MDC (Multiple Display Control Tool)

Comming SOON

Agenda

- 1. MDC Tool Overview
- 2. Installation Guide
- 3. Environment Configuration
- 4. Connection Configuration
- 5. Connection Management
- 6. Device Management
- 7. Device Monitoring
- 8. Group Management
- 9. Schedule Management
- 10. Auto Set ID feature





About Multiple Display Control

□ Objectives

- What is MDC?
- What is MDC Tool and how it is different from MDC?
- Look at basic MDC Tool UI.
- To understand the need of MDC tool.

□ After finishing this module, you can

- Differentiate between MDC protocol and MDC tool.
- Understand the need of MDC tool.



1. Single LFD

Our Goal is to set and control LFD easily!







MDC Tool UI

	Multiple Display Control										
Home Picture		Sound Sy	/stem Tool								
On Off Input Ichar IEdit	nnel Name		IVolume	Mute Fault D (0)	evice Fault Device L Alert	Jser Settings	Logout				
▼ LFD Device	E	Add	lit Delete								
All Connection List		Settings	Connection Status	MAC Address	Connection Type	Port	SET ID Ran	Detected Devices			
All Device List(00)		107.109.203.212	۲	FE-56-D8-78-14-ED	Ethernet	1515	1~1	0			
Group											
▼ Schedule											
All Schedule List											





□ Objectives

- To understand the basic installation process.
- Ease of use of the install-shield setups.
- To understand the uninstall process.

□ After finishing this module, you can

- Install and uninstall the application.



Installation Process



- MDC tool set-ups or executables are built in third-party and popular tool Install-Shield.
- There is a single set-up file and user just need to double click on it to run it.
- User is prompted for location where to install the set-up.
- See the screen images of installer in next slide.



Connection Configuration

Connection Configuration

□ Objectives

- To understand Serial Connection and Serial-In and Serial-Out ports.
- To understand Ethernet Connection.
- To understand the Daisy-Chain Connection.

□ After finishing this module, you can

- Connect LFD in any form of connection.



Ports and Connection

- LFD have serial port based on RS232C protocols with both serial in and serial out.
- Normal Ethernet ports are also present in most of the LFDs.
- Using serial ports LFD can be connected using a serial cable either in a single connection or in a d aisy chain connection.
- We will discuss the connections in subsequent slides in more details.



Ethernet Connection



Ethernet Connection with Daisy Chain





Ethernet Connection with Daisy Chain Continued (2/2)





Ethernet Connection with Multiple Hubs



Serial Connection





Serial Connection with Daisy Chain





Serial Connection with Daisy Chain Continued





Connection Management

□ Objectives

- To understand the process of connecting devices with MDC tool.
- To understand the Detect Device functionality.
- To have a look and feel of MDC UI for connection management,

□ After finishing this module, you can

- Connect with MDC tool using various connections.
- Become familiar to the MDC tool connection pages.



MDC Add Connection : Serial

	Multiple Display Control
Home Picture	Sound System Tool
On Off	IVolume Image: Second
▼ LFD Device	Add Edit Delete
All Connection List	Senings Connection Status MAC Address Connection Type Port SET ID Ran Detected Devices
All Device List(00)	
Group	Add Connection
	Serial Ethernet Detect I COM Port COM2 ↓ I SET ID Range 001 ÷ 5 ÷
▼ Schedule	
	OK Cancel



MDC Add Connection : Ethernet

Add Connection	
Serial Ethernet Detect	
I IP Address	
I Port Number 1515	
I SET ID Range 001	
OK Cancel	

What we need:

- IP Address of first LFD that has it
- Port Number, always 1515
- SET ID Range of devices that will be added



MDC Add Connection: Detect Device

Add Connection
Serial Ethernet Detect Search Clear
Searching device Please wait.
I SET ID Range 000
OK Cancel

- MDC Detect device functionality search for any Ethernet device connected in the network using windows UPnP service.
- All the detected Ethernet connected devices are shown in the grid.
- User can select the Set Id range for the devices s/he wants to add.
- This feature is only for Ethernet Device Search.



MDC Edit Connection

			Multiple Display Control
Home Picture	Sound	System Tool	
On Of Ichan	nel lame	Volume	Mute Fault Device (5) Alert
▼ LFD Device	Add E	Edit Delete	
All Connection List	Settings	Connection Status	MAC Address Connection Type Port SET ID Ran Detected Devices
All Device List(05)	107.109.203.66	•	E8-03-3A-65-5E-B0 Ethernet 1515 1 ~ 5 5
Group Edit →			Edit Connection Ethernet I IP Address 107 . 109 . 203 . 66 I Port Number 1515 I SET ID Range 001
			OK Cancel



Device Management

\Box Objectives

- To understand the difference be the devices and connection.
- To get the feel of MDC Tool UI for Connection and Devices.
- To get familiar to various MDC Tabs.

□ After finishing this module, you can

- Differentiate between the devices and connections.
- Know the look and feel of various UI tabs.



Connection and Devices

Home Picture		Sound S	ystem	Tool							
			•	[Volume				0			
IChar			* *		Mute	Fault Do			Langut		
IEdit			*			(5)	Alert	Oser Settings	Logout		
▼ LFD Device	E	Add	dit	Delete							
All Connection List	No	Settings	Connec	tion Status	MAC Addr	ess	Connection Type	e Port	SET ID Ran	Detected Devices	
All Device List(05)		107.109.203.66		0	E8-03-9A-65-5	5E-B0	Ethernet	1515	1~5	5	
Group											

▼ LFD Device	Move Delete Copy Settings Paste Settings										
All Connection List	ID	Device Name	Туре	Power	Input	Setting	Picture Size	Lamp			
All Device List(05)	1		Ethernet	۲	PC	107.109.203.66	16 : 9	1			
	2		Ethernet	۲	PC	107.109.203.66	16 : 9	1			
Group	3		Ethernet	۲	PC	107.109.203.66	16 : 9	1			
	4		Ethernet	۲	PC	107.109.203.66	16 : 9	1			
	5		Ethernet	۲	PC	107.109.203.66	16 : 9	1			
		5 Devices in D	evice list Grid								
		C Devices in D	erice list offici								



Monitor Window Feature

		Multiple I	Display Control	-	_	_						
Home Picture	Sound Sy	ystem Tool					?					
On Off	nel	Volume	Mute Fault Dr (0)	evice Fault Device Us	er Settings	Logout	•					
▼ LFD Device	Add	dit Delete					Refresh					
All Connection List	Settings	Connection Status	MAC Address	Connection Type	Port	SET ID Ran	Detected Devices					
All Device List(01)	192.168.1.2	۲	C4-57-6E-DA-18-7C	Ethernet	1515	0~10	1					
– Crown Edit	192.168.43.153	۲	00-08-E3-FF-FD-90	Ethernet	1515	1~2	0					
	192.168.43.242	۲	00-08-E3-FF-FD-90	Ethernet	1515	1~2	0					
dsdstsd	🛨 Monitor Window			_			×					
xzxz	Sent : 14:04:36 (31 192.168.1.2 : AA 6 Sent : 14:04:36 (62 192.168.1.2 : AA 0 Received : 14:04:36 192.168.1.2 : AA F OB 30 4D 30 4C 48 3 Sent : 14:04:36 (16	Intervention window it : 14:04:36 (31 milli seconds) 12:168.1.2 : AA 67 00 00 67 it : 14:04:36 (62 milli seconds) 12:168.1.2 : AA 0B 00 00 0B reived : 14:04:36 (31 milli seconds) 12:168.1.2 : AA FF 00 14 41 67 5B 4C 46 44 5D 53 61 6D 73 75 6E 67 20 44 42 33 32 44 76 AA FF 00 14 41 30 4D 30 4C 48 33 44 46 43 30 30 30 30 33 34 100 00 0D D4										
All Schedule List	192.168.1.2 : AA 0	E UU OO OE					-					
			_	_		_	User Login : Admin					



MDC Tabs

Home Picture	Sound System Tool
On Off Input	ne Volume Mute Fault Device Fault Device Constraints Logout
Pisture	Multiple Display Control
IPicture Mode IContrast IBrightness	Sound Spacen 1001 1Color → 1 Color Tone I Auto Motion Plus ✓ IMPEG Noise Filter ✓ 1Timt (G/R) → 1 Color Temp (k') → Detail 1 Smart LED ✓ IHDMI Black Level ✓ 1 Binghtness Sensor. ✓ 1 Cinema Black ✓ Advanced
	Multiple Display Control
Home Picture	Sound System Tool
Home Picture	Multiple Display Control
IFan Control IFan Speed Setti ITemperature	Isatery Lock ISaurce OSD IMDC OSD Importance Importance </th
	Multiple Display Control
Home Picture IPanel Control IRemote Control	Sound System Teol





□ Objectives

- Why the need of monitoring.
- To learn how MDC monitor devices.
- To know about Faulty Device Alert.

□ After finishing this module, you can

- Understand the need of Device monitoring.
- Set the Fault Device Alert Mail System.



Device Monitoring: Fault Device List

		-				Multiple Display	Control			
Picture		Sound	System Tool							
Input Chann Edit N			Volume	Mute	Device Fault Device Use	r Settings Logout				
		Move	Delete Copy Se	ettings Paste	Settings					
		ID	Device Name	Туре	Pwer	Input	Setting	Picture Size	Lamp	Wall Position
		1		Ethernet	e e e e e e e e e e e e e e e e e e e	PC	107.109.203.66	16 : 9	1	
-		2		Ethernet		PC	107.109.203.66	16 : 9	1	
COIL		3		Ethernet	۲	PC	107.109.203.66	16 : 9	1	
		4		Ethernet		PC	107.109.203.66	16 : 9	1	
		5		Ethernet		Fault Dev	vice List	x 9	1	-
					S	ettings ID	Fault Typ	e ^		
					107.	109.203.66 1	Lamp Erro	r 🗏		
					107.	109.203.66 1	Temperature f	Error		
					107.	109.203.66 1	Brightness Sens	or Error		
					107.	109.203.66 2	Lamp Erro	r		
					107.	109.203.66 2	Temperature B	Error		
								•		
					Refres	1		Close		
	Picture Input I Chanr I Edit N	Picture I Input I Channel I Edit Name Edit	Picture Sound	Picture Sound System Tool Input Input Ivolume Ichannel Imput Ivolume IEdit Name Imput Imput IEdit Intervention Imput Imput Imput Imput Impu Impu Impu Impu Impu <tr< th=""><th>Picture Sound System Tool Input Input Input Input Input Input I Channel Input Input Input Input Input I Edit Name Input Input Input Input Input I Edit Name Input Input Input Input Input I Edit Input Input Input Input Input I I I I I I I I I I I I I I I I I I I</th><th>Picture Sound System Tool I lipput I Volume I Mute Fault Device Fault Device</th><th>Picture Sound System Tool Input IChannel IEdit Name Delete CopySettings Paste Settings User Setting</th><th>Picture Sound System Tool Input Input Ivolume Imput Ivolume Imput Ivolume Imput Ivolume Ivolume<th>Picture Sound System Tool Picture Sound System Tool Picture Size Satings Fault Device Name Picture Size Satings Fault Device Name Picture Size CopySettings Paule Satings Picture Size Picture</th><th>Multiple Display Control Picture Sound System Tool Input Imput Imput Imput Imput Fault Device Fault Device User Settings Logout Ited Name Device Name Type Priver Imput Settings Picture Size Ited Name Device Name Type Priver Imput Settings Picture Size Ited Name Device Name Type Priver Imput Settings Picture Size Ited Name Device Name Type Priver Imput Settings Picture Size Ited Name Device Name Type Priver Imput Settings Picture Size Lamp Ited Name PC 107.109.203.66 16 : 9 1 1 Settings 1 Settings 1 Settings 1 1 Settings 1</th></th></tr<>	Picture Sound System Tool Input Input Input Input Input Input I Channel Input Input Input Input Input I Edit Name Input Input Input Input Input I Edit Name Input Input Input Input Input I Edit Input Input Input Input Input I I I I I I I I I I I I I I I I I I I	Picture Sound System Tool I lipput I Volume I Mute Fault Device Fault Device	Picture Sound System Tool Input IChannel IEdit Name Delete CopySettings Paste Settings User Setting	Picture Sound System Tool Input Input Ivolume Imput Ivolume Imput Ivolume Imput Ivolume Ivolume <th>Picture Sound System Tool Picture Sound System Tool Picture Size Satings Fault Device Name Picture Size Satings Fault Device Name Picture Size CopySettings Paule Satings Picture Size Picture</th> <th>Multiple Display Control Picture Sound System Tool Input Imput Imput Imput Imput Fault Device Fault Device User Settings Logout Ited Name Device Name Type Priver Imput Settings Picture Size Ited Name Device Name Type Priver Imput Settings Picture Size Ited Name Device Name Type Priver Imput Settings Picture Size Ited Name Device Name Type Priver Imput Settings Picture Size Ited Name Device Name Type Priver Imput Settings Picture Size Lamp Ited Name PC 107.109.203.66 16 : 9 1 1 Settings 1 Settings 1 Settings 1 1 Settings 1</th>	Picture Sound System Tool Picture Sound System Tool Picture Size Satings Fault Device Name Picture Size Satings Fault Device Name Picture Size CopySettings Paule Satings Picture Size Picture	Multiple Display Control Picture Sound System Tool Input Imput Imput Imput Imput Fault Device Fault Device User Settings Logout Ited Name Device Name Type Priver Imput Settings Picture Size Ited Name Device Name Type Priver Imput Settings Picture Size Ited Name Device Name Type Priver Imput Settings Picture Size Ited Name Device Name Type Priver Imput Settings Picture Size Ited Name Device Name Type Priver Imput Settings Picture Size Lamp Ited Name PC 107.109.203.66 16 : 9 1 1 Settings 1 Settings 1 Settings 1 1 Settings 1



Device Monitoring Automation: Fault Device Alert

Fault	Device Alert
Mail Alert On ▼	
SMTP Server	smtp.samsung.com
Server Port No.	25
E-Mail Address	anirudh.bh@samsung.com
Auth Password	•••••
Pacipionto	
E-Mail Address 1	charan.kaur@samsung.com
E-Mail Address 2	anirudh.bh@samsung.com
E-Mail Address 3	
Test	OK Cancel

- MDC Tool provides extra functionality of infor ming certain person related to the fault in the LFD devices by sending out mails.
- User can configure the mails of the recipients of these alert mails from the tool.
- Email interval can be changed in Options men u in tool tab (we will discuss this later).



B Group Management

□ Objectives

- Understand what is a group.
- Why Group is needed.
- Functions can be performed on a group.

□ After finishing this module, you can

- Be able to use Grouping Feature in MDC Tool.



Group Management

		Multiple Display Control								
Home Picture	So	und	System Tool							
On Off			▼ IVolume	Mute	Device Fault Device (5) Alert	er Settings Logout			-	
▼ LFD Device	Mov	/e	Delete Copy Se	ettings Paste	Settings					
All Connection List		ID	Device Name	Туре	Power	Input	Setting	Picture Size	Lamp	
All Device List(05)		1		Ethernet	۲	PC	107.109.203.66	16 : 9	1	
		2		Ethernet	۲	PC	107.109.203.66	16 : 9	1	
• Group		3		Ethernet	۲	PC	107.109.203.66	16 : 9	1	
Terminal 1A		4		Ethernet	۲	PC	107.109.203.66	16 : 9	1	
🔻 Terminal 3B		5		Ethernet	۲	PC	107.109.203.66	16 : 9	1	
Terminal 3B-CoffeeShop										
Terminal 4										
Airport Entrance										

- MDC tool allows user to move devices in logical group as per need.
- Groups segregate the LFDs according to their location and helps the user in management.
- All commands can be sent to the LFDs in groups.
- Some MDC Tool functionality applies only on groups like Video Wall, Scheduling.



Group Management: Edit Group

Edit Group	×
Add on the same level	
Add on the sub level	
Delete	
Rename	
	Edit Group Add on the same level Add on the sub level Delete Rename

- Groups can be created, renamed, deleted.
- Added group can be on the same level or sub-level.
- It is advised to use logical naming for groups as per business needs.





Schedule Management

□ Objectives

- Need Schedules.
- To understand how to configure a schedule.
- Feel and look of the schedule UI.

□ After finishing this module, you can

- Create schedules as per business needs.



Schedule Management

	Multiple Display Control			
Home Picture Sour	ind System Tool			
On Of Itania	Mute Fault Devic (5)	ce Fault Device User Settings Logout		
▼ LFD Device Add	Edit Delete	Add Schedule		
All Connection List	Device Group		ings	
All Device List(05)		Device Group		
- Group Edit		Add		
Terminal 1A		Delete		
▼ Terminal 3B				
Terminal 3B-CoffeeShop		Date & Time		
Terminal 4		 Instant Execution 		
Airport Entrance				
		Date 2014 \$ / 11 \$ / 07 \$ ~ 2099 \$ / 12 \$ / 31 \$		
– Sahadula		Interval Daily		
All Cabadula Lint	Sebedulo List			
	Schedule List			
		Action		
		I Function Power		
		OK Cancel		





□ Objectives

- Need of Auto Set ID feature.
- To understand the Auto Set ID feature.
- Precautions to be taken during Auto Set ID.

□ After finishing this module, you can

- Differentiate the purpose when to use Auto set id.
- Run Auto Set ID efficiently on a connection.



Auto Set ID Control

- Assigning set id automatically to the devices connected in a connection.
- Single connection is dealt at a time, multiple connections cannot be mixed.
- Need of this feature arises due to a number of devices connected in a connection.
- Sequential numbering is done to these number of devices by using this feature.
- This feature can be ignored if number of devices in a connection are very less as time taken by auto-s et id is large.
- Auto Set ID uses 0xFD command from MDC protocol.
- User should take extra precautions to use this feature on alike devices like connection of Golf-S devic es or a connection of Echo-E devices.
- Though intermixing of different models of LFDs do not create a problem but it should be still avoided.
- User should make sure that devices are not in energy saving mode as during the process no LFD dev ice should go in standby or switch off.



Option Settings

□ Objectives

- To understand various options available in the Options Settings Menu.

□ After finishing this module, you can

- Use these options with ease.



Option Settings

Multiple Display Con	trol			
Tool				
ure Reset Sound Reset System Reset All	Options	Edit Colum		
Delete				
Options				
Language	English	•		
Command Retry Count	01	•		
Error Status Interval (min.)	05	•		
Mail Alert Interval (min.)	010	•		
OK Cancel				

- Language Dropdown has 14 languages for user, which can be set to the MDC tool.
- Command Retry Count is used to set the number of retries MDC should made for a command with no reply from the LFD.
- Error Status Interval is the time interval after which MDC tool should check for fault in devices.
- Mail Alert Interval is the time interval after which MDC tool sends faulty device alert mails.









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