

Winmate Communication Inc.

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S2A User Guide

Version: 1.2

REVISION HISTORY

<i>REVISION</i>	<i>AUTHOR</i>	<i>DATE</i>	<i>DESCRIPTION</i>
V1.0	Raven Hsu	Nov,5, 2013	Initial draft
V1.1	Woody Huang	Dec,25,2013	Add on Scheme function.
V1.2	Woody Huang	Jan,29,2014	Add trouble shooting for PIP noise.

IMPORTANT SAFETY INSTRUCTIONS

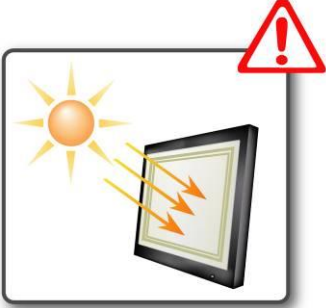

1. Please read these instructions carefully before using the product and save for later reference.
2. Follow all warnings and instructions marked on the product.
3. Unplug this product from the wall outlet before cleaning. Clean the product with a damp soft cloth. Do not use liquid or aerosol cleaners as it may cause permanent damage to the screen.
4. Do not use this product near water.
5. Do not place this product on an unstable cart, stand, or table.
The product may fall, causing serious damage to the product.
6. Slots and openings in the cabinet and the back or bottom are provided for ventilation; to ensure reliable operation of the product and to protect it from overheating, these openings must not be blocked or covered.
The openings should never be placed near or over a radiator or heat register, or in a built-in installation unless proper ventilation is provided.
7. This product should be operated from the type of power indicated on the marking label. If you are not sure of the type of power available, consult your dealer or local power company.
8. This product is equipped with a 3-wire grounding type plug, a plug having a third (grounding) pin. This plug will only fit into a grounding-type power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet.
Do not defeat the purpose of the grounding-type plug.
9. Do not allow anything to rest on the power cord. Do not locate this product where persons will walk on the cord.
10. If an extension cord is used with this product, make sure that the total of the ampere ratings on the products plugged into the extension cord does not exceed the extension cord ampere rating. Also make sure that the total of all products plugged into the wall outlet does not exceed 15 amps.
11. Never push objects of any kind into this product through cabinet slots as they may touch dangerous voltage points or short out parts that could result in a risk of fire or electric shock. Never spill liquid of any kind on the product.
12. Do not attempt to service this product yourself, as opening or removing covers may expose you to dangerous voltage points or other risks and will void the warranty. Refer all servicing to qualified service personnel.
13. Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:
 - When the power cord or plug is damaged or frayed.
 - If liquid has been spilled into the product.
 - If the product has been exposed to rain or water.
 - If the product does not operate normally when the operating instructions are followed. Adjust

only those controls that are covered by the operating instructions since improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to normal operation.

-If the product has been dropped or the cabinet has been damaged.

-If the product exhibits a distinct change in performance, indicating a need for service.

-If the option module is in installation (the module is still not plugged into the slot)

CAUTION		
Read manual prior to installing the product. The operation of products depends on you reading and following the information in this manual. Re-check your work prior to operating the product.		
EVENT	EFFECT	PREVENTION
	Sunlight shines directly will cause the panel damage.	You should avoid placing the product under direct sunlight.
	If the product is close to the wet ground such as grassplot, the moisture between panel and glass will make the product malfunction.	You should avoid placing the product in wet environment.

Contents

1. INTRODUCTION	4
1.1. <i>ABOUT THE PRODUCT</i>	4
1.2. <i>NOTICE</i>	4
1.3. <i>CHECK LIST</i>	4
2. REMOTE CONTROL	5
2.1. <i>INSTALL BATTERY IN THE REMOTE CONTROL</i>	5
2.2. <i>REMOTE CONTROL KEY DEFINITIONS</i>	5
3. INPUT SIGNALS OVERVIEW	6
3.1. <i>POWER & SIGNAL CONNECTIONS</i>	6
3.2. <i>OPTIONAL CABLE CONNECTIONS</i>	6
4. USING THE LCD MONITOR	7
4.1 <i>OSD KEY DEFINITION</i>	7
4.2 <i>OSD HOT KEYS (AUTO)</i>	8
4.3 <i>OSD MENU NAVIGATION</i>	8
5. CLEANING THE MONITOR	13
6. DISCLAIMER	13
7. TROUBLESHOOTING	13
APPENDIX A: SUPPORTED MODES	15
APPENDIX B: USING RS-232 COMMAND CODE TO SET SYSTEM (OPTIONAL)	16
APPENDIX C : USING RS-232 COMMAND CODE TO CHECK SYSTEM STATUS (OPTIONAL)	17

1. Introduction

1.1. About the Product

This product is a high quality TFT LCD panel control Board. S2A is designed for large size and high resolution panel; It is designed to meet the demanding performance requirements of today's business and industrial applications.

1.2. Notice

- a. Do not touch the LCD panel surface with sharp or hard objects.
- b. Do not use abrasive cleaners, waxes or solvents for cleaning, use only a dry or damp, soft cloth.
- c. Use only with a high quality, safety-approved, AC/DC power adapter.

1.3. Check List

Before using this monitor, please make sure that all the items listed below are present in your package

1. VGA cable	x1
2. AC to DC adapter	x1
3. Power cord	x1
4. User manual	x1
5. DVI cable	x1
6. 3.5mm Audio cable	x1
7. HDMI cable (optional)	x1
8. Display Port cable (optional)	x1
9. Remote controller	x1

If any items are missing or damaged, please contact your dealer immediately.

2. Remote Control

2.1. Install Battery in the Remote Control

Insert two AAA Alkaline batteries and match the (+) and (-) on battery to the marks inside the battery compartment.

Service life of battery:

1. The battery normally last for about one year although this depends on how often and for what operations the remote control is used.
2. If the remote control unit fails to work even then it's operated near the player, please replace the battery.

2.2. Remote Control Key Definitions

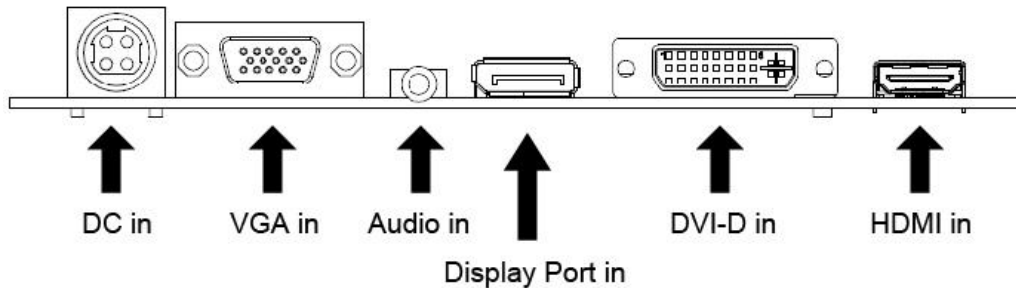


Key	Function	Description
	Power	Power on/off
AUTO	Auto	Auto Adjust
SOURCE	Source	Switch input source
MENU	Menu	Display OSD menu
+ / -	Volume	Adjust volume
PIP	PIP	Perform PIP mode
EXIT	Exit	Return to the previous menu level
RESET	Reset	Factory reset
SCALING	Scaling	Change the scaling mode to 1:1, Fill or aspect
A-COLOR	Auto-color	perform Auto-Color Balance
MUTE	Mute	Mute
	Select	Navigating to Up/Down/Left/Right
ENTER	Enter	Execute

3. Input Signals Overview

The default input signal is VGA for the main display and DVI for PIP display. The LCD output can be configured to use any of the available input formats (VGA, DVI, HDMI, and Display Port).

S2A Monitor Connectors



3.1. Power & Signal Connections

3.1.1. Power:

Switch off the power on both your monitor and your computer.

The Power Switch is located at the rightmost button of the keypad.

3.1.2. Power cable connection:

Connect the power cord to the AC outlet, and connect the power to the monitor through the AC/DC adapter.

3.1.3. VGA cable connection:

Plug 15-pin VGA signal cable to the VGA connector in the rear of PC system, and plug the other end to the monitor.

Secure cable connectors with screws.

3.1.4. DVI cable connection:

Plug DVI signal cable to the DVI connector in the rear of PC system, and plug the other end to the monitor.

Secure cable connectors with screws.

3.2. Optional Cable Connections

The LCD monitor is designed to work with a variety of compatible video sources. Due to the possible deviations between these signal sources, you may have to make adjustments to the monitor settings from the OSD menu when switching between these sources.

3.2.1. HDMI / Display Port cable connection

Plug the HDMI / Display Port signal cable to your PC or other devices, and plug the other end to the monitor.

3.2.2 RS232 cable connection (Optional):

You will be able to develop your own application software utilizing the built-in RS232 command code. The application software can send command from PC to LCD monitor via RS232 port to control LCD monitor. Please refer to Appendix B for built-in RS232 command code.

4. Using the LCD Monitor

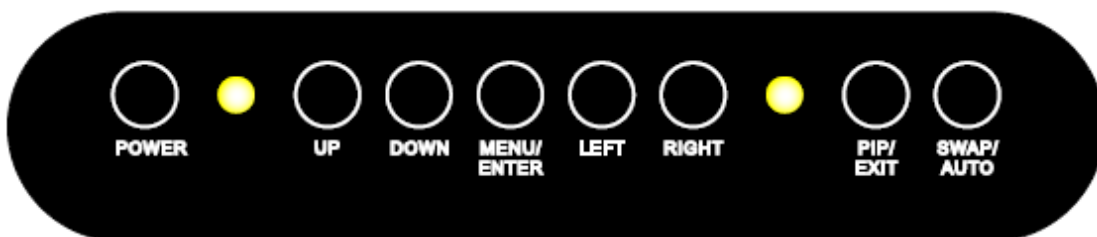
4.1 OSD Key Definition

There are two types OSD keypad for S2A board, the type of OSD is according to the housing of the LCD monitor. Type B is standard OSD keypad for kit.

Type A.



Type B



a. POWER

Initiates power-up sequence from low power mode or enters low power mode from normal operation.

b. AUTO

Perform Auto Adjustment

c. **Esc (EXIT)**

- i. When OSD is enabled, it returns to the previous menu level or closes the OSD.

d. **OK/MENU (ENTER)**

- i. When OSD is disabled, it displays the OSD Main Menu.
- ii. When OSD is enabled, it confirms a selection.

e. **LEFT** ◀

Moves left in the menu or bar

f. **RIGHT** ▶

Moves right in the menu or bar

g. **UP** ▲

- i. Selects the previous item in the Menu.

h. **DOWN** ▼

- i. Selects the next item in the Menu.

4.2 OSD Hot Keys (Auto)


Function	Hot Key
Main source	Press “▶” to select the main source
Volume	Press “◀” to the volume bar, and press “◀” “▶” to adjust the volume
Auto adjustment	Press “AUTO” to perform auto adjustment

4.3 OSD Menu Navigation


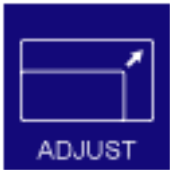


OSD menu


4.3.1 Display

OSD icon	Sub menu	Settings	Note
	BRIGHTNESS	slider bar	
	Adjusts the overall image and background brightness. Press “◀” Or “▶” to adjust.		
	CONTRAST	slider bar	
	Adjusts the image brightness in relationship to the background. Press “◀” Or “▶” to adjust.		
	SHARPNESS	slider bar	
	Adjusts the crispness of the image. Press “◀” Or “▶” to adjust.		
	ADC BRIGHTNESS *VGA CHANNEL ONLY	slider bar	
	Adjusts the ADC brightness. Press “◀” Or “▶” to adjust.		
	COLOR TEMPERATUREI	USER/6500K/9300K	
	Adjusts the color temperature of the entire screen. A low color temperature will make the screen reddish. A high color temperature will make the screen bluish.		
	COLOR CONTROL	R slider bar	
		G slider bar	
		B slider bar	
		Y slider bar	
		M slider bar	
		C slider bar	
	Adjusts the levels of the Red, Green, Blue, Yellow, magenta, cyan. Press “◀” Or “▶” to adjust.		
	GAMMA SELECTION	@NATIVE	
		@1.8	
		@2.2	
Select a display gamma value for best picture quality.			
SCHEME	USER		
	GAME		
	SPORT		
	VIVID		
	CINEMA		
Select scheme for different default setting combination.			
DISPLAY RESET	YES/NO		
Resets the following settings within the DISPLAY menu back to factory setting:			


4.3.2 Adjust

	AUTO SETUP *VGA CHANNEL ONLY	PRESS YES TO AUTO SETUP	
	Automatically adjusts screen size, H position, V position, Clock, Clock Phase		
	AUTO ADJUSTMENT *VGA CHANNEL ONLY	ON/OFF	
	H Position, V Position and Clock Phase are adjusted automatically upon power on.		
	H POSITION *VGA CHANNEL ONLY	slider bar	
	Controls the horizontal position of the image within the Display area of the LCD. Press + to move right. Press - to move left.		
	V POSITION *VGA CHANNEL ONLY	slider bar	
	Controls the vertical position of the image within the Display area of the LCD. Press + to move up. Press - to move down.		
	CLOCK *VGA CHANNEL ONLY	slider bar	
	Press + to expand the width of the image on the right of the screen. Press - to narrow the width of the image on the left.		
	PHASE *VGA CHANNEL ONLY	slider bar	
	Adjusts the visual "noise" on the image.		
	WHITE BALANCE *VGA CHANNEL ONLY	YES/OFF	
	Perform the white balance		
	SCALING	@ ASPECT	
		@ OFF	
		@ FULL	
Adjust the image scaling setting			
	ADJUST RESET	YES/NO	
Resets the following settings within the ADJUST menu back to factory setting:			

4.3.3 Audio

	VOLUME	slider bar	
	Audio Input	slider bar	
	MUTE	ON/OFF	
	AUDIO RESET	YES/NO	
	Resets "AUDIO" settings back to factory settings.		

4.3.4 PIP (Picture in picture)

	PIP SOURCE	VGA	
		DVI	
		HDMI	
		DP	
	PIP MODE	@OFF	
		@LARGE PIP	
		@SMALL PIP	
		@SIDE BY SIDE ASPECT	
		@SIDE BY SIDE FULL	
	Selects the size of the sub-picture used in Picture-in-Picture (PIP) mode.		
	PIP POSITION	slider bar	
		slider bar	
Determines where the PIP appears on the screen.			
PIP RESET	YES/NO		
Resets the following settings within the PIP menu back to factory setting			

*PIP mode selection guide


X : not support V : support mode

Main \ Sub	HDMI	Display Port	VGA	DVI
HDMI	X	V	V	X
Display Port	V	X	V	V
VGA	V	V	X	V
DVI	X	V	V	X

4.3.5 OSD settings

	OSD TURN OFF	slider bar	
	Turns off the OSD after a period of inactivity. The preset choices are 0-60 seconds.		
	OSD POSITION	H - slider bar	
		V - slider bar	
	Determines the location where the OSD appears on the screen.		
	OSD TRANSPARENCY	@OFF	
		@TYPE1	
		@TYPE2	
	set the transparency level of OSD		
	OSD Rotated	@OFF	
		@90	
		@270	
	Set to rotate the OSD menu		
	MONITOR INFORMATION	Version	
		Panel Resolution	
Main Resolution			
PIP Resolution			
Show BIOS version & resolution info.			
OSD RESET	YES/NO		
Resets the following settings within the OSD menu back to factory setting			

4.3.6 Advanced settings

	CHANNEL SELECT	VGA	
		DVI	
		HDMI	
		DP	
	Select the input signal source		
	FLIP	@OFF	
		@H-FLIP	
		@V-FLIP	
		@HV-FLIP	
	Adjust the flip settings		
	BRIGHTNESS MIN	Slide bar	
	ADVANCED RESET	YES/NO	
	Resets the following settings within the ADVANCED menu back to factory setting		
	FACTORY RESET	YES/NO	
	Resets OSD options back to factory settings EXCEPT FOR: CHANGE SECURITY PASSWORD and SECURITY PASSWORD.		

5. Cleaning the Monitor

1. Make sure the monitor is turned off.
2. Never spray or pour any liquid directly on the screen or case.
3. Wipe the screen with a clean, soft, lint-free cloth. This removes dust and other particles.
4. The display area is highly prone to scratching. Do not use ketone type material (ex. Acetone), Ethyl alcohol, toluene, ethyl acid or Methyl chloride to clear the panel. It may permanently damage the panel and void the warranty.
5. If it is still not clean enough, apply a small amount of non-ammonia, non-alcohol based glass cleaner onto a clean, soft, lint-free cloth, and wipe the screen.
6. Don't use water or oil directly on the monitor. If droplets are allowed to drop on the monitor permanent staining or discoloration may occur.

6. Disclaimer

We do not recommend using any ammonia or alcohol-based cleaners on the monitor screen or case. Some chemical cleaners have been reported to damage the screen and/or case of the monitor. Seller will not be liable for damage resulting from the use of any ammonia or alcohol-based cleaner.

7. Troubleshooting

If your monitor fails to operate correctly, consult the following chart for possible solution before calling for repairs:

Condition	Check Point
1. The picture does not appear	<ul style="list-style-type: none">● Check if the signal cable is firmly seated in the socket.● Check if the Power is ON at the computer● Check if the brightness control is at the appropriate position, not at the minimum.
2. The screen is not synchronized	<ul style="list-style-type: none">● Check if the signal cable is firmly seated in the socket.● Check if the output level matches the input level of your computer.● Make sure the signal timings of the computer system are within the specification of the monitor.● If your computer was working with a CRT monitor, you should check the current signal timing and turn off your computer before you connect the VGA Cable to this monitor.

3. The position of the screen is not in the center	<ul style="list-style-type: none"> ● Adjust the H-position, and V-position, or Perform the Auto adjustment.
4. The screen is too bright (too dark).	<ul style="list-style-type: none"> ● Check if the brightness or contrast control is at the appropriate position, not at the Maximum (Minimum).
5. The screen is shaking or waving	<ul style="list-style-type: none"> ● Perform the Auto adjustment.. ● Moving all objects which emit a magnetic field such as motor or transformer, away from the monitor. ● Check if the specific voltage is applied. ● Check if the signal timing of the computer system is within the specification of monitor.
6. VGA signal got noise when using PIP function	<ul style="list-style-type: none"> ● Change PIP mode again.

If you are unable to correct the fault by using this chart, stop using your monitor and contact your distributor or dealer for further assistance.

Appendix A: Supported Modes (Depend on the monitor native resolution)

D-Sub / DVI

No.	Resolution	Frequency (Hz)	Note		No.	Resolution	Frequency (Hz)	Note
1	640x350	70	IBM		21	1024x768	85	VESA
2	640x350	85	VESA		22	1280x768	60	
3	640x400	56			23	1280x960	60	VESA
4	640x400	70	IBM		24	1280x960	85	VESA
7	640x480	75	VESA		25	1280x1024	60	VESA
8	640x480	80	VESA		26	1280x1024	60	HP
9	720x350	70	IBM		27	1280x1024	67	IBM
10	720x400	70	IBM		28	1280x1024	70	NCD
11	720x400	85	VESA		29	1280x1024	72	HP
12	800x600	56	VESA		30	1280x1024	75	VESA
13	800x600	60	VESA		31	1280x1024	85	VESA
14	800x600	72	VESA		32	1600x1200	60	VESA
15	800x600	75	VESA		33	1920x1200	60	CVT RB
16	800x600	85	VESA		34	1366x768	60	VESA
17	1024x768	60	VESA		35	1920x1080	60	VESA
18	1024x768	70	VESA		36	2560x1440 (DVI dual link only)	60	VESA
19	1024x768	72	IBM		37	2560x1600 (DVI dual link only)	60	VESA
20	1024x768	75	VESA					

Display Port

HDMI

No.	Resolution	No.	Resolution
1	480i	1	480i
2	480P	2	480P
3	576i	3	576i
4	576P	4	576P
5	720P	5	720P
6	1080i	6	1080i
7	1080P	7	1080P
8	1440P	8	1440P
9	1600P	9	1600P

Appendix B: Using RS-232 Command Code to set system (Optional)

Name	Length	Value	Comment
Message	variable		
Checksum	1	2's complement of sum of Length and Message	<pre>byte chksum = 0; for (i = 0; i < buffer_size; ++i) chksum += buf[i]; chksum = ~chksum + 1;</pre>

RS232 setting:

Baud Rate = 115200, Data Bits=8, Parity = None, Stop Bits=1

Function	Length	Command	ID	index	Value	checksum
Auto	0x05	0x40		0x01		
Recall	0x05	0x40		0x02		
WhiteBalance	0x05	0x40		0x03		
Main Input Source	0x05	0x40		0x04	0=VGA, 1=DVI, 2=CVBS, 3=S-Video 4=Component, 7=HDMI	
Pip Input Source	0x05	0x40		0x05	0=VGA, 1=DVI, 2=CVBS, 3=S-Video 4=Component, 7=HDMI	
Brightness	0x05	0x40		0x10	0x00-0x64	
Contrast	0x05	0x40		0x11	0x00-0x64	
InterBright	0x05	0x40		0x14	0x00-0x64	
PIP	0x05	0x40		0x20	0=Off,1=PIP, 2=PoP, 3=side by side aspect, 4=side by side full	
PIP Size	0x05	0x40		0x21	1=Small,2=Middle,3=Large	
Scaling	0x05	0x40		0x22	0=Off, 1=COSTOM, 2=Aspect	
Camma	0x05	0x40		0x31	0=Off,1=1.8,2=2.2	
Color Temp	0x05	0x40		0x32	0=user,1=6500K,2=9300K	
Color-R	0x05	0x40		0x33	0x00-0x64	
Color-G	0x05	0x40		0x34	0x00-0x64	
Color-B	0x05	0x40		0x35	0x00-0x64	
Volume	0x05	0x40		0x50	0x00-0x1F	
Balance	0x05	0x40		0x51	0x00-0x64	
Hue	0x05	0x40		0x12	0x00-0x64	
Saturation	0x05	0x40		0x13	0x00-0x64	
Treble	0x05	0x40		0x52	0x00-0x14	

Bass	0x05	0x40		0x53	0x00-0x14	
Mute	0x05	0x40		0x54	0=Mute On,1=Mute OFF	

Reply Value :

ACK	3	C	F1	Transmission PASS
NSP	3	D	F0	Transmission FAILED
NCK	3	B	F2	Not support

Format : Length, Command, ID, index, Value, Checksum

Example : 0x06, 0x40, ID, 0x00, 0x01, Checksum => Power Off system.

Appendix C : Using RS-232 Command Code to check system status (optional)

Name	Length	Value	Comment
Message	variable		
Checksum	1	2's complement of sum of Length and Message	byte chksum = 0; for (l = 0; l < buffer_size; ++l) chksum += buff[l]; chksum = ~chksum + 1;

Command(Tx)						Acknowledgement(Rx)				
function	Length	Command	ID	index	checksum	Length	ID	index	Value	checksum
Main Input Source	0x04	0x30		0x04		0x04		0x04	0=VGA, 1=DVI, 2=CVBS, 3=S-Video 4=Component, 7=HDMI	
Pip Input Source	0x04	0x30		0x05		0x04		0x05	0=VGA, 1=DVI, 2=CVBS, 3=S-Video 4=Component, 7=HDMI	
Brightness	0x04	0x30		0x10		0x04		0x10	0x00-0x64	
Contrast	0x04	0x30		0x11		0x04		0x11	0x00-0x64	
InterBright	0x04	0x30		0x14		0x04		0x14	0x00-0x64	
PIP	0x04	0x30		0x20		0x04		0x20	0=Off,1=PIP, 2=PoP, 3=side by side aspect, 4=side by side full	
PIP Size	0x04	0x30		0x21		0x04		0x21	1=Small,2=Middle,3=Large	
Scaling	0x04	0x30		0x22		0x04		0x22	0=1:1,1=FILL,2=Aspect	

Camma	0x04	0x30		0x31		0x04		0x31	0=Off,1=1.8,2=2.2	
Color Temp	0x04	0x30		0x32		0x04		0x32	0=user,1=6500K,2=9300K	
Color-R	0x04	0x30		0x33		0x04		0x33	0x00-0x64	
Color-G	0x04	0x30		0x34		0x04		0x34	0x00-0x64	
Color-B	0x04	0x30		0x35		0x04		0x35	0x00-0x64	

Volume	0x04	0x30		0x50		0x04	0x50	0x00-0x1F	
Balance	0x04	0x30		0x51		0x04	0x51	0x00-0x64	
Hue	0x04	0x30		0x12		0x04	0x30	0x00-0x64	
Saturation	0x04	0x30		0x13		0x04	0x30	0x00-0x64	
Treble	0x04	0x30		0x52		0x04	0x52	0x00-0x14	
Bass	0x04	0x30		0x53		0x04	0x53	0x00-0x14	
Mute	0x04	0x30		0x54		0x04	0x54	0=Mute On,1=Mute OFF	

Reply Value :

ACK	3	C	F1	Transmission PASS
NSP	3	D	F0	Transmission FAILED
NCK	3	B	F2	Not support

Format : Length, Command, ID, index, Checksum / Length, ID, Index, Value, Checksum

