



## **Application Note**

**Series:**

**ProLite TFxx39MSC-B1AG**

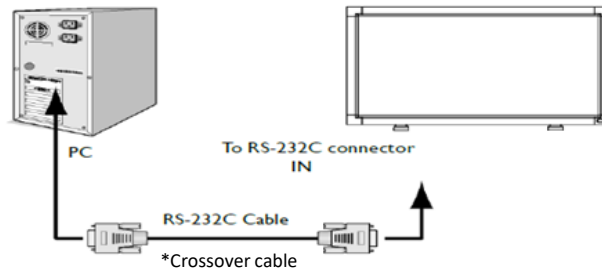
# **RS232 SERIAL INTERFACE COMMUNICATION PROTOCOL**

Version: 22.12.2021

NOTE: The commands provided in this document are a standard set. Functionality is guaranteed only of the commands/functions which are also available in the OSD Menu of the display. Functionality of commands listed in this document but not available in the OSD Menu cannot be guaranteed.

## Purpose

The purpose of this document is to explain in detail the commands and steps that can be used to control an Iiyama TFxx39 display via RS232C.



## Physical Setting & Connectivity

.Connecting profile

1. Baud Rate : 9600
2. Data bits: 8
3. Parity : None
4. Stop Bit : 1
5. Flow Control : None
6. RS-232 Crossover Cable

.Pin Define

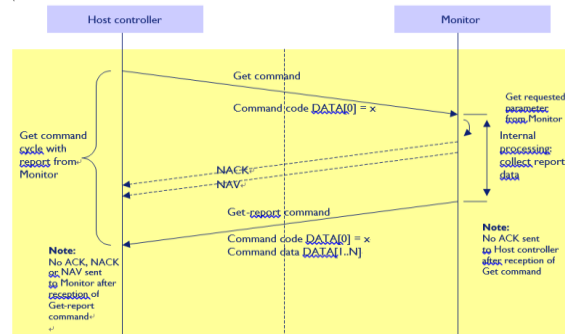
Pin #	Signal	Remark
1	NC	
2	RXD	Input to LCD Monitor
3	TXD	Output from LCD Monitor
4	NC	
5	GND	
6	NC	
7	NC	
8	NC	
9	NC	
frame	GND	

.Pin Assignments

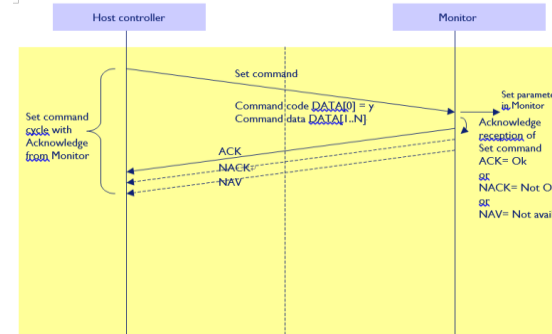


## Flow Ex.

Get



Set



**1. Command Format**

BYTE	Calculation CheckSum										
	1	2	3	4	5	6	7	8	...	44	9/.../45
Function	Header	Monitor ID	Category	Code 0	Code1	Length	Data Control	Data (Body)			Checksum
Hex	0xA6	1~255	0x00 (fixed)	0x00 (fixed)	0x00 (fixed)	N+3	0x01 (fixed)	Data[0] ~ Data[N]			Last Byte
N = 0 to 36.											

Byte	Name	Description	Remark
Byte 2	Monitor ID	Monitor ID Range : 1 ~ 255 Signal mode: Display Address range from 1 to 255 Broadcast mode: Display Address is 0 which indicates no ACK or Report is expected.	
Last Byte	Checksum	Range = 0 to 255 (0xFF). Algorithm: The EXCLUSIVE-OR (XOR) of all bytes in the message except the checksum itself. Checksum = [Header] XOR [Monitor ID] XOR ... DATA[0] ... XOR DATA[N]	

**2. Response**

**ACK, NACK or NAV.**

BYTE	1	2	3	4	5	6	7	8	9
Function	Header	Monitor ID	Category	Code 0	Length	Data Control	Command	Status	Checksum
Hex	0x21	1~255	0x00	0x00	0x04	0x01	0x00	Status	xx

- 0x00: Completed (Normal response.)
- 0x01: Limit Over (The packets was received normally, but the data value was over the upper limit.)
- 0x02: Limit Over (The packets was received normally, but the data value was over the lower limit.)
- 0x03: Command canceled The packet is received normally but either the value of data is incorrect or request is not permitted for the current host value.
- 0x04: Parse Error Received not defined format data or check sum Error.

**With data Report**

BYTE	1	2	3	4	5	6	7	...	N	N+1
Function	Header	Monitor ID	Category	Code 0	Length	Data Control	Data [0]~[36]			Checksum
Hex	0x21	1~255	0x00	0x00	xx	0x01	xx	...	xx	Last Byte

Type	Command Data[0]	Message	Note	Send command (Hex)	Receive command (Hex)	Description For Send	Description For Feedback	OK/NG (Hex)	Remark
Set	0x01	All Reset		A6 01 00 00 03 01 01 A4	Control seting default t to LAN so no reply	DATA[0] : Cmd code 0x01	DATA[0] : 0x00 DATA[1] : Status	OK	
Set	0x02	Sound Reset		A6 01 00 00 03 01 02 A7	21 01 00 00 04 01 00 00 25	DATA[0] : Cmd code 0x02	DATA[0] : 0x00 DATA[1] : Status	OK	
Set	0x03	Picture Reset		A6 01 00 00 03 01 03 A6	21 01 00 00 04 01 00 00 25	DATA[0] : Cmd code 0x03	DATA[0] : 0x00 DATA[1] : Status	OK	
Get	0x0F	Operation Time		A6 01 00 00 04 01 0F 02 AF	21 01 00 00 05 01 0F XX XX XX	DATA[0]: Cmd code 0x0F DATA[1]:0x02, represent operation hours	DATA[1] to DATA[2] Operating Hours. DATA[1] and DATA[2] form the MSByte and LSByte, respectively, of the 16-bit-wide Operational Hours value.	OK: 21 01 00 00 05 01 0F 00 1e 35	
Get	0x15	Serial Code		A6 01 00 00 03 01 15 B0	21 01 00 00 16 01 XX XX ... XX XX	DATA[0]: Cmd code 0x15 If the number of serial code is less than 14, PD will be filled 0x20 to the rest returned digits.	DATA[1]:1st Character Character acc. ASCII character map (HEX) DATA[2]:2nd Character Character acc. ASCII character map (HEX) DATA[3]:3rd Character Character acc. ASCII character map (HEX) DATA[4]:14th Character Character acc. ASCII character map (HEX)	OK: ex: 21 01 00 00 11 01 15 53 4e 31 31 35 37 30 30 30 30 31 0a 06	
Set	0x18	Power State		A6 01 00 00 04 01 18 XX XX	21 01 00 00 04 01 00 00 25 (Send command success )	DATA[0] : Cmd code 0x18 DATA[1] meaning: 0x01 = Power Off 0x02 = On		OK: OFF: A6 01 00 00 04 01 18 01 B8 (OK) ON: A6 01 00 00 04 01 18 02 B8 (OK)	
Get	0x19			A6 01 00 00 03 01 19 BC	21 01 00 00 04 01 19 02 3E (Power state is ON) 21 01 00 00 04 01 19 03 3D (Power state os OFF)	DATA[0]: Cmd code 0x19	DATA[0]: Cmd code 0x19 DATA[1]:Power State 0x01 = Power Off 0x02 = On	OK: Get Power off states must after use RS232 set power off, system will into fake power off mode. Normal power key off, will become real power off mode, don't support get power off states.	
Set	0x1A	KeyPad Lock Status		A6 01 00 00 04 01 1A XX XX	21 01 00 00 04 01 00 00 25 (Send command success )	DATA[0]: Cmd code 0x1A DATA[1] meaning: 0x01 = Unlock all 0x02 = Lock all 0x03 = Lock all but Power 0x04 = Lock all but Volume 0x07 = Lock all except Power & Volume	DATA[0]: Cmd code 0x1A	Please See QA sheet, We only support below command. (no volume) Unlock all: A6 01 00 00 04 01 1A 01 B9 Lock all: A6 01 00 00 04 01 1A 02 BA Lock Power: A6 01 00 00 04 01 1A 03 BB Lock Button: A6 01 00 00 04 01 1A 04 BC	
Get	0x1B			A6 01 00 00 03 01 1B BE	21 01 00 00 04 01 1B XX XX	DATA[0]: Cmd code 0x1B DATA[1] meaning: 0x01 = Unlock all 0x02 = Lock all 0x03 = Lock all but Power 0x04 = Lock all but Volume 0x07 = Lock all except Power & Volume	DATA[0]: Cmd code 0x1B	We only support below reply. (no volume) Unlock all: 21 01 00 00 04 01 1b 01 3f Lock all: 21 01 00 00 04 01 1b 02 3c Lock Power: 21 01 00 00 04 01 1b 03 3d Lock Button: 21 01 00 00 04 01 1b 04 3a	
Set	0x1C	IR Lock Status	Not support						
Get	0x1D								
Set	0x30	Auto Search		OFF: A6 01 00 00 00 04 01 30 00 92 ON: A6 01 00 00 00 04 01 30 01 93	21 01 00 00 04 01 00 00 25	DATA[0] : Cmd code 0x30 DATA[1] meaning: 0x00 = Auto Search Off 0x01 = Auto Search On	DATA[0] : 0x00 DATA[1] : Status	OK	
Get	0x31			A6 01 00 00 00 03 01 31 94	21 01 00 00 04 01 31 00 14 (OFF) 21 01 00 00 04 01 31 01 15 (ON)	DATA[0] : Cmd code 0x31	DATA[0] : Cmd code 0x31 DATA[1] meaning: 0x00 = Auto Search Off 0x01 = Auto Search On	OK	
Set	0x32	Video Parameters		A6 01 00 00 04 01 32 XX XX XX XX XX XX XX	21 01 00 00 04 01 00 00 25(Send command success )	DATA[0]: Cmd code 0x32 DATA[1]:Brightness, 0 to 100 (%) of the user selected DATA[2]:Color, 0 to 100 (%) of the user selected DATA[3]:Contrast, 0 to 100 (%) of the user selected DATA[4]:Sharpness, 0 to 100 (%) of the user selected DATA[5]:Tint (Hue), 0 to 100 (%) of the user selected DATA[6]:Black Level, 0 to 100 (%) of the user selected DATA[7]:Gamma Selection: 0x01= Native, 0x02 = 5 gamma, 0x03 = 2.2, 0x04 = 2.4, 0x05 = D-Image(DICOM gamma)	DATA[0]: Cmd code 0x32	OK: Please See QA sheet, the range have some different. (Sharpness 0-63)	
Get	0x33			A6 01 00 00 03 01 33 96	21 01 00 00 04 01 33 XX XX XX XX XX XX XX	DATA[0]: Cmd code 0x33 DATA[1]:Brightness, 0 to 100 (%) of the user selected DATA[2]:Color, 0 to 100 (%) of the user selected DATA[3]:Contrast, 0 to 100 (%) of the user selected DATA[4]:Sharpness, 0 to 100 (%) of the user selected DATA[5]:Tint (Hue), 0 to 100 (%) of the user selected DATA[6]:Black Level, 0 to 100 (%) of the user selected DATA[7]:Gamma Selection: 0x01= Native, 0x02 = 5 gamma, 0x03 = 2.2, 0x04 = 2.4, 0x05 = D-Image(DICOM gamma)	DATA[0]: Cmd code 0x33	OK: Please See QA sheet, the range have some different. (Sharpness 0-63)	
Set	0x34	Color Temperature		A6 01 00 00 04 01 34 XX XX	21 01 00 00 04 01 00 00 25(Send command success )	DATA[0]: Cmd code 0x34 DATA[1] meaning: 0x00 = User 1 0x01 = Native 0x02 = 11000K(Not applicable) 0x03 = 10000K 0x04 = 9300K 0x05 = 7500K 0x06 = 6500K 0x07 = 5770K (Not applicable) 0x08 = 5500K(Not applicable) 0x09 = 5000K 0x0A = 4000K 0x0B = 3400K (Not applicable) 0x0C = 3350K (Not applicable) 0x0D = 3000K 0x0E = 2800K (Not applicable) 0x0F = 2600K (Not applicable) 0x10 = 1850K (Not applicable) 0x12 = User 2	DATA[0]: Cmd code 0x34	Please See QA sheet, DATA[1] description is changed. 0x00 = Cool: A6 01 00 00 04 01 34 00 96 0x01 = Neutral: A6 01 00 00 04 01 34 01 97 0x02 = Warm: A6 01 00 00 04 01 34 02 94 0x03 = Custom: A6 01 00 00 04 01 34 03 95	

Get	0x35			A6 01 00 00 00 03 01 35 90	21 01 00 00 04 01 35 XX XX	DATA[0]: Cmd code 0x35 DATA[1] meaning: 0x00 = User 1 0x01 = Native 0x02 = 11000K(Not applicable) 0x03 = 10000K 0x04 = 9300K 0x05 = 7500K 0x06 = 6500K 0x07 = 5700K (Not applicable) 0x08 = 5500K(Not applicable) 0x09 = 5000K 0x0A = 4000K 0x0B = 3400K (Not applicable) 0x0C = 3350K (Not applicable) 0x0D = 3000K 0x0E = 2800K (Not applicable) 0x0F = 2600K (Not applicable) 0x10 = 1850K (Not applicable) 0x12 = User 2	DATA[0]: Cmd code 0x35 DATA[1] meaning: 0x00 = User 1 0x01 = Native 0x02 = 11000K(Not applicable) 0x03 = 10000K 0x04 = 9300K 0x05 = 7500K 0x06 = 6500K 0x07 = 5700K (Not applicable) 0x08 = 5500K(Not applicable) 0x09 = 5000K 0x0A = 4000K 0x0B = 3400K (Not applicable) 0x0C = 3350K (Not applicable) 0x0D = 3000K 0x0E = 2800K (Not applicable) 0x0F = 2600K (Not applicable) 0x10 = 1850K (Not applicable) 0x12 = User 2	Please See QA sheet, DATA[1] description is changed. Cool: 21 01 00 00 04 01 35 00 10 Neutral: 21 01 00 00 04 01 35 01 11 Warm: 21 01 00 00 04 01 35 02 12 Custom: 21 01 00 00 04 01 35 03 13
Set	0x36	Color Gain, Offset		A6 01 00 00 00 09 01 36 XX XX XX XX XX XX	21 01 00 00 04 01 00 00 25 (Send command success)	DATA[0]: Cmd code 0x36 DATA[1]:Red color gain value, 0 to 255(%) of the user selected DATA[2]:Green color gain value 0 to 255 (%) of the user selected DATA[3]:Blue color gain value 0 to 255(%) of the user selected DATA[4]:Red color offset value, 0 to 255(%) of the user selected DATA[5]:Green color offset value, 0 to 255(%) of the user selected DATA[6]:Blue color offset value, 0 to 255 (%) of the user selected	DATA[0]: Cmd code 0x36 DATA[1]:Red color gain value, 0 to 255(%) of the user selected DATA[2]:Green color gain value 0 to 255 (%) of the user selected DATA[3]:Blue color gain value 0 to 255(%) of the user selected DATA[4]:Red color offset value, 0 to 255(%) of the user selected DATA[5]:Green color offset value, 0 to 255(%) of the user selected DATA[6]:Blue color offset value, 0 to 255 (%) of the user selected	OK; ex: A6 01 00 00 00 09 01 36 50 32 45 00 00 00 BE
Get	0x37			A6 01 00 00 00 03 01 37 84	21 01 00 00 09 01 37 XX XX XX 00 00 XX	DATA[0]: Cmd code 0x37 DATA[1]:Red color gain value, 0 to 255(%) of the user selected DATA[2]:Green color gain value 0 to 255 (%) of the user selected DATA[3]:Blue color gain value 0 to 255(%) of the user selected DATA[4]:Red color offset value, Reply 0. DATA[5]:Green color offset value, Reply 0. DATA[6]:Blue color offset value, Reply 0.	DATA[0]: Cmd code 0x37 DATA[1]:Red color gain value, 0 to 255(%) of the user selected DATA[2]:Green color gain value 0 to 255 (%) of the user selected DATA[3]:Blue color gain value 0 to 255(%) of the user selected DATA[4]:Red color offset value, Reply 0. DATA[5]:Green color offset value, Reply 0. DATA[6]:Blue color offset value, Reply 0.	Checksum different! Send command (Hex): A6 01 00 00 00 03 01 37 92 Reply: 21 01 00 00 09 01 37 50 32 45 00 00 00 38
Set	0x38	Backlight	0~100	A6 01 00 00 00 04 01 38 XX XX ex: A6 01 00 00 00 04 01 38 50 CA	21 01 00 00 04 01 00 00 25	DATA[0]: Cmd code 0x38 DATA[1]: Backlight Range value 0~100	DATA[0]: 0x00 DATA[1]: status	OK
Get	0x39			A6 01 00 00 00 03 01 39 9C	ex: 21 01 00 00 04 01 39 50 4c	DATA[0]: Cmd code 0x39 DATA[1]: Backlight Range value 0~100	DATA[0]: Cmd code 0x39 DATA[1]: Backlight Range value 0~100	OK
Set	0x3A	Picture Format		A6 01 00 00 00 04 01 3A XX XX	21 01 00 00 04 01 00 00 25(Send command success)	DATA[0]: Cmd code 0x3A DATA[1] meaning: Bit 7, 4: not used Bit 3, 0: 0x00 = Normal (4:3) 0x01 = Custom 0x02 = Real (1:1) 0x03 = Full 0x04 = 21:9 0x05 = Dynamic (DSXX6QBK not support) 0x06 = 16:9	DATA[0]: Cmd code 0x3A DATA[1] meaning: Bit 7, 4: not used Bit 3, 0: 0x00 = Normal (4:3) 0x01 = Custom 0x02 = Real (1:1) 0x03 = Full 0x04 = 21:9 0x05 = Dynamic (DSXX6QBK not support) 0x06 = 16:9	Please See QA sheet, DATA[1] description is changed. 0x00 = Normal: A6 01 00 00 00 04 01 3A 00 98 0x01 = 16:10: A6 01 00 00 00 04 01 3A 01 99 0x02 = 5:4: A6 01 00 00 00 04 01 3A 02 9A 0x03 = 4:3: A6 01 00 00 00 04 01 3A 03 9B 0x04 = real: A6 01 00 00 00 04 01 3A 04 9C
Get	0x3B			A6 01 00 00 00 03 01 3B 9E	21 01 00 00 04 01 3B XX XX	DATA[0]: Cmd code 0x3B DATA[1] meaning: Bit 7, 4: not used Bit 3, 0: 0x00 = Normal (4:3) 0x01 = Custom 0x02 = Real (1:1) 0x03 = Full 0x04 = 21:9 0x05 = Dynamic (DSXX6QBK not support) 0x06 = 16:9	DATA[0]: Cmd code 0x3B DATA[1] meaning: Bit 7, 4: not used Bit 3, 0: 0x00 = Normal (4:3) 0x01 = Custom 0x02 = Real (1:1) 0x03 = Full 0x04 = 21:9 0x05 = Dynamic (DSXX6QBK not support) 0x06 = 16:9	Please See QA sheet, DATA[1] description is changed. Normal: 21 01 00 00 04 01 3b 00 1e 16:10: 21 01 00 00 04 01 3b 01 1f 5:4: 21 01 00 00 04 01 3b 02 1c 4:3: 21 01 00 00 04 01 3b 03 1d real: 21 01 00 00 04 01 3b 04 1e
Set	0x3C	Picture Mode	0x00: Standard 0x01: Vivid 0x02: Cinema 0x03: Custom	A6 01 00 00 00 04 01 3C 00 9E A6 01 00 00 00 04 01 3C 01 9F A6 01 00 00 00 04 01 3C 02 9C A6 01 00 00 00 04 01 3C 03 9D	21 01 00 00 04 01 00 00 25	DATA[0]: Cmd code 0x3C DATA[1] meaning: 0x00: Standard 0x01: Vivid 0x02: Cinema 0x03: Custom	DATA[0]: 0x00 DATA[1]: Status	OK
Get	0x3D			A6 01 00 00 00 03 01 3D 98	21 01 00 00 04 01 3d 00 18 21 01 00 00 04 01 3d 01 19 21 01 00 00 04 01 3d 02 1a 21 01 00 00 04 01 3d 03 1b	DATA[0]: Cmd code 0x3D DATA[1] meaning: 0x00: Standard 0x01: Vivid 0x02: Cinema 0x03: Custom	DATA[0]: Cmd code 0x3D DATA[1] meaning: 0x00: Standard 0x01: Vivid 0x02: Cinema 0x03: Custom	OK
Set	0x3E	Adaptive Contrast	0x00: Off 0x01: On	A6 01 00 00 00 04 01 3E 00 9C A6 01 00 00 00 04 01 3E 01 9D	21 01 00 00 04 01 00 00 25	DATA[0]: Cmd code 0x3E DATA[1] meaning: 0x00 = Off 0x01 = On	DATA[0]: 0x00 DATA[1]: Status	OK
Get	0x3F			A6 01 00 00 00 03 01 3F 9A	21 01 00 00 04 01 3f 00 1a 21 01 00 00 04 01 3f 01 1b	DATA[0]: Cmd code 0x3F DATA[1] meaning: 0x00 = Off 0x01 = On	DATA[0]: Cmd code 0x3F DATA[1] meaning: 0x00 = Off 0x01 = On	OK
Set	0x40	Audio Source	0x00: AUTO 0x01: Audio In 0x02: HDMI1 0x03: HDMI2 0x04: DisplayPort	A6 01 00 00 00 04 01 40 00 E2 A6 01 00 00 00 04 01 40 01 E3 A6 01 00 00 00 04 01 40 02 E0 A6 01 00 00 00 04 01 40 03 E1 A6 01 00 00 00 04 01 40 04 E6	21 01 00 00 04 01 00 00 25	DATA[0]: Cmd code 0x40 DATA[1] meaning: 0x00: AUTO 0x01: Audio In 0x02: HDMI1 0x03: HDMI2 0x04: DisplayPort	DATA[0]: 0x00 DATA[1]: Status	OK
Get	0x41			A6 01 00 00 00 03 01 41 E4	21 01 00 00 04 01 41 00 64 21 01 00 00 04 01 41 01 65 21 01 00 00 04 01 41 02 66 21 01 00 00 04 01 41 03 67	DATA[0]: Cmd code 0x41 DATA[1] meaning: 0x00: AUTO 0x01: Audio In 0x02: HDMI1 0x03: HDMI2 0x04: DisplayPort	DATA[0]: Cmd code 0x41 DATA[1] meaning: 0x00: AUTO 0x01: Audio In 0x02: HDMI1 0x03: HDMI2 0x04: DisplayPort	OK
Set	0x42	Audio Parameters	Add Balance: 0~66 (OSD: -33~+33)	A6 01 00 00 00 05 01 42 XX XX XX	21 01 00 00 04 01 00 00 25(Send command success)	DATA[0]: Cmd code 0x42 DATA[1]: Treble.0 to 10 of the user selected DATA[2]: Bass.0 to 10 of the user selected	DATA[0]: Cmd code 0x42 DATA[1]: Treble.0 to 10 of the user selected DATA[2]: Bass.0 to 10 of the user selected	We add DATA[3] for Balance. Please see Audio Parameters sheet. ex: A6 01 00 00 00 05 01 42 05 05 21 C3
Get	0x43			A6 01 00 00 00 03 01 43 E6	21 01 00 00 05 01 43 XX XX XX	DATA[0]: Cmd code 0x43 DATA[1]: Treble.0 to 10 of the user selected DATA[2]: Bass.0 to 10 of the user selected	DATA[0]: Cmd code 0x43 DATA[1]: Treble.0 to 10 of the user selected DATA[2]: Bass.0 to 10 of the user selected	We add DATA[3] for Balance. Please see Audio Parameters sheet. Reply: 21 01 00 00 06 01 43 05 05 21 45

Set	0x44			A6 01 00 00 05 01 44 XX XX XX	21 01 00 00 04 01 00 00 25(Send command success )	DATA[0]: Cmd code 0x44 DATA[1]:Volume, 0 to 100%(% of the user selected DATA[2]:Audio out Volume level,0 to 100%(% of the user selected	DATA[0]: Cmd code 0x44 OK: ex: A6 01 00 00 05 01 44 32 00 D5
Get	0x45	Volume		A6 01 00 00 03 01 45 E0	21 01 00 00 05 01 45 XX XX XX	DATA[0]: Cmd code 0x45 DATA[1]:Volume, 0 to 100%(% of the user selected DATA[2]:Audio out Volume level,0 to 100%(% of the user selected	OK: 21 01 00 00 05 01 45 32 00 53
Set	0x46	Volume Up	volume+	A6 01 00 00 03 01 46 E3	21 01 00 00 04 01 00 00 25	DATA[0]: Cmd code 0x46 DATA[1]: Status	OK
Set	0x47	Volume Down	volume-	A6 01 00 00 03 01 47 E2	21 01 00 00 04 01 00 00 25	DATA[0]: Cmd code 0x47 DATA[1]: Status	OK
Set	0x48			OFF: A6 01 00 00 04 01 48 00 EA ON: A6 01 00 00 04 01 48 01 EB	21 01 00 00 04 01 00 00 25	DATA[0]: Cmd code 0x48 DATA[1] meaning: 0x00 = Off 0x01 = On	OK
Get	0x49	Mute	0x00: Off 0x01: On	A6 01 00 00 03 01 49 EC	21 01 00 00 04 01 49 00 6c (OFF) 21 01 00 00 04 01 49 01 6d (ON)	DATA[0]: Cmd code 0x49 DATA[1] meaning: 0x00 = Off 0x01 = On	OK
Set	0x50			Internal: A6 01 00 00 04 01 50 00 F2 Lineout: A6 01 00 00 04 01 50 01 F3	21 01 00 00 04 01 00 00 25	DATA[0]: Cmd code 0x50 DATA[1] meaning: 0x00: Internal 0x01: Lineout	OK
Get	0x51	Speaker	0x00: Internal 0x01: Lineout	A6 01 00 00 03 01 51 F4	21 01 00 00 04 01 51 00 74 (Internal) 21 01 00 00 04 01 51 01 75 (Lineout)	DATA[0]: Cmd code 0x51 DATA[1] meaning: 0x00: Internal 0x01: Lineout	OK
Set	0x5A			A6 01 00 00 00 0B 01 5A XX XX XX XX XX XX XX XX	21 01 00 00 04 01 00 00 25(Send command success )	DATA[0]: Cmd code 0x5A DATA[1]:page, 0 (disable) / 1 DATA[2]:start time hour, 0~23. DATA[3]:start time minute,0~59. DATA[4]:End time hour, 0~23. DATA[5]:End time minute, 0~59. DATA[6]:Video source, refer to right side. DATA[7]:Working days(s), refer to right side. DATA[8]:Bookmark/playlist/File tag(s), 0x00 = none 0x01 = Tag 1 0x02 = Tag 2 0x03 = Tag 3 0x04 = Tag 4 0x05 = Tag 5 0x06 = Tag 6 0x07 = Tag 7	DATA[0]: Cmd code 0x5A OK: Our source only VGA, HDMI1 - 2, IP and Default item.  <b>About DATA[6] Video Source, Schedule OSD Input option have Default item. Does we need to add Default index as below?</b> <b>0x001/1/1 Ilyam?</b> <b>We need to add only below items for this model.</b> 0x00 = VGA 0x01 = HDMI 2 0x04 = Display Port 0x00 = HDMI
Get	0x5B	Scheduling		A6 01 00 00 00 04 01 5B XX XX	21 01 00 00 0B 01 5B XX XX XX XX XX XX XX XX	DATA[0]: Cmd code 0x5B DATA[1]:page, 0 (disable) / 1 DATA[2]:start time hour, 0~23. DATA[3]:start time minute,0~59. DATA[4]:End time hour, 0~23. DATA[5]:End time minute, 0~59. DATA[6]:Video source, refer to right side. DATA[7]:Working days(s), refer to right side. DATA[8]:Bookmark/playlist/File tag(s), 0x00 = none 0x01 = Tag 1 0x02 = Tag 2 0x03 = Tag 3 0x04 = Tag 4 0x05 = Tag 5 0x06 = Tag 6 0x07 = Tag 7	OK About DATA[6] Video Source, Schedule OSD Input option have Default item. Does we need to add Default index?
Set	0x5C			OFF: A6 01 00 00 04 01 5C 00 FE ON: A6 01 00 00 04 01 5C 01 FF	21 01 00 00 04 01 00 00 25	DATA[0]: Cmd code 0x5C DATA[1] meaning: 0x00 = Off 0x01 = On	OK
Get	0x5D	Clock Display	0x00: Off 0x01: On	A6 01 00 00 03 01 5D F8	21 01 00 00 04 01 5d 00 78 21 01 00 00 04 01 5d 01 79	DATA[0]: Cmd code 0x5D DATA[1] meaning: 0x00 = Off 0x01 = On	OK
Set	0x70	Auto Adjust		A6 01 00 00 05 01 70 40 00 93	21 01 00 00 04 01 00 00 25(Send command success )	DATA[0]: Cmd code 0x70 DATA[1]:0x00 = Auto Adjust (* All other values are reserved *) DATA[2]: ( reserved, default 0 )	OK
Set	0x71			A6 01 00 00 04 01 71 xx xx ex: A6 01 00 00 04 01 71 50 83	21 01 00 00 04 01 00 00 25	DATA[0]: Cmd code 0x71 DATA[1]: 0~100 (000 - 99~50)	OK
Get	0x72	VGA Clock frequency	0~100 (OSD: -50~+50)	A6 01 00 00 03 01 72 D7	21 01 00 00 04 01 72 xx xx ex:21 01 00 00 04 01 72 50 07	DATA[0]: Cmd code 0x72 DATA[1]: 0~100	OK
Set	0x73			A6 01 00 00 04 01 73 xx xx ex: A6 01 00 00 04 01 73 32 E3	21 01 00 00 04 01 00 00 25	DATA[0]: Cmd code 0x73 DATA[1]: 0~63	OK
Get	0x74	VGA Phase	0~63	A6 01 00 00 03 01 74 D1	21 01 00 00 04 01 74 xx xx ex:21 01 00 00 04 01 74 32 63	DATA[0]: Cmd code 0x74 DATA[1]: 0~63	OK
Set	0x75			A6 01 00 00 04 01 75 xx xx ex: A6 01 00 00 04 01 75 45 92	21 01 00 00 04 01 00 00 25	DATA[0]: Cmd code 0x75 DATA[1]: 0~100	OK
Get	0x76	VGA H.Position	0~100	A6 01 00 00 03 01 76 D3	21 01 00 00 04 01 76 xx xx ex:21 01 00 00 04 01 76 45 16	DATA[0]: Cmd code 0x76 DATA[1]: 0~100	OK
Set	0x77			A6 01 00 00 04 01 77 xx xx ex: A6 01 00 00 04 01 77 30 E5	21 01 00 00 04 01 00 00 25	DATA[0]: Cmd code 0x77 DATA[1]: 0~100	OK
Get	0x78	VGA V.Position	0~100	A6 01 00 00 03 01 78 DD	21 01 00 00 04 01 78 xx xx ex:21 01 00 00 04 01 78 30 6d	DATA[0]: Cmd code 0x78 DATA[1]: 0~100	OK
Get	0xA1	Model Number, FW Version, Build date		A6 01 00 00 04 01 A1 XX XX	A6 01 00 00 XX 01 A1 XX XX .....XX	DATA[0]: Cmd code 0xA1 DATA[1] to DATA[N] Character[0] to Character[N-1] DATA[1] meaning: 0x00 = Model Number 0x01 = FW version 0x02 = Build Date 28 (0x24) characters maximum. No. of characters: N = 1 to 36 (0x24). The actual size determines the value of the message size byte.	OK: But we not support Build date. Model Number: A6 01 00 00 04 01 A1 00 03 Reply: 21 01 00 00 0a 01 a1 50 4c 33 32 33 39 20 bd FW version: A6 01 00 00 04 01 A1 01 02 Reply: 21 01 00 00 0a 01 a1 30 2e 30 32 2e 30 32 ba
Get	0xA2	Platform and Version Labels					
Set	0xA3	Power state at cold start	Not support				
Get	0xA4						
Set	0xAC			A6 01 00 00 07 01 AC XX 00 00 00 XX	21 01 00 00 04 01 00 00 25(Send command success )	DATA[0]: Cmd code 0xAC DATA[1]: refer to right side DATA[2]: Reserved, value is 0 DATA[3]: Reserved, value is 0 DATA[4]: Reserved, value is 0	OK: Our source only VGA, HDMI1/2 and DP. VGA: A6 01 00 00 07 01 AC 06 00 00 00 08 HDMI 2: A6 01 00 00 07 01 AC 06 00 00 00 0B DP: A6 01 00 00 07 01 AC 0A 00 00 00 07 HDMI 1: A6 01 00 00 07 01 AC 0D 00 00 00 00

For video source:  
0x00 = NONE  
0x01 = VIDEO  
0x02 = SVIDEO  
0x03 = COMPOSITE  
0x04 = CVI 2 (not applicable)  
0x05 = VGA  
0x06 = HDMI 2  
0x07 = Display Port  
0x08 = HDMI 1  
0x09 = HDMI 2  
0x0A = Display Port  
0x0B = Customer Define  
0x0C = HDMI  
0x0D = VIDEO  
0x0E = HDMI  
0x0F = HDMI  
0x10 = SVIDEO  
0x11 = COMPOSITE  
0x12 = DVI (Digital Media Server)  
0x13 = INTERNAL STORAGE  
0x14 = Reserved  
0x15 = Media Player  
0x16 = Customer Define

For working days:  
0x00 = Every week  
0x01 = Monday  
0x02 = Tuesday  
0x03 = Wednesday  
0x04 = Thursday  
0x05 = Friday  
0x06 = Saturday  
0x07 = Sunday

DATA[1] meaning:  
0x00 = VIDEO  
0x01 = SVIDEO  
0x02 = COMPOSITE  
0x03 = CVI 2 (not applicable)  
0x04 = VGA  
0x05 = HDMI 2  
0x06 = Display Port  
0x07 = Customer Define  
0x08 = Reserved

Get	0xAD	Input Source		A6 01 00 00 03 01 AD 08	21 01 00 00 07 01 AD XX 00 01 00 XX	DATA[0]: Cmd code 0xAD DATA[1]: refer to right side DATA[2]: Reserved, value is 0 DATA[3]: Reserved, value is 1 DATA[4]: Reserved, value is 0	DATA[0]: Cmd code 0xAC DATA[1]: Language: 0x00 = ENGLISH 0x01 = GERMAN 0x02 = SIMPLIFIED_CHINESE 0x03 = FRENCH 0x04 = ITALIAN 0x05 = SPANISH 0x06 = RUSSIAN 0x07 = POLSKI 0x08 = TURKISH 0x09 = TRADITIONAL_CHINESE 0x0A = JAPANESE 0x0B = PORTUGUESE 0x0C = ARABIC 0x0D = DANISH 0x0E = SWEDISH 0x0F = FINNISH 0x10 = NORWEGIAN 0x11 = DUTCH	OK	DATA[0] meaning: 0x03 = VIDEO 0x04 = S-VIDEO 0x05 = COMPONENT 0x06 = DVI (not applicable) 0x07 = VGA 0x08 = HDMI 0x09 = HDMI 2 0x0A = Display Port 2 0x0B = USB 2 0x0C = Case DVI D 0x0D = Display Port 1 0x0E = Case DVI 0x0F = USB 3 0x10 = HDMI 0x11 = HDMI 2 0x12 = BROWSE 0x13 = MANUFACTURE 0x14 = DMS (Digital Media Server) 0x15 = INTERNAL STORAGE 0x16 = Reserved 0x17 = Reserved 0x18 = Media Player 0x19 = PDF Player 0x1A = Custom 0x1B = HDMI 4
Get	0xB1	Pixel Shift	Not support						
Set	0xB2	Pixel Shift	Not support						
Set	0xB8	Volume Limits	Not support						
Get	0xC0	Language		A6 01 00 00 03 01 C0 65	21 01 00 00 04 01 C0 XX XX	DATA[0]: Cmd code 0xC0 DATA[1]: Language: 0x00 = ENGLISH 0x01 = GERMAN 0x02 = SIMPLIFIED_CHINESE 0x03 = FRENCH 0x04 = ITALIAN 0x05 = SPANISH 0x06 = RUSSIAN 0x07 = POLSKI 0x08 = TURKISH 0x09 = TRADITIONAL_CHINESE 0x0A = JAPANESE 0x0B = PORTUGUESE 0x0C = ARABIC 0x0D = DANISH 0x0E = SWEDISH 0x0F = FINNISH 0x10 = NORWEGIAN 0x11 = DUTCH	OK ex: 21 01 00 00 04 01 c0 00 e5		
Set	0xC1	Language		A6 01 00 00 04 01 C1 XX XX	21 01 00 00 04 01 00 00 25(Send command success )	DATA[0]: Cmd code 0xC1 DATA[1]: Language: 0x00 = ENGLISH 0x01 = GERMAN 0x02 = SIMPLIFIED_CHINESE 0x03 = FRENCH 0x04 = ITALIAN 0x05 = SPANISH 0x06 = RUSSIAN 0x07 = POLSKI 0x08 = TURKISH 0x09 = TRADITIONAL_CHINESE 0x0A = JAPANESE 0x0B = PORTUGUESE 0x0C = ARABIC 0x0D = DANISH 0x0E = SWEDISH 0x0F = FINNISH 0x10 = NORWEGIAN 0x11 = DUTCH	OK ENGLISH: A6 01 00 00 04 01 C1 00 63 GERMAN: A6 01 00 00 04 01 C1 01 62 FRENCH: A6 01 00 00 04 01 C1 03 60 ITALIAN: A6 01 00 00 04 01 C1 04 67 SPANISH: A6 01 00 00 04 01 C1 05 66 RUSSIAN: A6 01 00 00 04 01 C1 06 65 POLSK: A6 01 00 00 04 01 C1 07 64 DUTCH: A6 01 00 00 04 01 C1 11 72		
Set	0xC2	Image Retention(White Wash)	0x00: Off 0x01: 15 min 0x02: 30 min	OFF: A6 01 00 00 04 01 C2 00 60 15min: A6 01 00 00 04 01 C2 01 61 30min: A6 01 00 00 04 01 C2 02 62	21 01 00 00 04 01 00 00 25	DATA[0]: Cmd code 0xC2 DATA[1] meaning: 0x00: Off 0x01: 15 min 0x02: 30 min	DATA[0]: 0x00 DATA[1]: Status	OK	
Get	0xC3	Image Retention(White Wash)		A6 01 00 00 03 01 C3 66	21 01 00 00 04 01 c3 00 e6 21 01 00 00 04 01 c3 01 e7 21 01 00 00 04 01 c3 02 e4	DATA[0]: Cmd code 0xC3 DATA[1] meaning: 0x00: Off 0x01: 15 min 0x02: 30 min	DATA[0]: Cmd code 0xC3 DATA[1] meaning: 0x00: Off 0x01: 15 min 0x02: 30 min	OK	
Set	0xC4	Image Retention(Dot Wash)	0x00: Off 0x01: On	OFF: A6 01 00 00 04 01 C4 00 66 ON: A6 01 00 00 04 01 C4 01 67	21 01 00 00 04 01 00 00 25	DATA[0]: Cmd code 0xC4 DATA[1] meaning: 0x00: Off 0x01: On	DATA[0]: 0x00 DATA[1]: Status	OK	
Get	0xC5	Image Retention(Dot Wash)		A6 01 00 00 03 01 C5 60	21 01 00 00 04 01 c5 00 e0 21 01 00 00 04 01 c5 01 e1	DATA[0]: Cmd code 0xC5 DATA[1] meaning: 0x00: Off 0x01: On	DATA[0]: Cmd code 0xC5 DATA[1] meaning: 0x00: Off 0x01: On	OK	
Set	0xC6	Power Save	0x00: Off 0x01: Low 0x02: High	OFF: A6 01 00 00 04 01 C6 00 64 Low: A6 01 00 00 04 01 C6 01 65 High: A6 01 00 00 04 01 C6 02 66	21 01 00 00 04 01 00 00 25	DATA[0]: Cmd code 0xC6 DATA[1] meaning: 0x00: Off 0x01: Low 0x02: High	DATA[0]: 0x00 DATA[1]: Status	OK	
Get	0xC7	Power Save		A6 01 00 00 03 01 C7 62	21 01 00 00 04 01 c7 01 e3 21 01 00 00 04 01 c7 01 e3	DATA[0]: Cmd code 0xC7 DATA[1] meaning: 0x00: Off 0x01: Low	DATA[0]: Cmd code 0xC7 DATA[1] meaning: 0x00: Off 0x01: Low	OK	
Set	0xD0	DisplayPort Version	0x00: 1.1 0x01: 1.2	DP 1.1: A6 01 00 00 04 01 D0 00 72 DP 1.2: A6 01 00 00 04 01 D0 01 73	21 01 00 00 04 01 00 00 25	DATA[0]: Cmd code 0xD0 DATA[1] meaning: 0x00: DP1.1 0x01: DP1.2	DATA[0]: 0x00 DATA[1]: Status	OK	
Get	0xD1	DisplayPort Version		A6 01 00 00 03 01 D1 74	21 01 00 00 04 01 d1 00 f4 21 01 00 00 04 01 d1 01 f5	DATA[0]: Cmd code 0xD1 DATA[1] meaning: 0x00: DP1.1 0x01: DP1.2	DATA[0]: Cmd code 0xD1 DATA[1] meaning: 0x00: DP1.1 0x01: DP1.2	OK	
Set	0xD2	Touch Feature	0x00: Off 0x01: On	OFF: A6 01 00 00 04 01 D2 00 70 ON: A6 01 00 00 04 01 D2 01 71	21 01 00 00 04 01 00 00 25	DATA[0]: Cmd code 0xD2 DATA[1] meaning: 0x00: Off 0x01: On	DATA[0]: 0x00 DATA[1]: Status	OK	
Get	0xD3	Touch Feature		A6 01 00 00 03 01 D3 76	21 01 00 00 04 01 d3 00 f6 21 01 00 00 04 01 d3 01 f7	DATA[0]: Cmd code 0xD3 DATA[1] meaning: 0x00: Off 0x01: On	DATA[0]: Cmd code 0xD3 DATA[1] meaning: 0x00: Off 0x01: On	OK	
Set	0xD4	Touch Switch	0x00: Normal 0x01: Glove 0x02: Through-Glass	Normal: A6 01 00 00 04 01 D4 00 76 Glove: A6 01 00 00 04 01 D4 01 77 Through-Glass: A6 01 00 00 04 01 D4 02 74	21 01 00 00 04 01 00 00 25	DATA[0]: Cmd code 0xD4 DATA[1] meaning: 0x00: Normal 0x01: Glove 0x02: Through-Glass	DATA[0]: 0x00 DATA[1]: Status	OK	
Get	0xD5	Touch Switch		A6 01 00 00 03 01 D5 70	21 01 00 00 04 01 d5 00 f0 21 01 00 00 04 01 d5 01 f1 21 01 00 00 04 01 d5 02 f2	DATA[0]: Cmd code 0xD5 DATA[1] meaning: 0x00: Normal 0x01: Glove 0x02: Through-Glass	DATA[0]: Cmd code 0xD5 DATA[1] meaning: 0x00: Normal 0x01: Glove 0x02: Through-Glass	OK	
Set	0xD6	OSD Info Box	0x00: Off 0x01: On	OFF: A6 01 00 00 04 01 D6 00 74 ON: A6 01 00 00 04 01 D6 01 75	21 01 00 00 04 01 00 00 25	DATA[0]: Cmd code 0xD6 DATA[1] meaning: 0x00: Off 0x01: On	DATA[0]: 0x00 DATA[1]: Status	OK	
Get	0xD7	OSD Info Box		A6 01 00 00 03 01 D7 72	21 01 00 00 04 01 d7 00 f2 21 01 00 00 04 01 d7 01 f3	DATA[0]: Cmd code 0xD7 DATA[1] meaning: 0x00: Off 0x01: On	DATA[0]: Cmd code 0xD7 DATA[1] meaning: 0x00: Off 0x01: On	OK	
Set	0xD8	OSD Rotation	0x00: Landscape 0x01: Portrait	Landscape: A6 01 00 00 04 01 D8 00 7A Portrait: A6 01 00 00 04 01 D8 01 7B	21 01 00 00 04 01 00 00 25	DATA[0]: Cmd code 0xD8 DATA[1] meaning: 0x00: Landscape 0x01: Portrait	DATA[0]: 0x00 DATA[1]: Status	OK	
Get	0xD9	OSD Rotation		A6 01 00 00 03 01 D9 7C	21 01 00 00 04 01 d9 00 fc 21 01 00 00 04 01 d9 01 fd	DATA[0]: Cmd code 0xD9 DATA[1] meaning: 0x00: Landscape 0x01: Portrait	DATA[0]: Cmd code 0xD9 DATA[1] meaning: 0x00: Landscape 0x01: Portrait	OK	
Set	0xDA	OSD Rotation	0x00: Off	OFF: A6 01 00 00 04 01 DA 00 78 ON: A6 01 00 00 04 01 DA 01 79	21 01 00 00 04 01 00 00 25	DATA[0]: Cmd code 0xDA DATA[1] meaning: 0x00: Off 0x01: On	DATA[0]: 0x00 DATA[1]: Status	OK	

Get	0xDB	Opening Logo	0x01: On	A6 01 00 00 00 03 01 D8 7E	Z1 01 00 00 04 01 db 00 fe Z1 01 00 00 04 01 db 01 ff	DATA(0): Cmd code 0xDB	DATA(1) meaning: 0x00: 0FF 0x01: On	OK
Set	1xDC	Fan Control	0x00: Off 0x01: On	Auto: A6 01 00 00 00 04 01 DC 00 7E ON: A6 01 00 00 00 04 01 DC 01 7F OFF: A6 01 00 00 00 04 01 DC 02 7C	21 01 00 00 04 01 00 00 25	DATA(0): Cmd code 0xDC DATA(1) meaning: 0x00: Auto 0x01: On 0x02: Off	DATA(0): 0x00 DATA(1): Status	OK
Get	1xDD			A6 01 00 00 00 03 01 DD 78	Z1 01 00 00 04 01 dd 00 8B Z1 01 00 00 04 01 dd 01 89 Z1 01 00 00 04 01 dd 02 fa	DATA(0): Cmd code 0xDD	DATA(1) meaning: 0x00: Auto 0x01: On 0x02: Off	OK



## Audio Parameters (0x43, 0x42)

Get Command:

Data[0]
<b>0x43</b>

Get Reply:

Data[0]	Data[1]	Data[2]	Data[3]
	Treble	Bass	Balance
0x43	0~10	0~10	0~66

Set Command:

Data[0]	Data[1]	Data[2]	Data[3]
	Treble	Bass	Balance
<b>0x42</b>	0~10	0~10	0~66