

Cisco In-Room control allow for a simple method to operate both the Video Codec and local room controls all through the Cisco Touch 10 user interface. The benefits of using the Touch 10 are:

- All rooms operate the same
- Greatly simplifies the control software
- Removes issue with new firmware updates

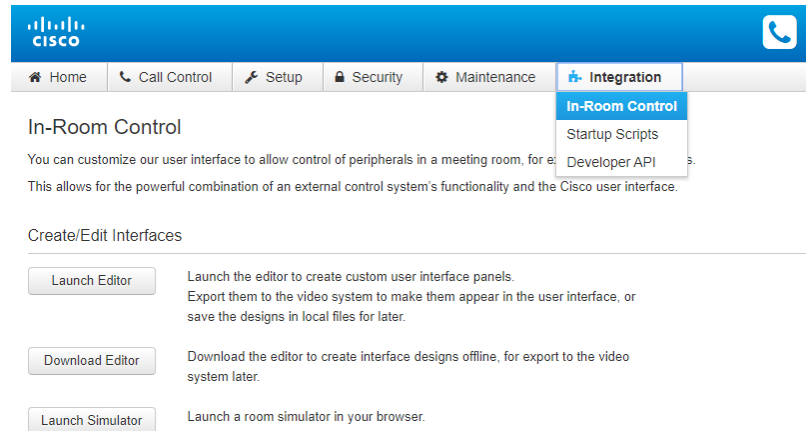


With In-Room Control you can add custom buttons to the Touch 10 user interface. Such user interface buttons can be controls for displays, video switchers, audio DSP, lights or blinds. Imagine having a complex room with multiple displays, a DSP to control the room's audio and room lights all being controlled using the Touch 10. Now, imaging being able to control a room by just selecting a driver and creating the Touch 10 user controls. And yes, this all can be done easily using the Cisco In-Room driver for the TEKVOX TEK 3.

Since both the Cisco video system and the other devices are controlled from the Touch 10 user interface, you will get a consistent user experience throughout your meeting rooms. The version of the in-room control feature described in this document, is available for the MX, SX and DX Series video systems running Collaboration Endpoint Software, version CE9.0 or later.

Start

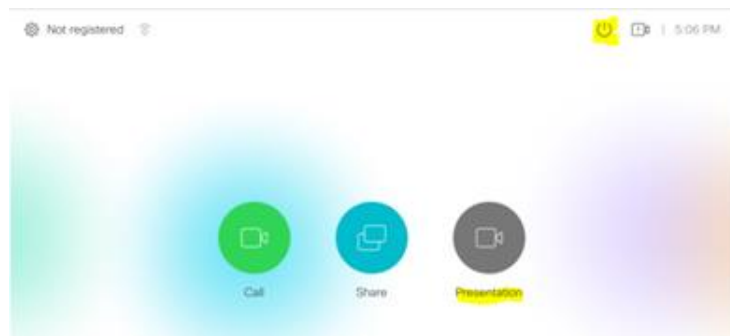
Before you start make certain the codec firmware is CE9.0 or later. Select the Integration tab and select In-Room Control. From here you can Launch the editor or download it and use it off-line. .



The In-Room designer allows for three panels to be created called:

1. Global
2. Home (Idle Mode)
3. In-Call

The Global panel can be selected at all time and its icon is shown at the top right. The Home panel icon is shown with the operational buttons at the center of the screen when not in a call (Idle mode). The In-Call icon button takes the place of the Home button when in a call.

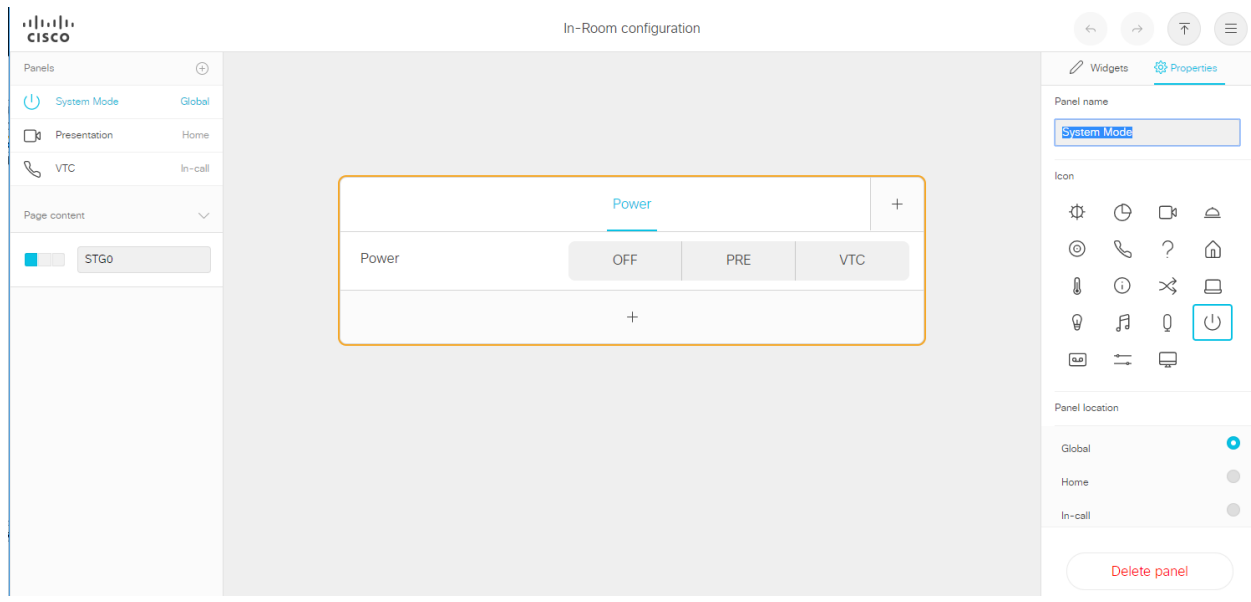


Idle mode

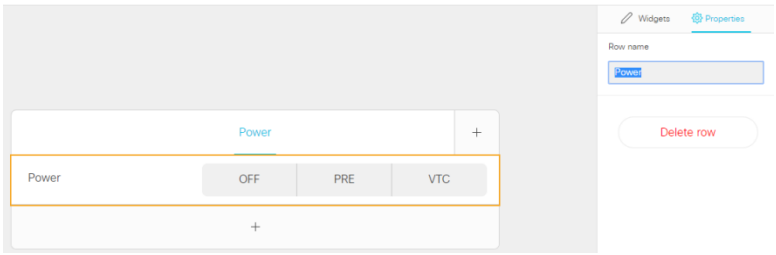
A manual can be found here describing how to create the user interface:

<http://www.cisco.com/c/dam/en/us/td/docs/telepresence/endpoint/ce90/sx-mx-dx-room-kit-in-room-control-guide-ce90.pdf>

The names and icons can be changed for the panel buttons in the configuration software by selecting the panel button on the left. On the right you can change the name and select an icon for it.



Each panel can have up to 8 pages selected by tabs. A page is divided into rows and columns. There can be a large number of rows, and if the number of rows is larger than what can be displayed, the page can be scrolled. There are only 4 columns which can make it difficult when there are a lot of sources to select.



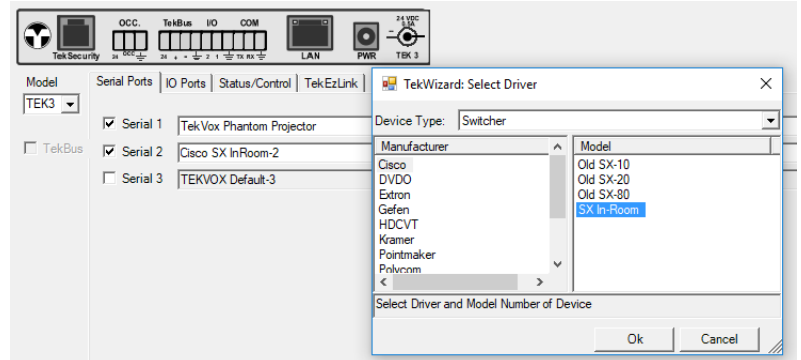
To add a row use the “+” button at the bottom and give it a name. The name of the row can be changed by selecting the row.

Elements placed within a row are called Widgets. To place a widget, drag the type of widget you want from the list on the right side of the page within a row. Once the widgets are placed on the page and arranged in the way you wish, you can assign them a name and Widget ID. The Widget ID is used to set they type of operational command to the TEK 3. One of the nice features of the configuration software allows for the whole row to be copied and pasted on another page.

TEK 3 Operation

A driver for the Cisco In-Room control can be found in the switcher section of the drivers. The RS232 port needs to be enabled on Cisco SX. Set the following in Setup for the Serial Port configuration in Cisco:

- Baud Rate: 9600
- Login Required: Off
- Mode: On

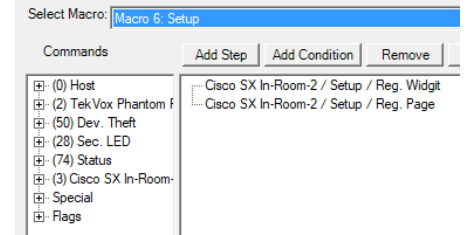


How the Driver Works

The Cisco SX In-Room driver listens for data sent by the codec that represents operational commands within the TEK 3. These commands are sent when the TEK 3 registers with the codec to send these commands after the codec or TEK 3 first start using **only Macro 6**.

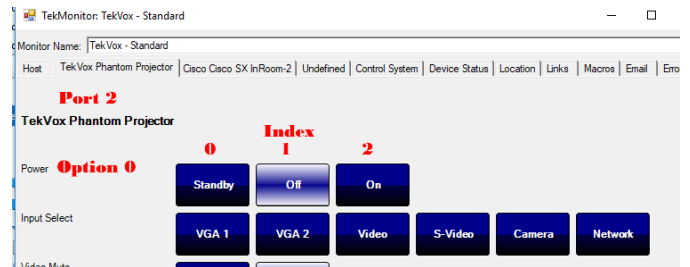
Types of commands that are monitored:

- Macro commands
- Status byte commands
- Status integer values
- Direct Device driver byte commands
- Direct Device driver integer values



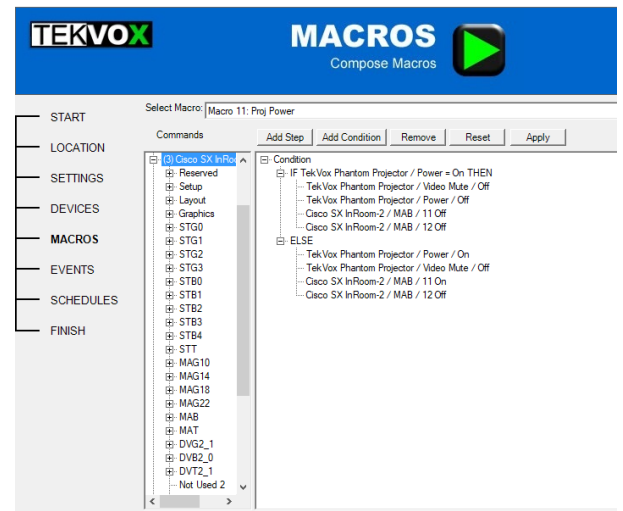
For simple systems a TEK 3 is all you need to turn on the display, control lights and shades using Macros or Direct Device commands. For more complex systems a controller like the TEKVOX TCX9 or third party control system is required to provide advanced operations and feedback to the Touch 10. Interfacing a control system to a TEK 3 can easily be done using TekEzLink protocol and the Status commands of the TEK 3.

The following Widget ID commands are used to instruct the TEK 3 to perform internal functions that can be programmed within the TEK 3. Macro commands are the easiest allowing for the execution of a macro by just referencing a macro number within the TEK 3. Status commands are typically used to send information to a control system. Direct commands allow for setting a button or value within a loaded driver. For example, a projector driver is loaded into Serial 1 or the TekSecurity port and the command DVB2_0_2 is programmed into a button. This command will turn the projector on when the button is pressed.



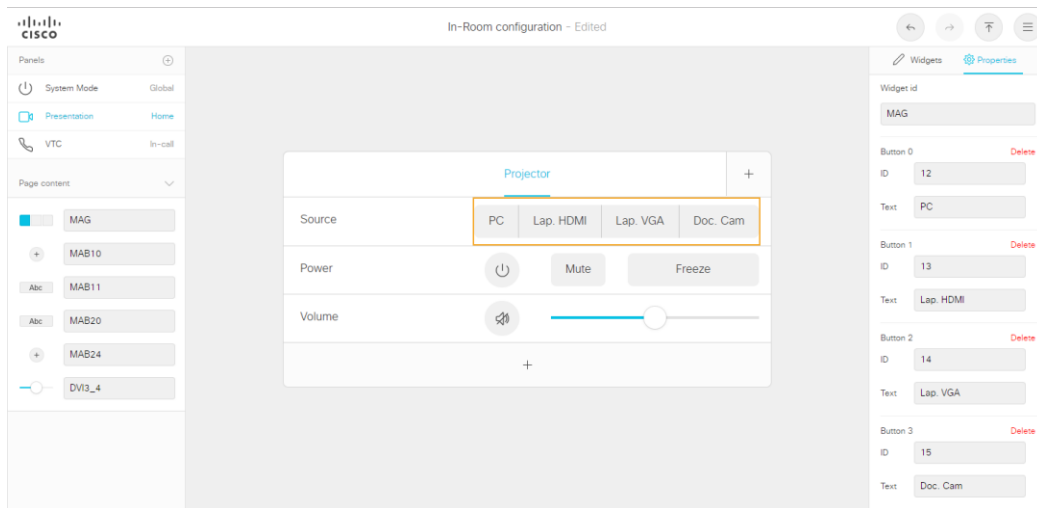
- MAB – Macro Button MAB[Macro#]
- MAG – Macro Group MAG for the Widget ID and each button ID is the [Macro#]
- MAT – Macro Toggle MAT[Macro#] Off = the Macro number / On = Macro# + 1
- STB – Status Button STB[Option]_[Index]
- STG – Status Group STG[Option] and each button ID is the Index
- STT – Status Toggle STT[Option] Off = Index 0 / On = Index 1
- STI – Status Int STI[Option]
- DVB – Direct Button DVB[Port#]_[Option]_[Index]
- DVG – Direct Group DVG[Port#]_[Option] and each button ID is the Index
- DVT – Direct Toggle DVT[Port#]_[Option] Off = Index 0 / On = Index 1
- DVI – Direct Int DVI[Port#]_[Option]

To provide feedback to the Touch 10 In-Room buttons, the Cisco SX In-Room commands can be placed in Macros or called by a control system using direct byte or integer commands in TekEzLink. Keep the buttons that require feedback in the macro range of 10-20.



Simple System using TEK 3 Macros

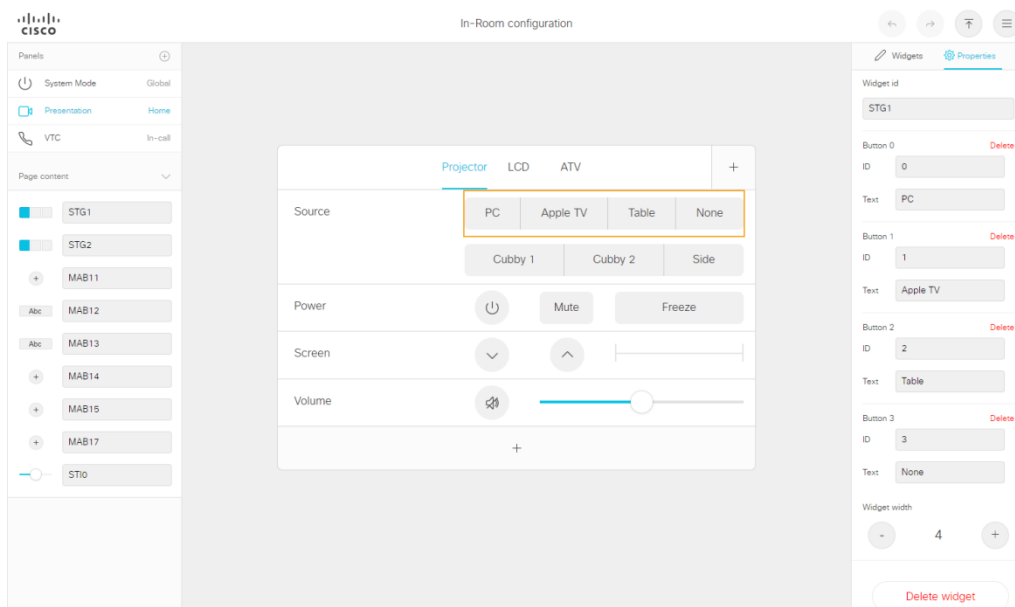
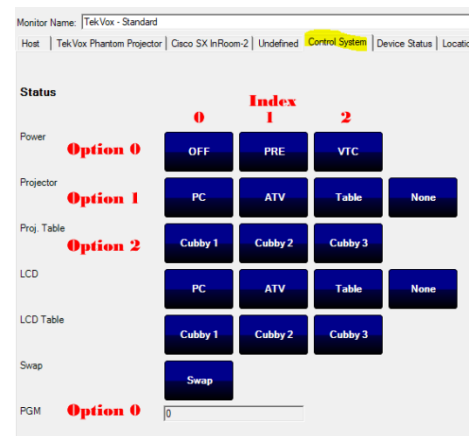
Using macros provides a simple method to control a TEK 3. The following illustrates how to use Macro commands within group buttons. Notice that the Widget ID uses the command “MAG” and each Button ID uses the actual Macro number to call within the TEK 3. The nice feature of using Macros is it allows for easy change out of drivers without having to change the In-Room configuration.



Complex System using TEK 3 and TCX9

The following illustrates a fairly complex system using status commands. In this scenario Status commands are used to send commands to a control system via a TEK 3 using TekEzLink. Whenever there is a change in a command, the TEK 3 will send the updated command to the control system. With Status commands you can basically create your own driver to the control system.

For this system there are two displays a projector and an LCD. In Presentation mode the user can display separate sources on either display using the Projector or LCD tabs on the Presentation page.



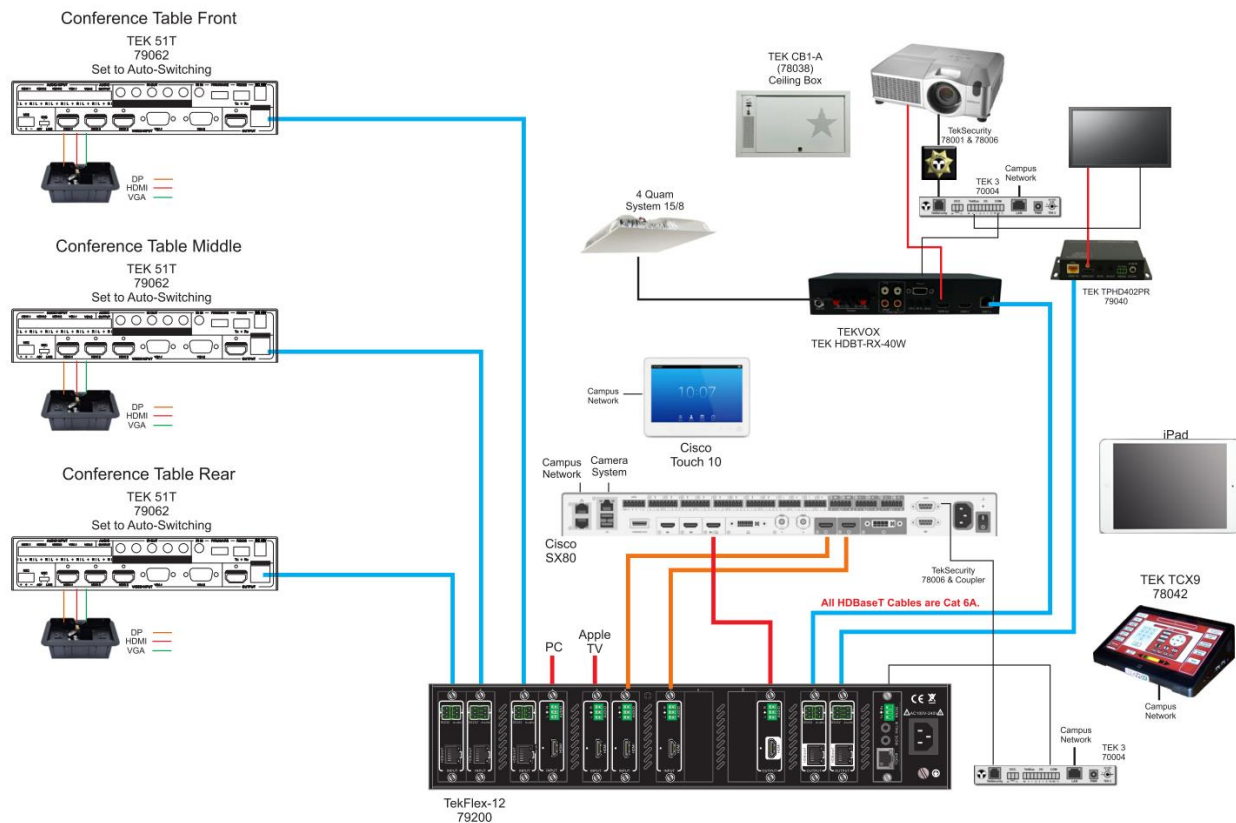
Cisco In-Room Control Example

In this example the room can operate in Presentation or Videoconference mode and has two displays, a video projector and LCD. Since the system requires more than what the SX80 can do by itself, a room controller is needed to handle all of the other functionality.

For sources the room has the following:

- PC
- Three table cubby connections
- Apple TV
- VTC People
- VTC Content

Since both displays can show separate sources and there are multiple inputs, a video matrix is used to route video to the displays and to the Codec. A separate audio system is used to control speaker volume. For this system 2 TEK 3s are and a TCX9 as the main control system. An iPad can also be added to the system for control as well. All of the video codec controls are only achieved using the Cisco Touch 10 user interface.




Touch 10 Operation

When In-Room controls are added to the Touch 10, extra icons will appear. At the top of the page a global icon is shown, and in this example it is the power button to display a power control page.



The power page allows the user to power on the system in either Presentation or Videoconferencing mode. The user can also power off the system. Shutting down the system will also disconnect from call. Although the user can select Presentation or Videoconferencing mode, the system will not show the VTC icon until a call is actually made. The system remains in Presentation or Idle mode

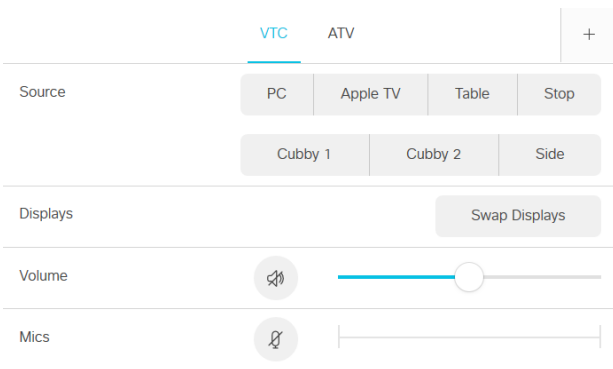
When the system is in Presentation mode, the user can select a source to either display. Also the user has control of the displays, Apple TV and room volume control.

Once a call is activate, the Touch 10 home screen changes the icon to the VTC.  When pressed, the VTC control page is displayed. While in VTC mode, the projection screen shows the content and the rear screen shows people. The screens can be swapped by pressing the Swap Displays button.

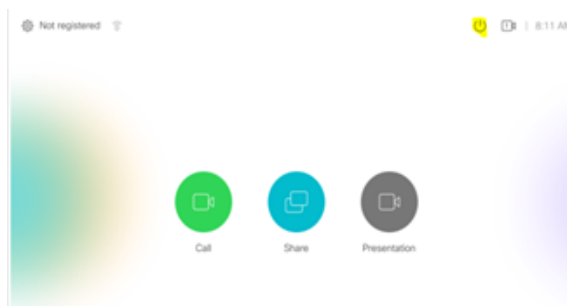
Selecting a source displays the content and sends to the far-end. The content can be stopped by pressing

An example of this program including In-Room configuration and TEK 3 templates can be found here:

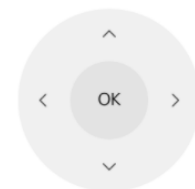
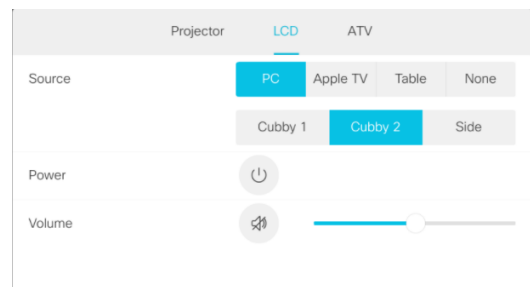
www.tekvox.com/downloads/tekvox_inroom_v1.zip



VTC mode



Touch 10 Home Screen in Idle mode



Presentation and Idle mode