

This SIMPL+ module provides robust 2-way control for Samsung Commercial (MDC) and Consumer (EX-Link) displays. It features automatic protocol detection and adaptive command formatting.

Device Configuration

To ensure proper communication, configure the Samsung Display with the following settings:

Hardware Connections

- **Commercial (MDC):** Connect via DB9 RS232 Input.
- **Consumer (EX-Link):** Connect via 3.5mm EX-Link (Service) jack. Requires a stereo 3.5mm to DB9 adapter (Tip=RX, Ring=TX, Sleeve=GND).

Menu Settings

- **Display ID:** Set to `1` (or match the `p_nDisplayID` parameter).
Home > ID Setup > 1
- **PC Connection:** Set to RS232C cable.
Home > ID Settings > PC Connection Cable > RS232C cable
- **Network Standby:** Set to **On** to allow "Power On" commands while the TV is off.
Menu > System > Power Control > Network Standby (Remote Configuration) > On

COM Port Settings (Crestron)

- **Baud Rate:** 9600
- **Data Bits:** 8
- **Parity:** None
- **Stop Bits:** 1
- **Handshaking:** None

Adaptive Polling & Protocol Detection: This module features an intelligent polling engine that defaults to **MDC Mode**.

- **Polling Enable:** Use `Enable_Polling_b` to start/stop the feedback engine. It defaults to **Enabled**.
- **Auto-Switching:** If the display fails to respond to 3 consecutive polls, the module will automatically switch between **MDC** and **EX-Link** protocols and issue a warning to the console.
- **Broadcast Support:** Polling uses the Broadcast ID (0x00) to ensure responses even if the ID is unknown, but will warn if the TV's ID does not match the `p_nDisplayID` parameter.

Signal Definitions

Inputs (Control)

Signal Name	Type	Description
Enable_Polling_b	DIGITAL	Set High (1) to enable the status polling loop. Defaults to High on startup.
Power_On_b / Off_b	DIGITAL	Pulse High (1) to turn the display On or Off.

Volume_Up_b / Down_b	DIGITAL	Pulse High (1) to increment or decrement volume.
Mute_Toggle_b	DIGITAL	Pulse High (1) to toggle mute state.
Input_HDMI1_b ...	DIGITAL	Pulse High (1) to select the corresponding input.
Keypad_..._b (0-9, Menu, etc.)	DIGITAL	Pulse High (1) to emulate a remote button press (Parity: ExLink 0x0D / MDC 0xFE).
Set_Volume_n	ANALOG	Decimal value. Range: <code>0d</code> to <code>100d</code> .
From_Device_s	STRING	Raw RS232/EX-Link data. Connect to COM Port RX\$.

Outputs (Feedback)

Signal Name	Type	Description
To_Device_s	STRING	Formatted Command String. Connect to COM Port TX\$.
Power_Is_On_fb	DIGITAL	High (1) = On; Low (0) = Off.
Volume_Level_fb	ANALOG	Decimal value. Range: <code>0d</code> to <code>100d</code> .
Mute_Is_On_fb	DIGITAL	High (1) = Muted; Low (0) = Unmuted.
Protocol_Mode_fb	ANALOG	Decimal value. <code>1d</code> = MDC, <code>2d</code> = EX-Link.

Parameters

Parameter Name	Type	Description
p_nDisplayID	INTEGER	The Display ID set in the TV menu. Default is usually <code>1</code> (0x01) or <code>0</code> (0x00).