Motorized Retractable Monitor + DB system

User Manual

SC15/17/22FM
SC15/17/22FM-DB

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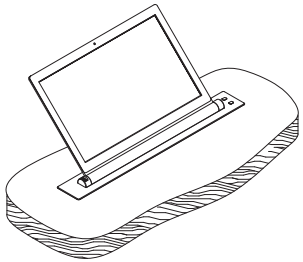
1. Introduction

The SEADA FM & FM-DB Series Motorized Retractable Monitors are state of the art exquisite monitors that are made from aluminum. To ensure the finest ergonomics and the best viewing angle it has a vertical motorized movement that can be tilted from 0°to 45°. FM & FM-DB series comes in three different sizes of 15'',17'' and 22'' to satisfy different users' need.

This system can be used as a standalone unit in class rooms, offices, receptions etc. In addition, it can operate as a multi units' system with the SEADA built-in DB paperless conference system. The DB system enables participants to share their on screen content with the rest of room via a single button pressing.

When it is not in use, the monitor can be retracted into the housing beneath the desk. This makes the desk surface tidy as well as putting the monitor in a safe and secure location.



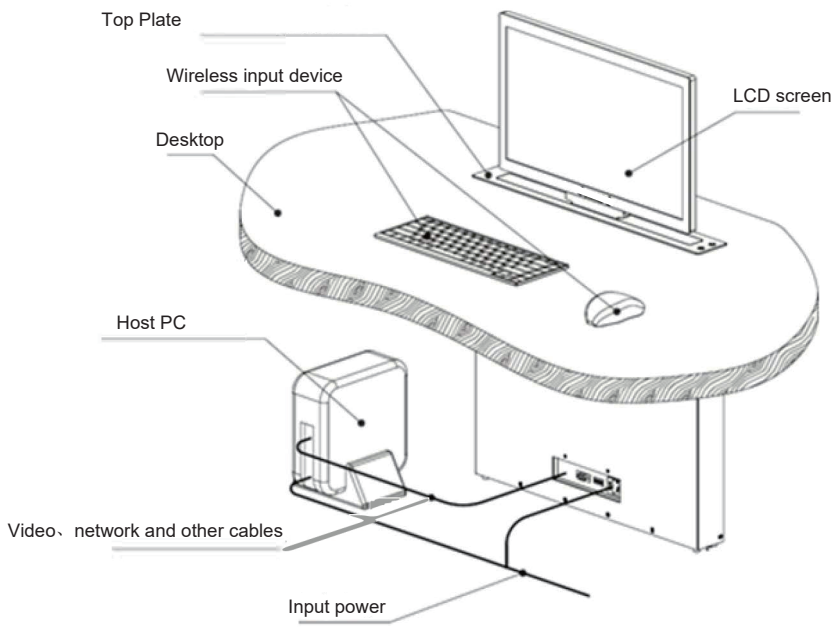
2. Packing List

1. Retractable Monitor	x1	5. 1.5m USB Cable	x2	
2. Power Lead	x1	6. Cat Cable	x1 or 2	(2 for DB only)
3. User Manual	x1	7. 0.3m HDMI Cable	x1	(DB only)
4. DB9 Cable (F to F)	x1	8. 1.2m HDMI Cable	x1 or 2	(2 for DB only)

- **Button Function**

3. Features

1) Ultra slim screen design
2) Motorized retractable monitor
3) 0 to 45 or 15 degrees of adjustable screen
4) Content sharing ability with DB system built-in
5) HDMI port on top plate with DB system enable 3rd video source connect and display
6) Two buttons control for up, down, pause and angle adjustment
7) Ergonomic design
8) Integrated PC USB Port
9) Touch screen
10) Support HDMI/DVI/VGA inputs
11) Stylish design
12) RS485 controlling
13) Support power socket daisy chain



4. Function Features

1. Monitor + DB keyboard function indicate

① Up Press the **Up** button, monitor goes up

② Down Press the **Down** button, monitor goes down

③ Stop Press the **UP** or **Down** button when the monitor is moving, the monitor movement will be stopped

④ Adjust the angle

When monitor stops at upper limit, users can press the Up and Down buttons to adjust the monitor angle

⑤ USB port

Transfer data with connected PC

⑥ Local signal (DB only)

Press this button to show the content from local PC or HDMI port input from top plate. Its light will be on

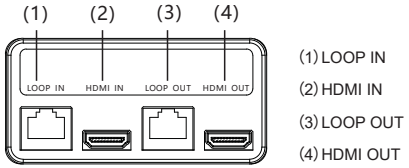
⑦ Loop signal (DB only)

Press this button to share the content. Its light will be on. If loop light is on and local light is off, the screen will show the content from other content sharing station in the system.

⑧ HDMI (DB only)

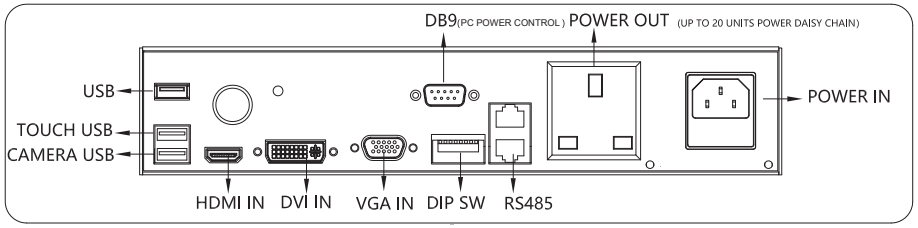
Connect video source here to be displayed on screen. It has priority over connected PC source

2. DB Interface Panel



(1) LOOP IN
(2) HDMI IN
(3) LOOP OUT
(4) HDMI OUT

3. Device Interface Panel



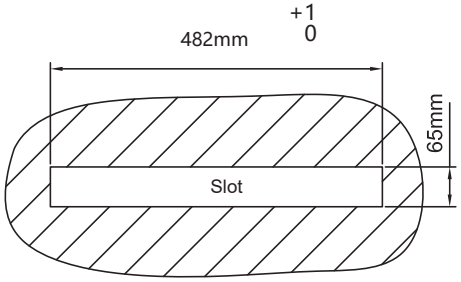
5. Product Features

	SC15FM & SC15FM-DB	SC17FM & SC17FM-DB	SC22FM & SC22FM-DB
Screen Size	15.6 inch	17.3 inch	21.5 inch
Aspect Ratio	16:9		
Resolution	1920*1080		
Inputs	HDMI/DVI/VGA		
Inputs Switching	Top plate buttons/RS485		
Backlight	LED		
Contrast	1200:1	800:1	3000:1
Response Time	20ms	30ms	6.5ms
Brightness	300cd/m²	250cd/m²	250cd/m²
View Angle	85/85/85/85		89/89/89/89
Front Panel	T is touch screen/ Toughened glass		
Frame Finish	Aluminum alloy		
Display Area	358.7×221.3mm	408.5×256.8mm	496.4×291mm
Screen Thickness	≤6mm	≤6mm	≤8mm
Power Supply	AC220-240V with power daisy chain up to 20 units		
Power Consumption	≤50W		
Fully up Time	18s	20s	23s
Loading Capacity	≤3.5Kg		
Device Weight	Net: 10Kg,Gross: 12.5Kg	Net: 12.5Kg,Gross:15Kg	Net: 18.5Kg, Gross: 24Kg
Top Plate Flatness	±0.2mm		
Unit Size (WxLxH)	73×490×540mm	73×550×540mm	73×630×590mm
Top Plate Size	73×490mm	73×550mm	73×630mm
Housing Slot Size	65×482mm	65×542mm	65×622mm
Adjustable Angle	0-45°	0-45°	0-15°
Panel Color	Silver or Black		
USB Port on Plate	1		
	DMB Parameter		
Bandwidth	9Gbps		
Range of loop clock	140MHz-150MHz		
Signal	HDMI1.4, backwards compatible		
Color Depth	8bit		
Resolution	1080p@60Hz		
Maximum Distance	20m (CAT5e，1080P60)		

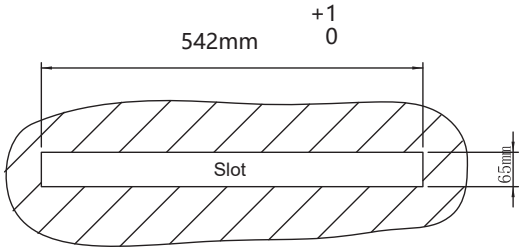
6. Installation guidance

Retractable monitors must be installed on the hard and good quality desktop. it is recommend to cut the slot on table no less than 350mm from the edge of the table to give enough leg room.

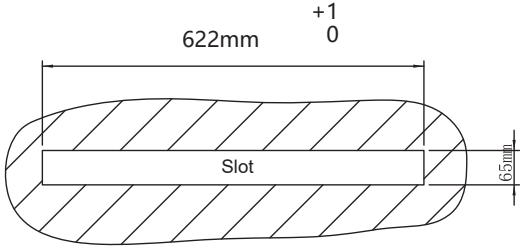
Make sure the table height is enough to host the unit and to avoid the unit touch the floor.



SC15FM & SC15FM-DB Slot Cut Size



SC17FM & SC17FM-DB Slot Cut Size



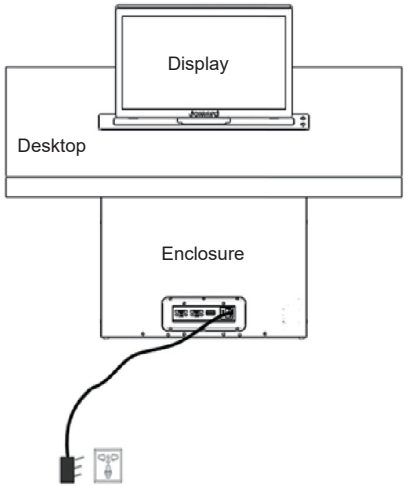
SC22FM & SC22FM-DB Slot Cut Size

6. Installation guidance

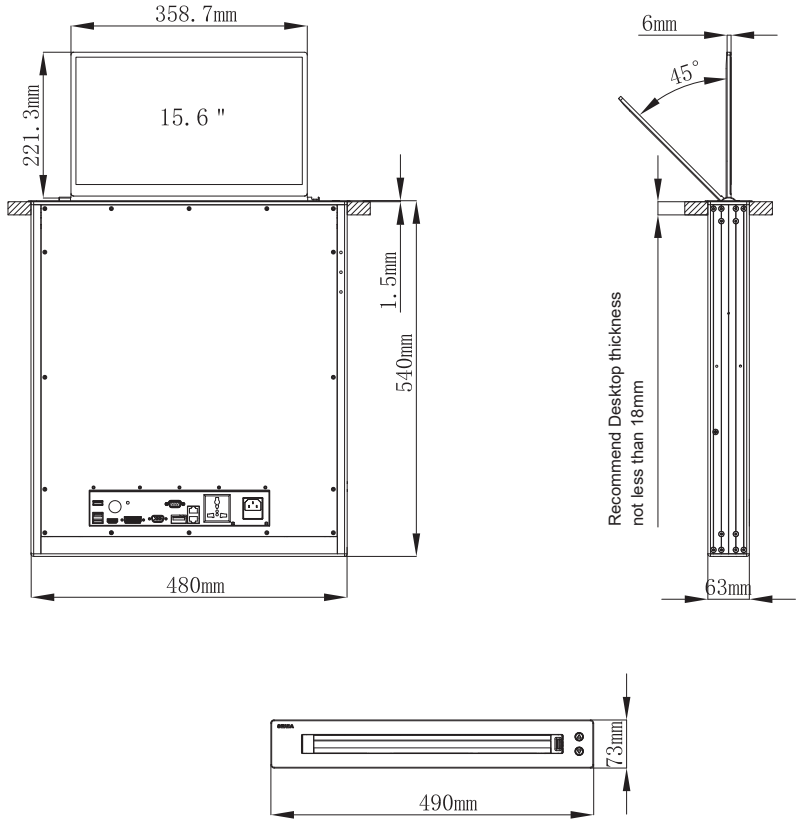
Slide the unit into the table via the slot. Ensure the unit sitting on the table properly. Remove the screen protection foams from the unit.

Note: If ever the unit needs to be taken out of the table for relocation, please put the screen protection foams back before the actions.

Connect all the cables and power up the unit, and then the control buttons on top plate will be lit which means the unit is ready.

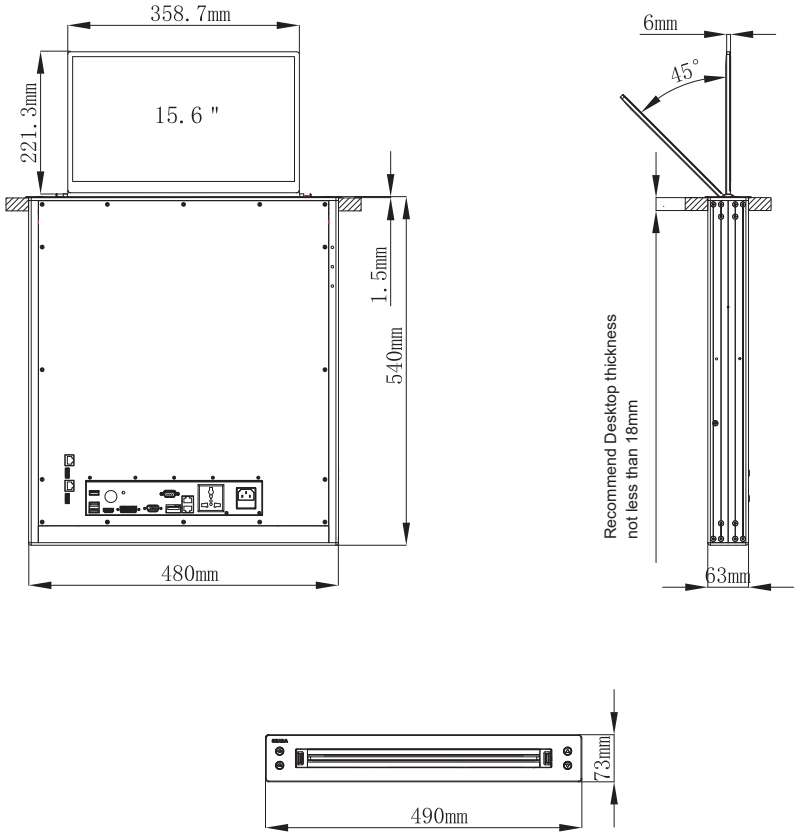


7. Product Drawing



SC15FM dimensions

7. Product Drawing



SC15FM-DB dimensions

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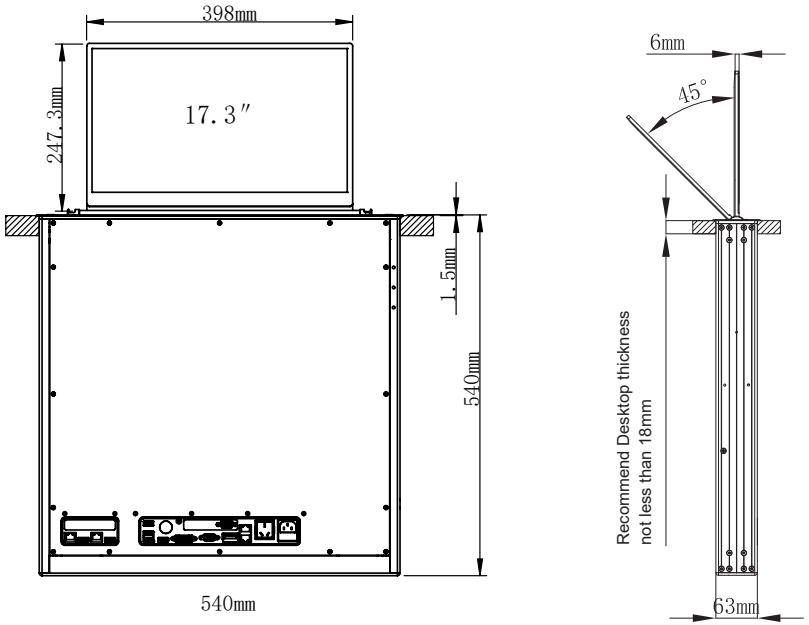
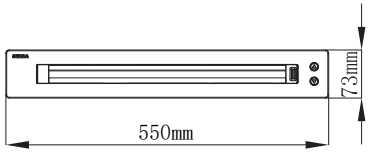
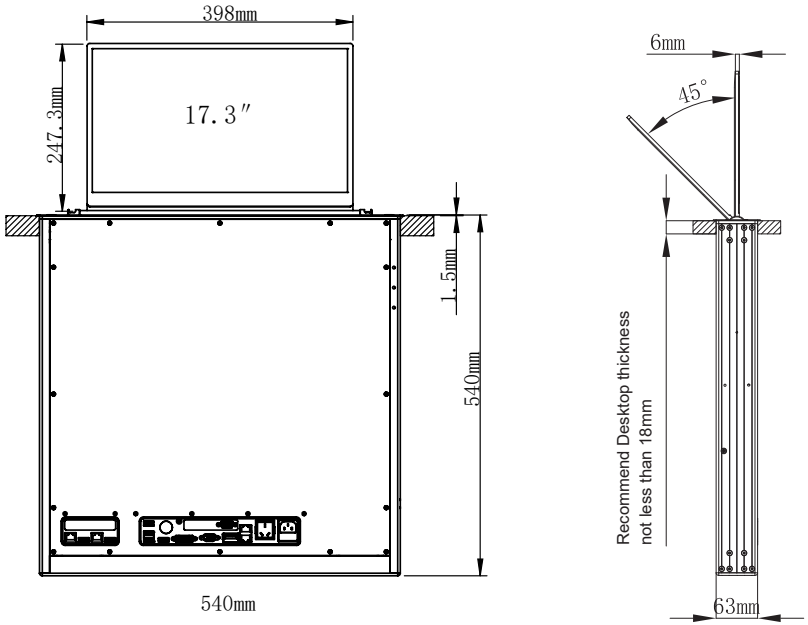
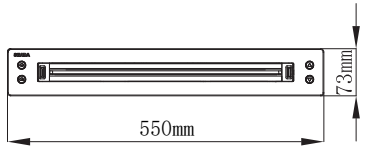




SC17FM dimensions

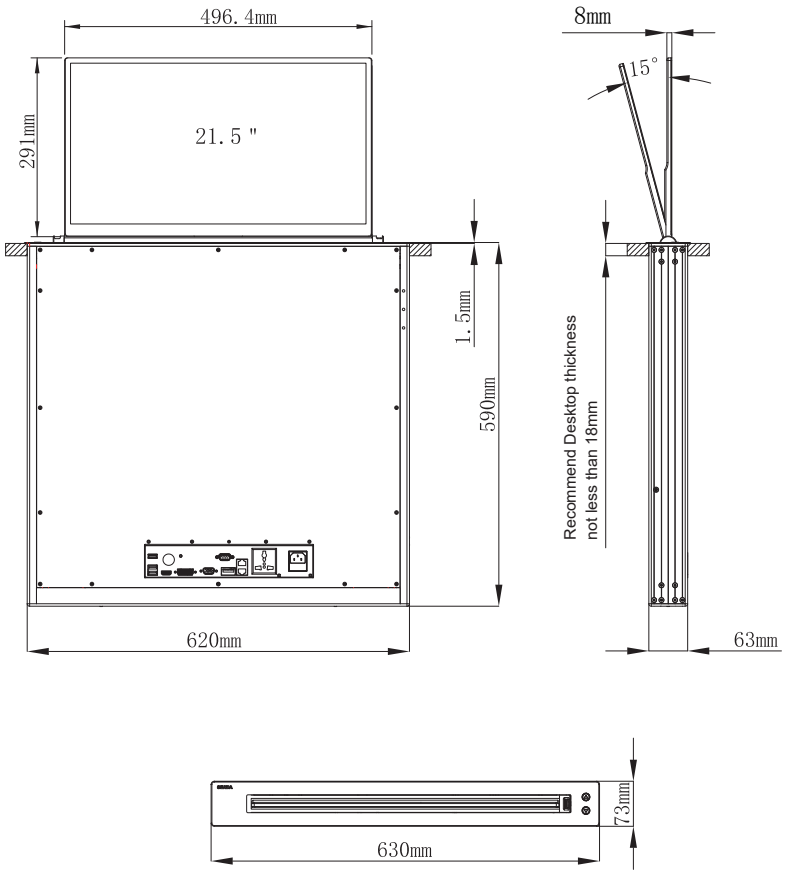
7. Product Drawing





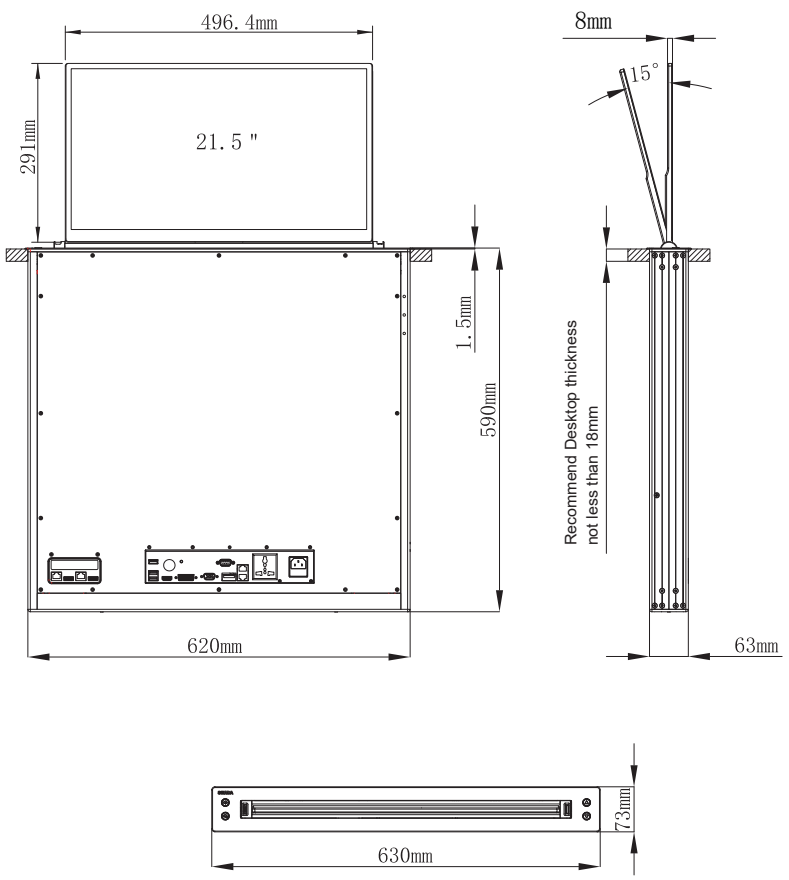
SC17FM-DB dimensions

7. Product Drawing



SC22FM dimensions

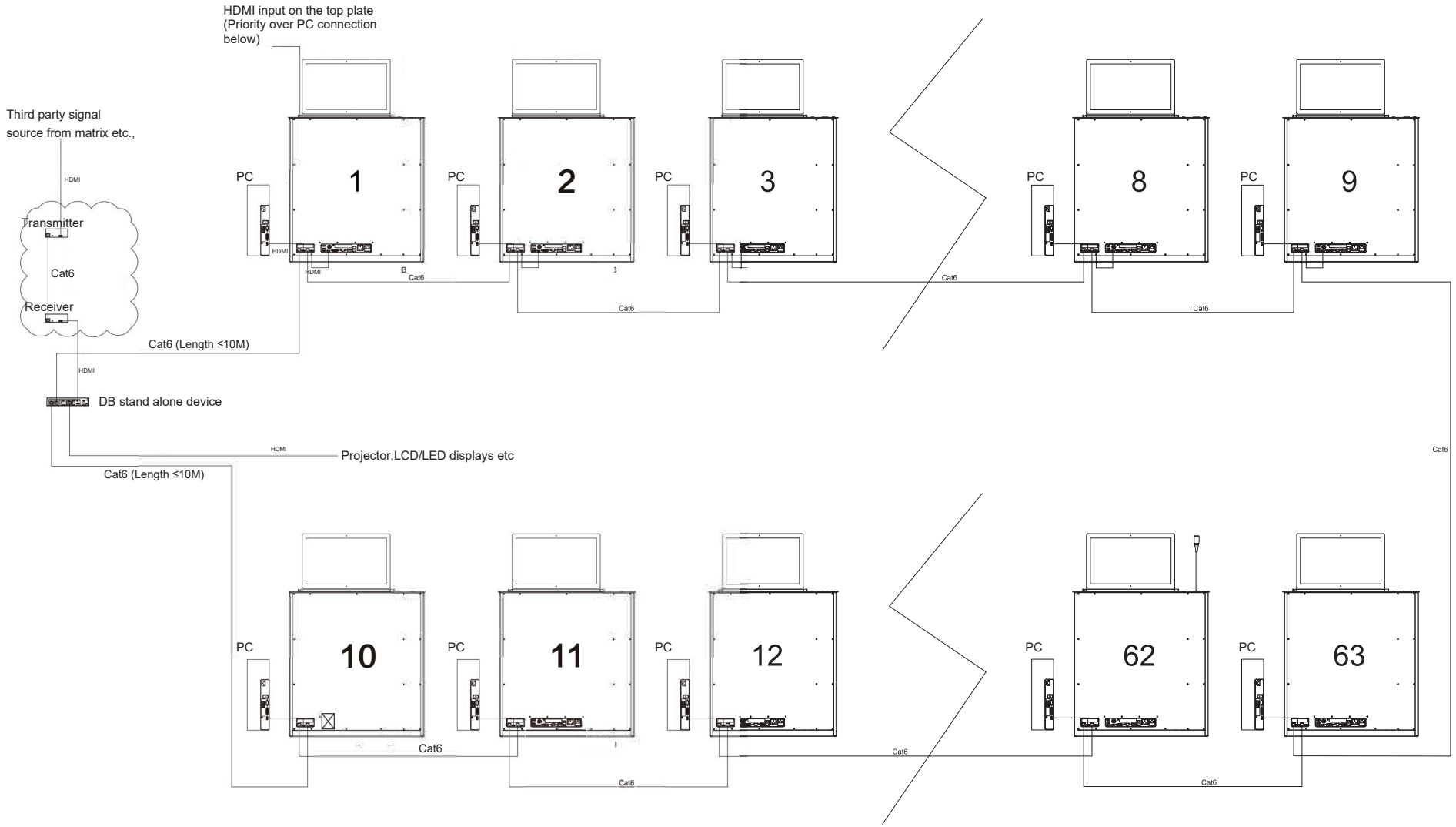
7. Product Drawing



SC22FM-DB dimensions

8. System diagram

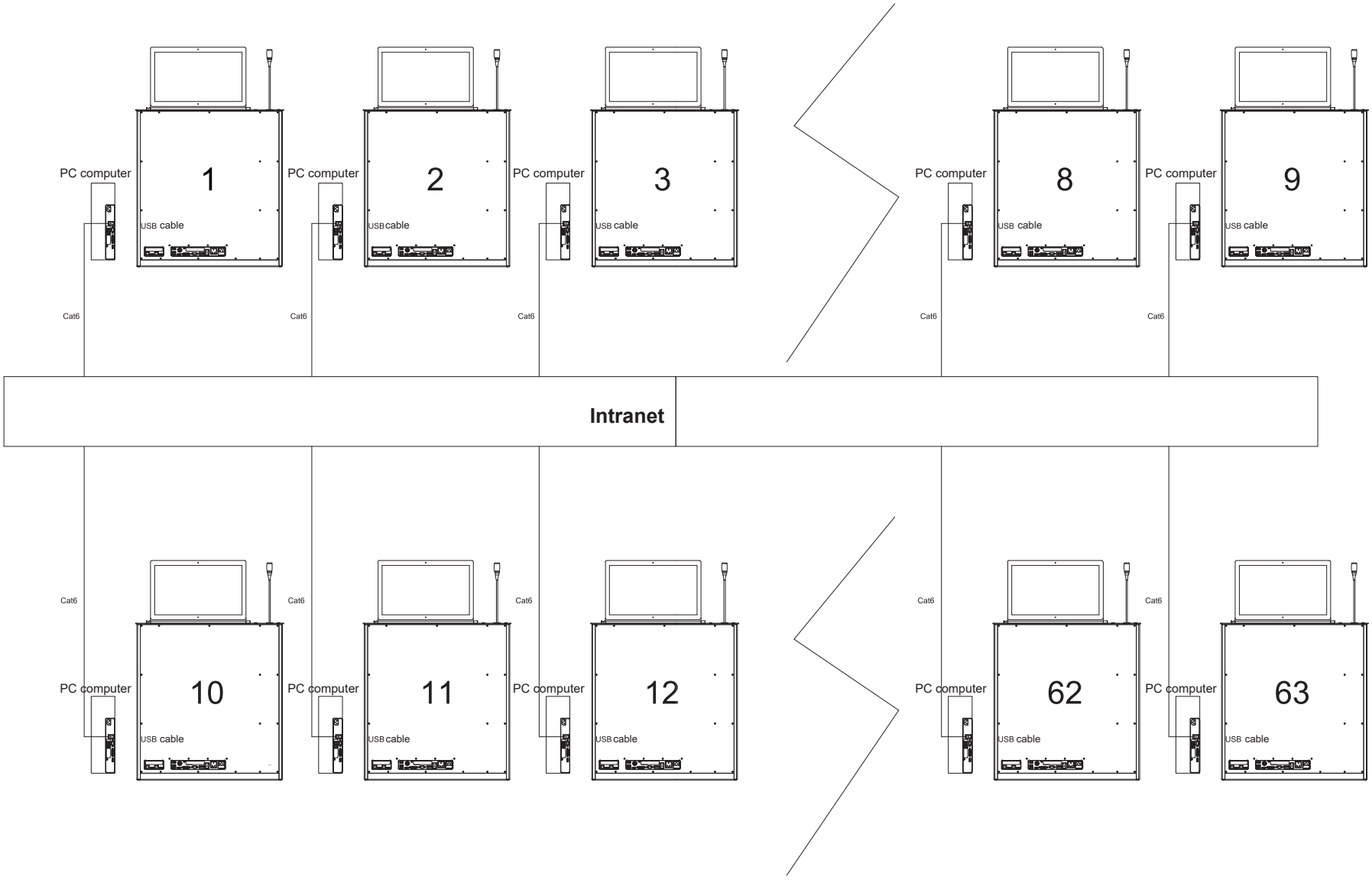
Video signal connection diagram with DB system



8. System diagram

In order to enable DB system, RS485 connection also needs to be established. Please refer to RS485 connection diagram

Network connection diagram



8. System diagram

RS485 connection diagram

8. System diagram

Power connection diagram

8. System diagram

9. Command lines

Users are able to control the retractable monitors via sending command lines to RS485 ports of the units

Setting for RS485 port
Baud rate：9600
Data bit：8
Parity bit：NONE
Stop bit：1
RS485
baud rate: 9600

When RS485 input port is RJ45, pin1 is “+”, pin2 is “-“.

Control objects	Command	Command String	Command explaining
SCFM SCFM-DB	UP	F6 5E 00 00 01 01 56	All Screens Up
	Stop	F6 5E 00 00 01 00 55	All Screens Stop
	Down	F6 5E 00 00 02 01 57	All Screens Down
	HDMI	F6 5E 00 00 03 00 57	All Signals from HDMI
	VGA	F6 5E 00 00 03 01 58	All Signals from VGA
	DVI	F6 5E 00 00 03 02 59	All Signals from DVI
	UP	F6 5E 00 De_Add 01 01 CR	Screen Up
	Stop	F6 5E 00 De_Add 01 00 CR	Screen Stop
	Down	F6 5E 00 De_Add 02 01 CR	Screen Down
	HDMI	F6 5E 00 De_Add 03 00 CR	Signal from HDMI
	VGA	F6 5E 00 De_Add 03 01 CR	Signal from VGA
	DVI	F6 5E 00 De_Add 03 02 CR	Signal from DVI
	Status Check	F6 5E 00 De_Add 0A 0B CR	Status check

De_Add: The Device Address for each individual unit. Please see table below for setting up
If De_Add in command string is '00', the command is applied to all devices in the system

CR: The last two digitals from the sum of the values of all HEX in the string
e.g. F6 5E 00 De_Add 01 01 CR CR= F6 + 5E + 00 + De_Add + 01 + 01
If De_Add = 00 CR = 56, so the comman line is 'F6 5E 00 00 01 01 56'

9. Command lines

Unit DIP SW for Device Address						Code	
1st	2nd	3rd	4th	5th	6th	Base-16	Base-10
OFF	OFF	OFF	OFF	OFF	OFF	0×00	0
ON	OFF	OFF	OFF	OFF	OFF	0×01	1
OFF	ON	OFF	OFF	OFF	OFF	0×02	2
ON	ON	OFF	OFF	OFF	OFF	0×03	3
OFF	OFF	ON	OFF	OFF	OFF	0×04	4
ON	OFF	ON	OFF	OFF	OFF	0×05	5
OFF	ON	ON	OFF	OFF	OFF	0×06	6
ON	ON	ON	OFF	OFF	OFF	0×07	7
OFF	OFF	OFF	ON	OFF	OFF	0×08	8
ON	OFF	OFF	ON	OFF	OFF	0×09	9
OFF	ON	OFF	ON	OFF	OFF	0×0a	10
ON	ON	OFF	ON	OFF	OFF	0×0b	11
OFF	OFF	ON	ON	OFF	OFF	0×0c	12
ON	OFF	ON	ON	OFF	OFF	0×0d	13
OFF	ON	ON	ON	OFF	OFF	0×0e	14
ON	ON	ON	ON	OFF	OFF	0×0f	15

Note:

- Only first 6 switches are for device address setting
- Ensure each device has the unique address in the system
- Device Address must be set up for the device with DB system for content sharing
- DB system will do a signal boost every 4 devices to ensure the signal quality