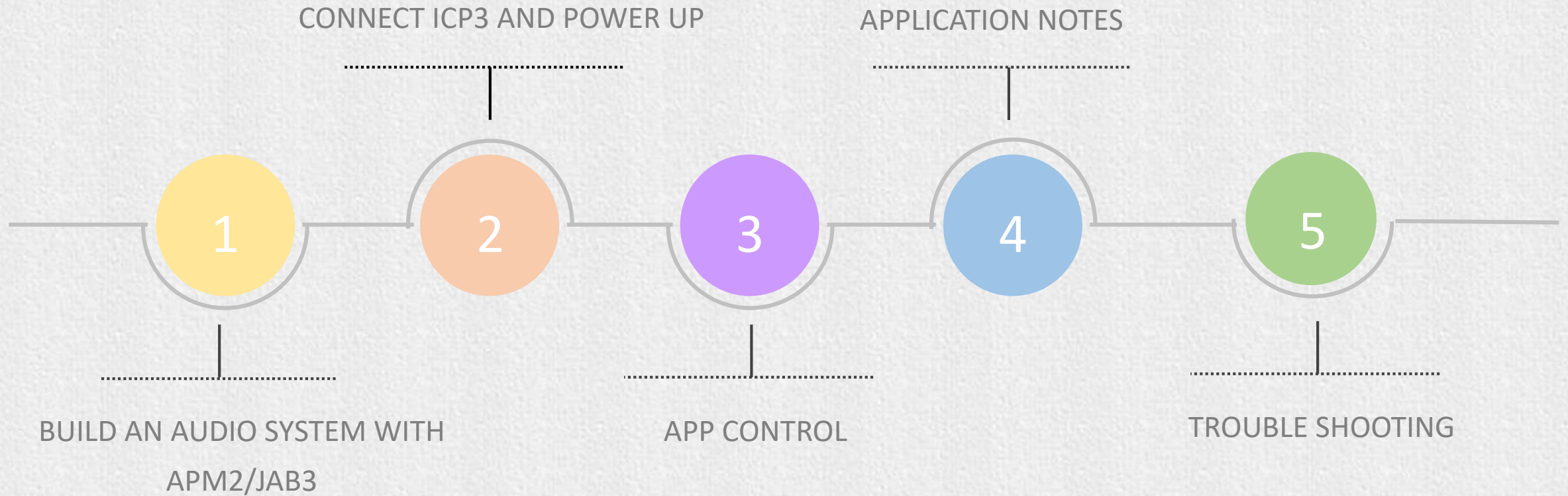
Product List

Model	SKU	Description	Basic Cables Included
ICP1	DB-DP11219	In-circuit Programmer for ADAU1701 Digital Signal	6Pin cable x 1
ICP3	DB-DP11224	WONDOM In-circuit Programmer with BLE Bluetooth for APP control	6Pin cable x 1
APM2	AA-AP23122	ADAU1701 Audio Digital Signal Processor Kernel Board	-
APM3	AA-AA11428	ADAU1701 Audio Digital Signal Processor Interface Extension Kit	10Pin cable x 1
JAB3-1100	AA-JA31181	1x 100 Watt Class D Audio Amplifier Board with Audio DSP - JAB3-1100	Power cable x 1 Speaker cable x 1 3.5mm AUX IN cable x 1
JAB3-160	AA-JA31211	1 x 60 Watt Class D Audio Amplifier Board with Audio DSP - JAB3-160	
JAB3-250	AA-JA32172	2 x 50 Watt Class D Audio Amplifier Board with Audio DSP - JAB3-250	
JAB3-230	AA-JA32473	2 x 30 Watt Class D Audio Amplifier Board with Audio DSP - JAB3-230	

Notes:

- Represents no basic cable

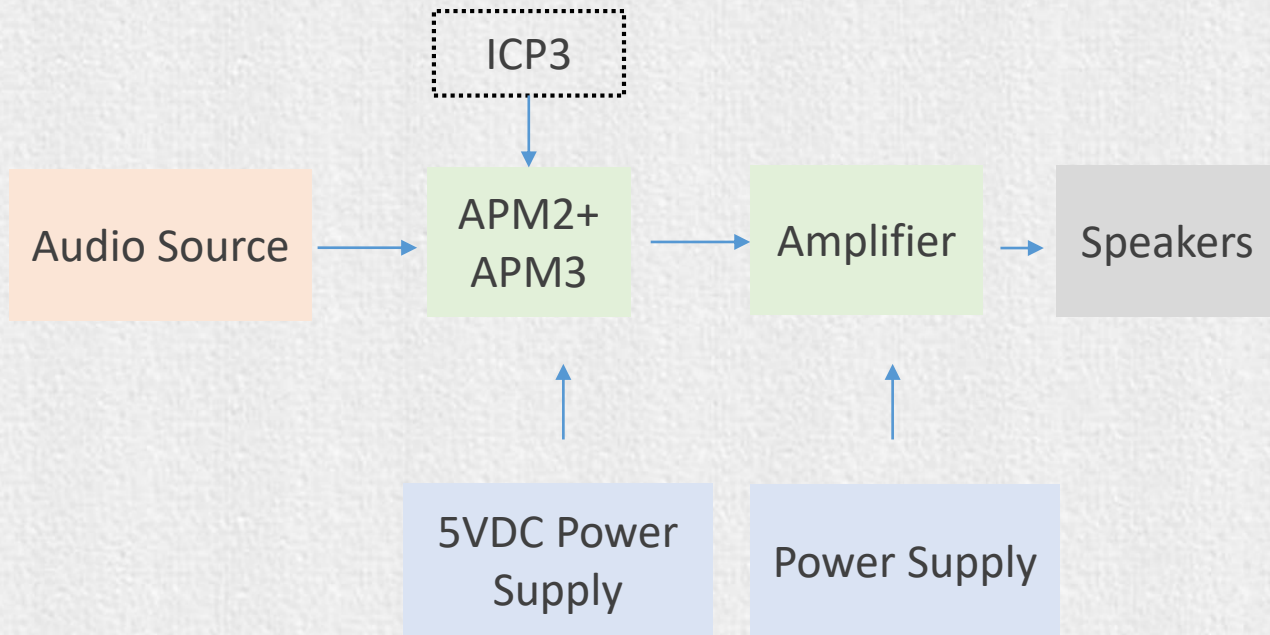
CONTENTS



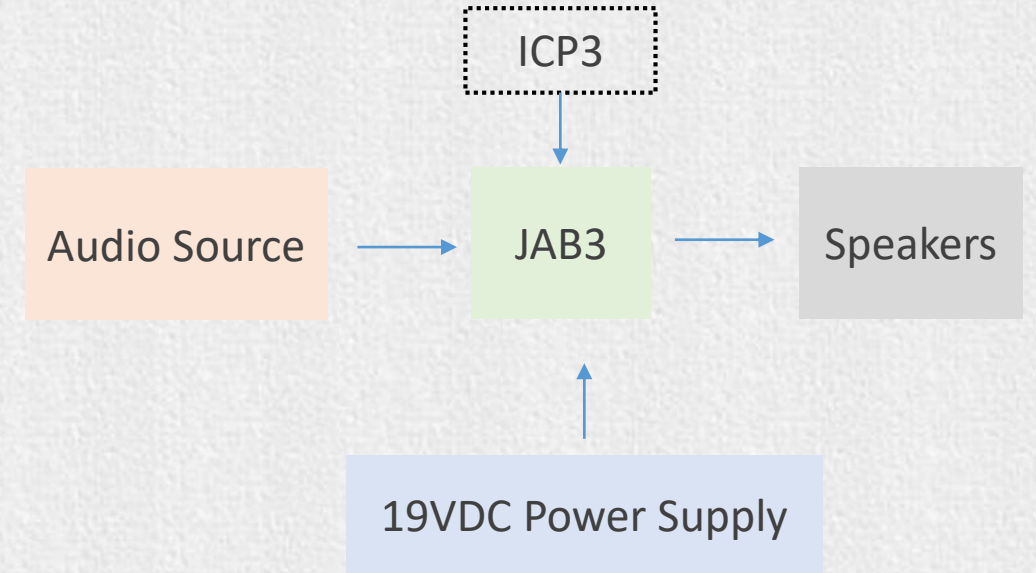
AUDIO SYSTEM

WONDOM provides two solution for DSP,

- APM2 + Extension Kit (APM3) + Amplifier
- JAB3, an audio amplifier with ADAU1701 integrated



Build an audio system with WONDOM APM2

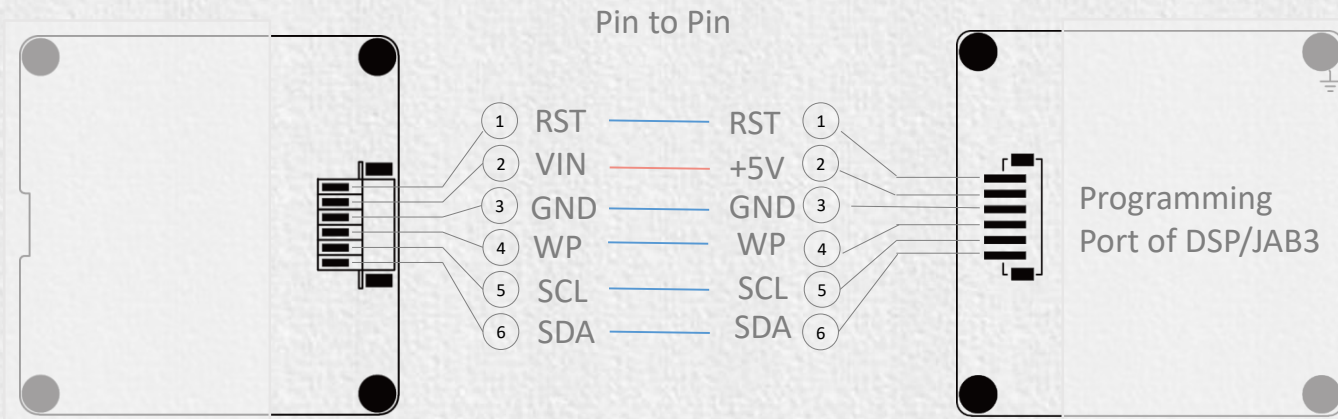


Build an audio system with WONDOM JAB3

Power up the audio system after connection is done.

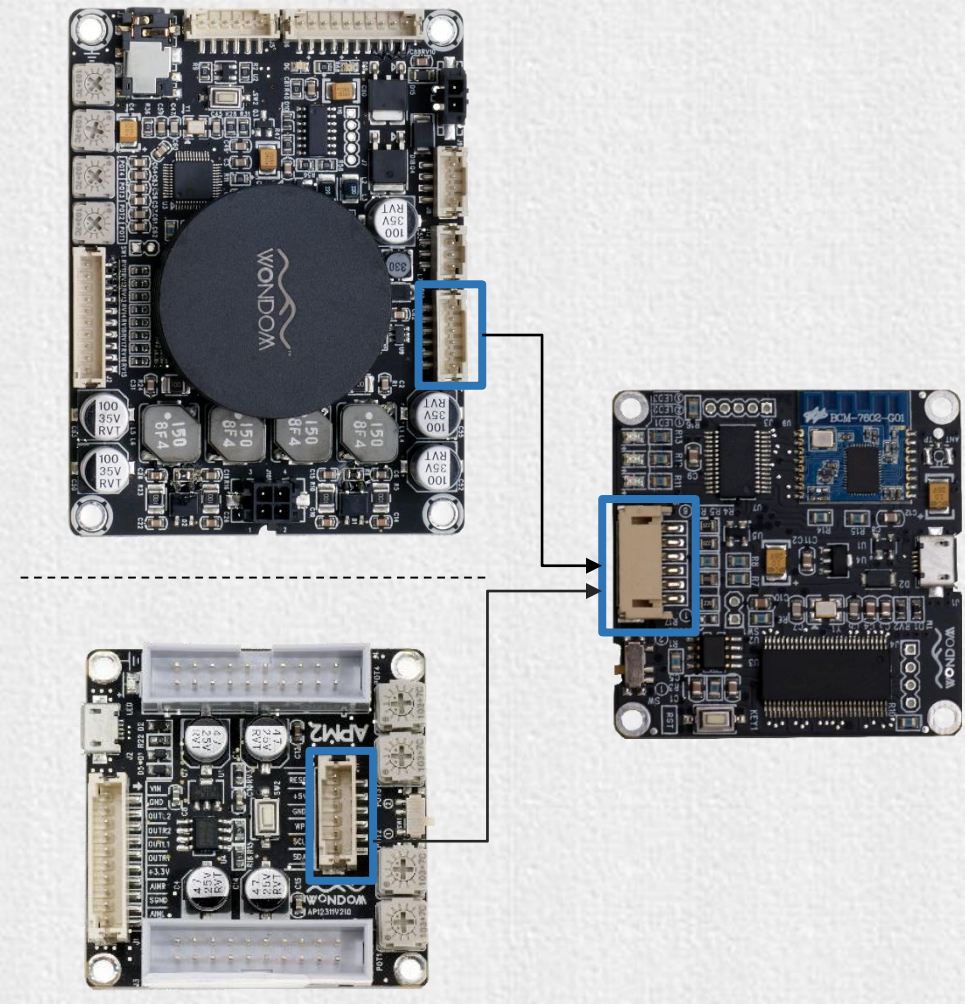
CONNECT ICP3

1. Connect ICP3 to the APM2/JAB3 through the programming port with a 6-pin cable.

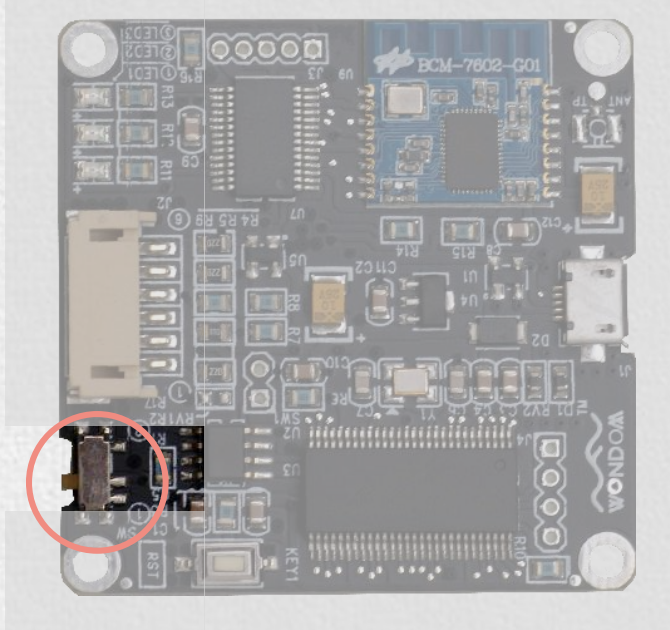


Note:

When ICP3 is connected to APM2/JAB3 pin to pin, it will be powered by APM2/JAB3 directly. No extra power supply is needed.

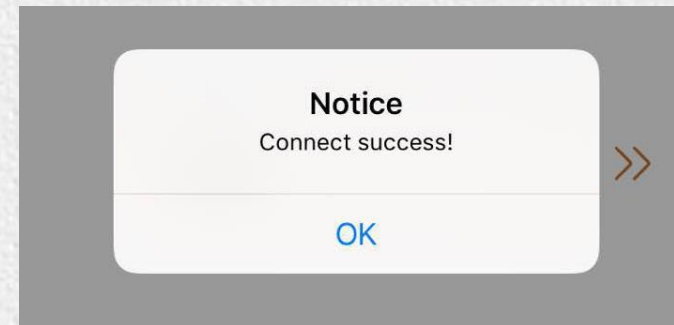


CONNECT ICP3



2. Set switch of ICP3 at ② 'REMOTE' before running 'Miumax' APP.
3. Make sure the Bluetooth of your device is on and click 'Miumax' APP and they will pair automatically within several seconds. When the connection succeeds, you can see the prompt box.
4. Click "OK" and choose your operation mode to start.

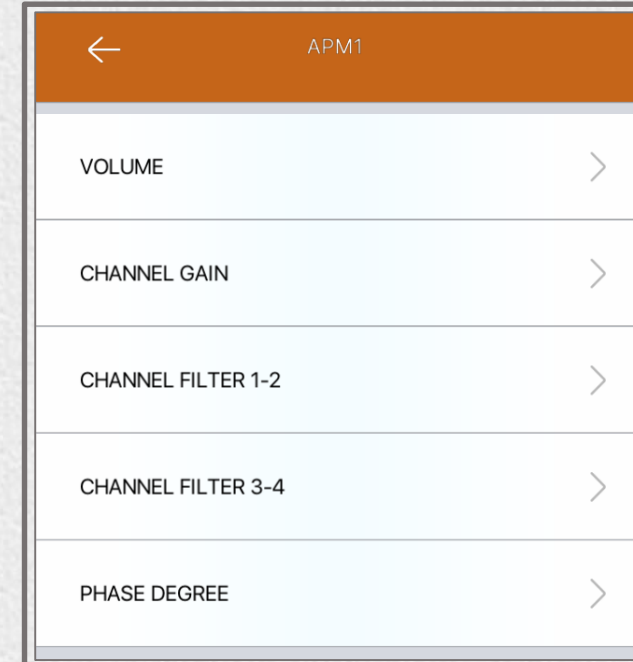
State of SW on ICP3	Function
①	PROGRAM
②	REMOTE



APP CONTROL



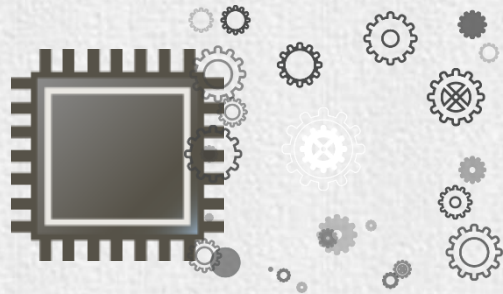
Play music and choose your device to start



Choose the corresponding items for adjustment

- ✓ VOLUME
- ✓ CHANNEL GAIN
- ✓ CHANNEL FILTER
- ✓ PHASE DEGREE
- ✓ EQ SET

Application Notes



Power-off Memory Function of ICP3

Power-off Memory Function is integrated in ICP3 for APP control, which means the last setting of your APP control will be saved in ICP3 and it will be employed automatically next time you use ICP3 for APP control.

Please be noticed that it only works with JAB3.



Switch to hardware control

When customers want to switch to hardware control (potentiometers on board) from APP control mode, please do as follows.

Disconnect ICP3 with APM2/JAB3

Press the Reset switch on APM2/JAB3

POINTS OF ATTENTION

1

Connection

Please make sure the Bluetooth of your device is on and the SW of ICP3 is set at ② REMOTE before clicking APP.

2

Adjustment

The adjustment through APP control is irreversible. Please pay attention to the limitation of your devices in case of permanent damage.

3

Control Switch

Setting of SW on ICP3

①	PROGRAM
②	REMOTE

Setting of SW1 on APM2

①	RUN
②	PROGRAM

Make sure the SW1 on APM2 is set at ①(RUN) when playing music.

When switching from APP control to potentiometer control, do not forget to press the reset switch on APM2/JAB3.

TROUBLE SHOOTING

The connection between ICP3 and APP is unsuccessful or the APP control malfunctions.



Firstly, check the following items.

1. Switch of ICP3 is set at ② (Remote)
2. Bluetooth of your device is on

If all settings are OK but there is still problem with connection, please try as follows.

1. Press the RST switch on ICP3
2. Restart the APP

When the ICP3 and the APP disconnect in use, a prompt box for reminding of reconnection appears. Press OK for reconnection and it will repair immediately.



The ICP3 and APP disconnect in use.