



# TOA AM-CF1 Module Setup Guide

**About:**

LENUBIO (AM-CF1) is a new audio system for conference rooms which incorporates TOA's proprietary array microphone technology, digital signal processing and 2-way active speakers.

**Device Setup:**

Please use the TOA AM-CF1 Web Interface for this part of setup. Point your web browser to the AM-CF1 IP address on port 8000 (e.g. <http://192.168.1.32:8000>) to access the sound bar configuration.

Please use the “Audio Setting” tab to configure the room dimensions by updating the “Tracking Field” diagram.

**Setup Communication:**

Please use Compass Navigator for this part of setup. AM-CF1 units are controlled over TCP/IP on Port 3000.

In Compass Navigator, please insert the IP Address under Device Properties. Please note that each AM-CF1 unit requires its own module. Apply the IP Address to each module accordingly.

Please note, only one connection may be made to a single AM-CF1 unit. If there are multiple Compass controllers configured to control a single AM-CF1, then only one controller will be connected. All other controllers will not be able to control the device until the currently connected Compass controller closes the Compass Control app.

**Setup Login:**

In Compass Navigator, click on the AM-CF1 device properties tab located under IP Devices. All units are password protected and require credentials for control. Please enter the unit's password under “Password” and the username under “Login”. Click on “Login type” and set the value to “Common”.

**Beam Steering Notifications:**

Beam Steering notifications are especially useful when integrating with the Key Digital PTZ Conferencing camera, or other cameras without automatic tracking.

For your reference, the module zip folder includes example Compass Control Projects for Small and Large rooms, so you may review how the Beam Steering position can call camera preset commands. See the **Integration with KD-CAMUSB and VISCA Cameras** section for more information.

Beam Steering notifications must be turned on to get the microphone X/Y Position as external variables. Please send AM-CF1 macro command anywhere in the project to enable notifications:

```
TOA_set_BeamSteering_Notifications(int Interval, int Unit, int Enable/Disable);
```

**External Variables:**

In Compass Navigator click on the Variables tab and locate these variables:

- TOA\_AMCF1\_BeamSteering\_Position\_X
- TOA\_AMCF1\_BeamSteering\_Position\_Y
- TOA\_AMCF1\_BeamSteering\_Position\_Unit

These variables are linked to the Beam Steering position. Reading these values will reflect the unit's current Beam Steering X and Y position.

TOA\_AMCF1\_BeamSteering\_Position\_Unit:

- 0
  - When '0', the unit is inches
- 1
  - When '1', the unit is centimeters

TOA\_AMCF1\_BeamSteering\_Position\_X:

- -240 to 240
  - When the position unit is inches
- -600 to 600
  - When the position unit is cm

### TOA AMCF1 BeamSteering Position Y:

- 0 to 240
  - When the position unit is inches
- 0 to 600
  - When the position unit is cm

### Setup Complete

Upload and update the project for use.

### Integration with KD-CAMUSB & VISCA Cameras:

The AM-CF1 external variables for the Beam Steering X and Y Position values may be used to recall KD-CAMUSB or VISCA controllable camera presets.

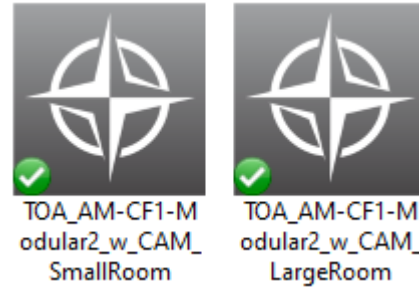
Using the KD-CAMUSB or VISCA Camera remote, please create the desired camera presets based on the room's usage and where the participant's will be seated.

In Compass Navigator, please use either of the "Change Value" event for each of these variables:

- TOA\_AMCF1\_BeamSteering\_Position\_X
- TOA\_AMCF1\_BeamSteering\_Position\_Y

When the X and Y values are in range of the desired preset, then send the command to set the KD-CAMUSB or VISCA camera to that preset PTZ position.

The module zip folder includes example Projects for Small and Large rooms for you to review how the Beam Steering position calls camera presets:



Open either project included in the zip folder, select the **Variables** tab, and review the **Events & Actions** located on these three variables:

Variables → Scenarios Macro

- SM\_Scn\_StartMeetingSelect
- SM\_Scn\_EndMeetingSelect

Variables → Project:

- TOA\_AMCF1\_BeamSteering\_Position\_X

A series of IF statements is used to define four X,Y beam steering status ranges and call camera position preset commands accordingly.

If the beam steering Y value is less than a specified distance from the microphone, the control system does nothing.

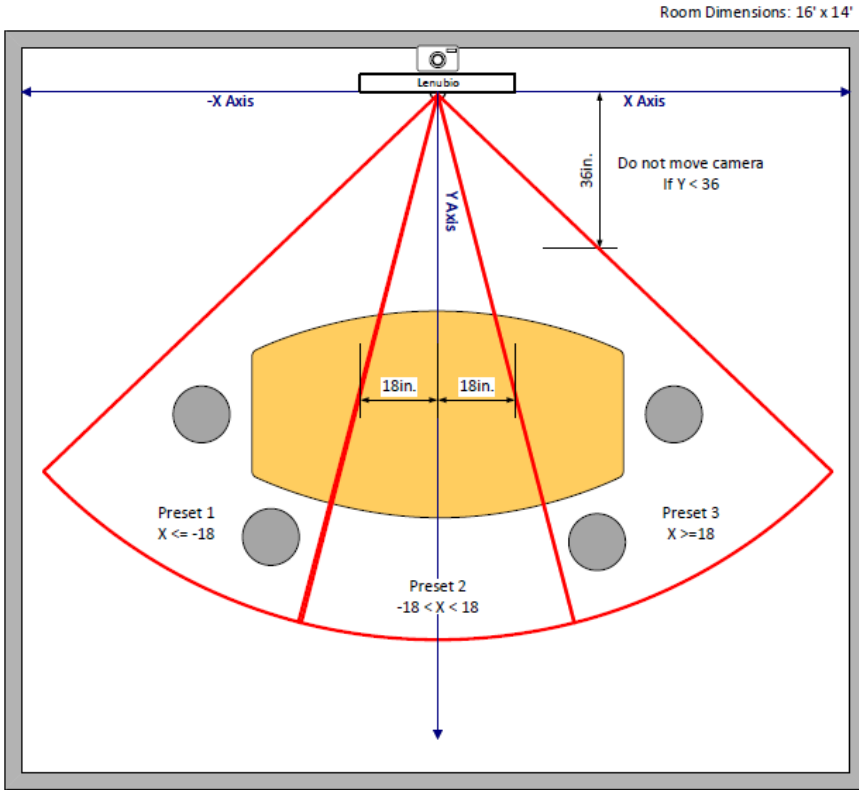
If the beam steering status is not within the four defined X,Y ranges, the Compass iPad calls the Camera's Home preset.

The following pages depict each example system.

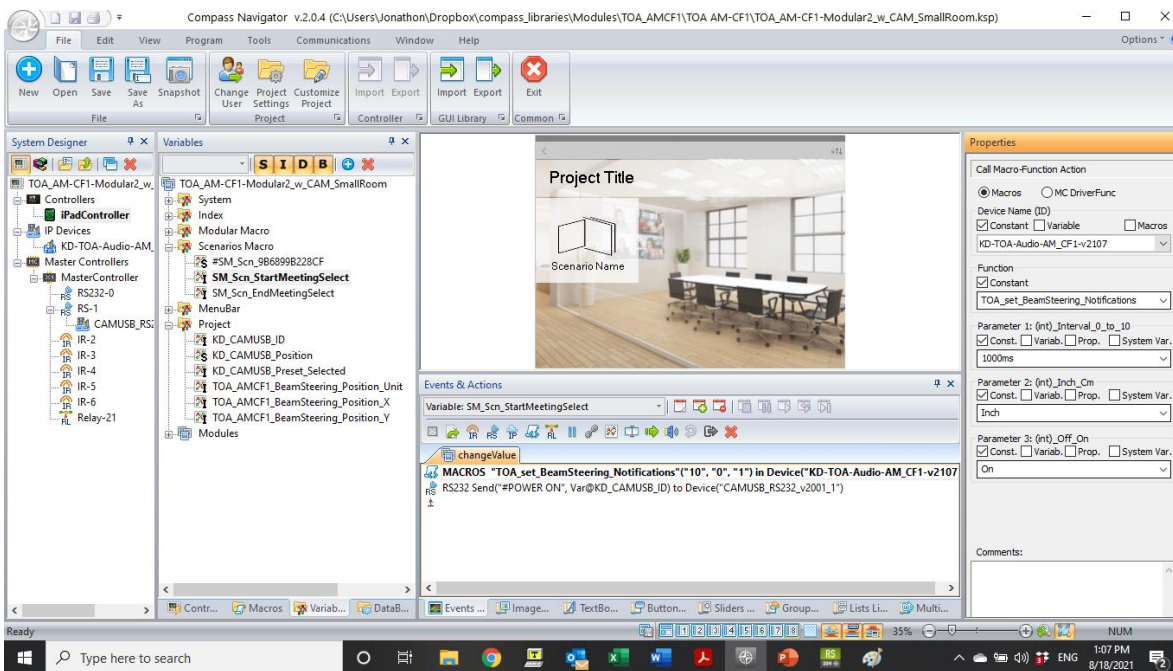
### Example 1

TOA\_AM-CF1-Modular2\_w\_CAM\_SmallRoom

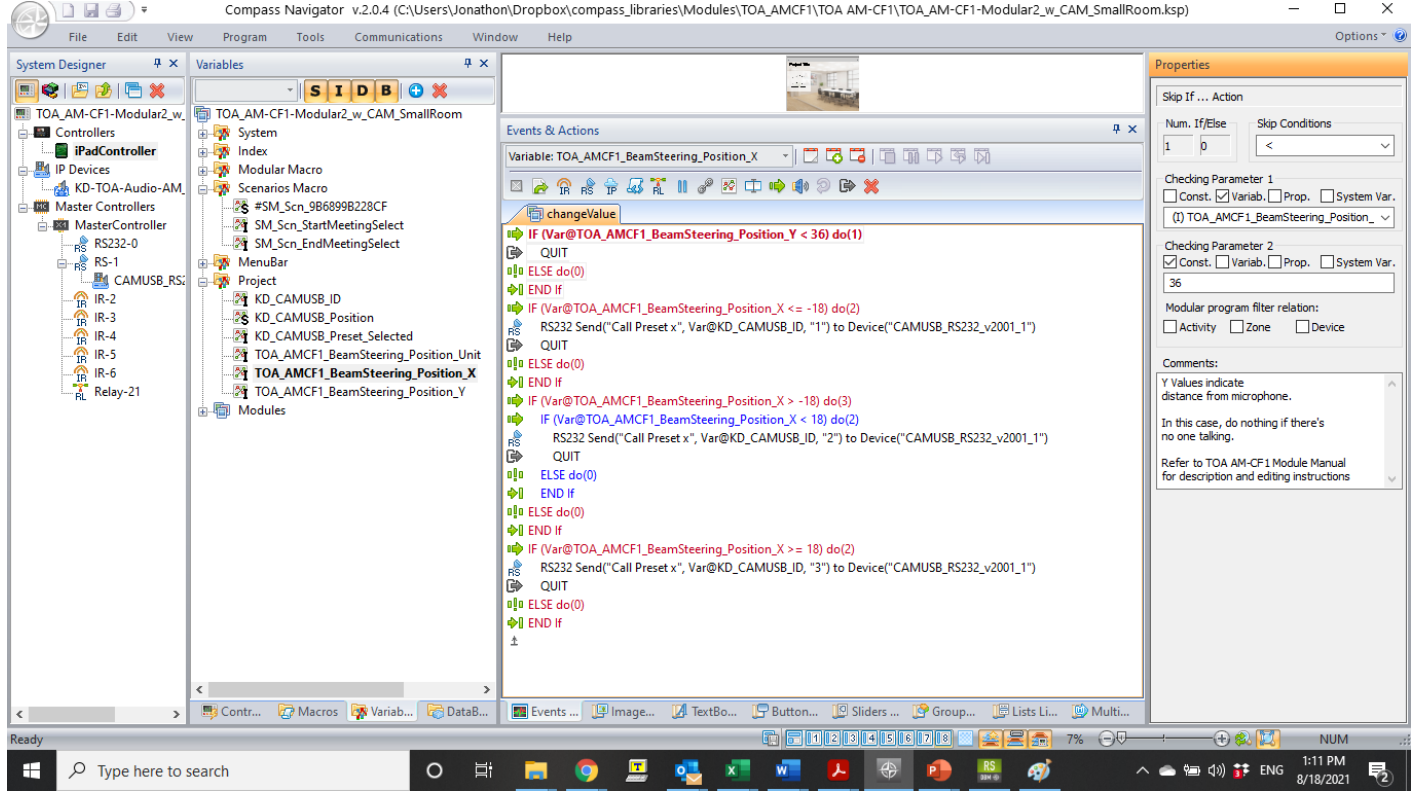
### Room Diagram



### Commands sent at the start of meeting



## Commands sent depending on the X,Y beam steering status



Compass Navigator v2.0.4 (C:\Users\Jonathon\Dropbox\compass\_libraries\Modules\TOA\_AMCF1\TOA\_AMCF1-Modular2\_w\_CAM\_SmallRoom.ksp)

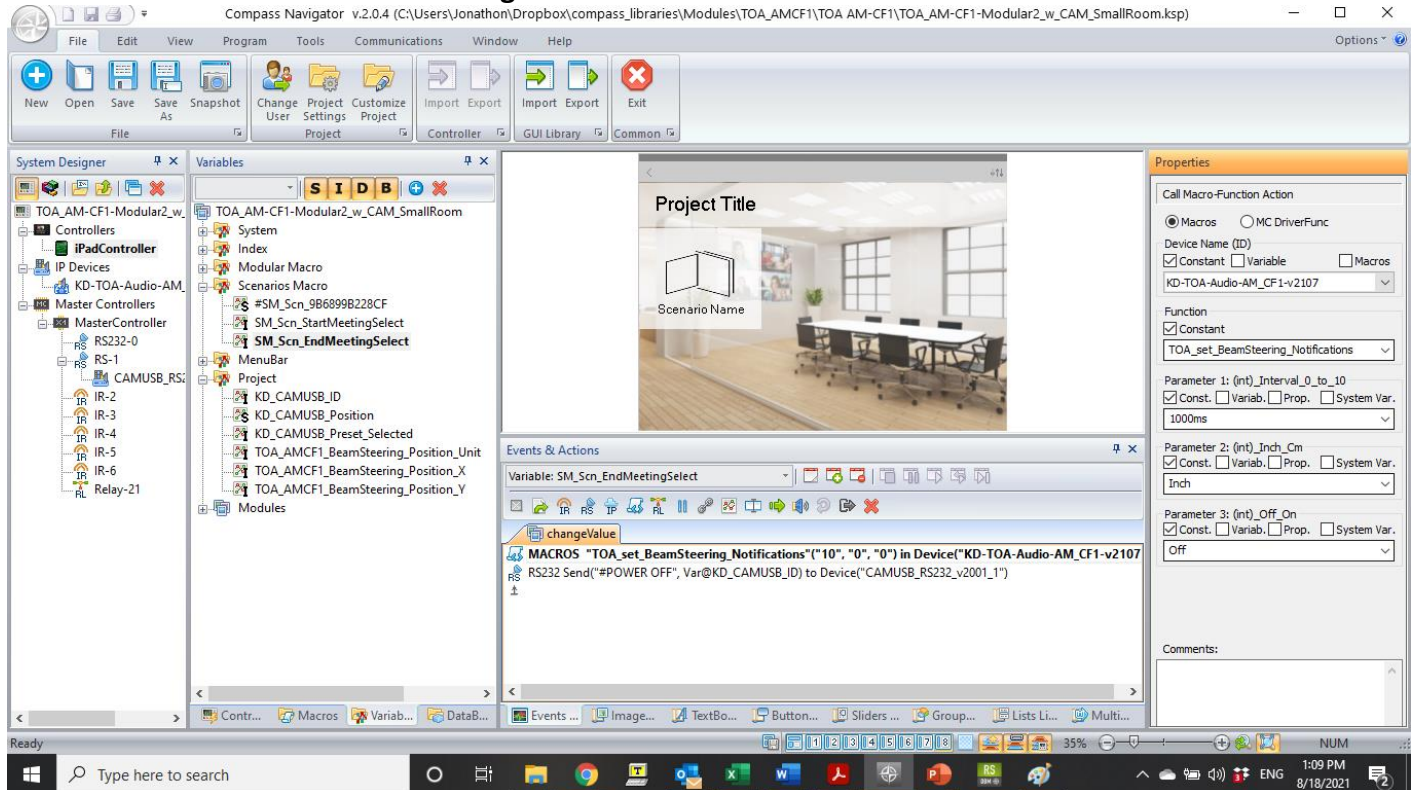
System Designer | Variables | Events & Actions | Properties

```

changeValue
IF (Var@TOA_AMCF1_BeamSteering_Position_X < 36) do(1)
  QUIT
ELSE do(0)
END IF
IF (Var@TOA_AMCF1_BeamSteering_Position_X <= -18) do(2)
  RS232 Send("Call Preset x", Var@KD_CAMUSB_ID, "1") to Device("CAMUSB_RS232_v2001_1")
  QUIT
ELSE do(0)
END IF
IF (Var@TOA_AMCF1_BeamSteering_Position_X > -18) do(3)
  IF (Var@TOA_AMCF1_BeamSteering_Position_X < 18) do(2)
    RS232 Send("Call Preset x", Var@KD_CAMUSB_ID, "2") to Device("CAMUSB_RS232_v2001_1")
    QUIT
  ELSE do(0)
  END IF
ELSE do(0)
END IF
IF (Var@TOA_AMCF1_BeamSteering_Position_X >= 18) do(2)
  RS232 Send("Call Preset x", Var@KD_CAMUSB_ID, "3") to Device("CAMUSB_RS232_v2001_1")
  QUIT
ELSE do(0)
END IF
  
```

Properties: Skip If ... Action, Num. If/Else, Skip Conditions, Checking Parameter 1, Checking Parameter 2, Modular program filter relation, Comments.

## Commands sent at the end of meeting



Compass Navigator v2.0.4 (C:\Users\Jonathon\Dropbox\compass\_libraries\Modules\TOA\_AMCF1\TOA\_AMCF1-Modular2\_w\_CAM\_SmallRoom.ksp)

System Designer | Variables | Events & Actions | Properties

```

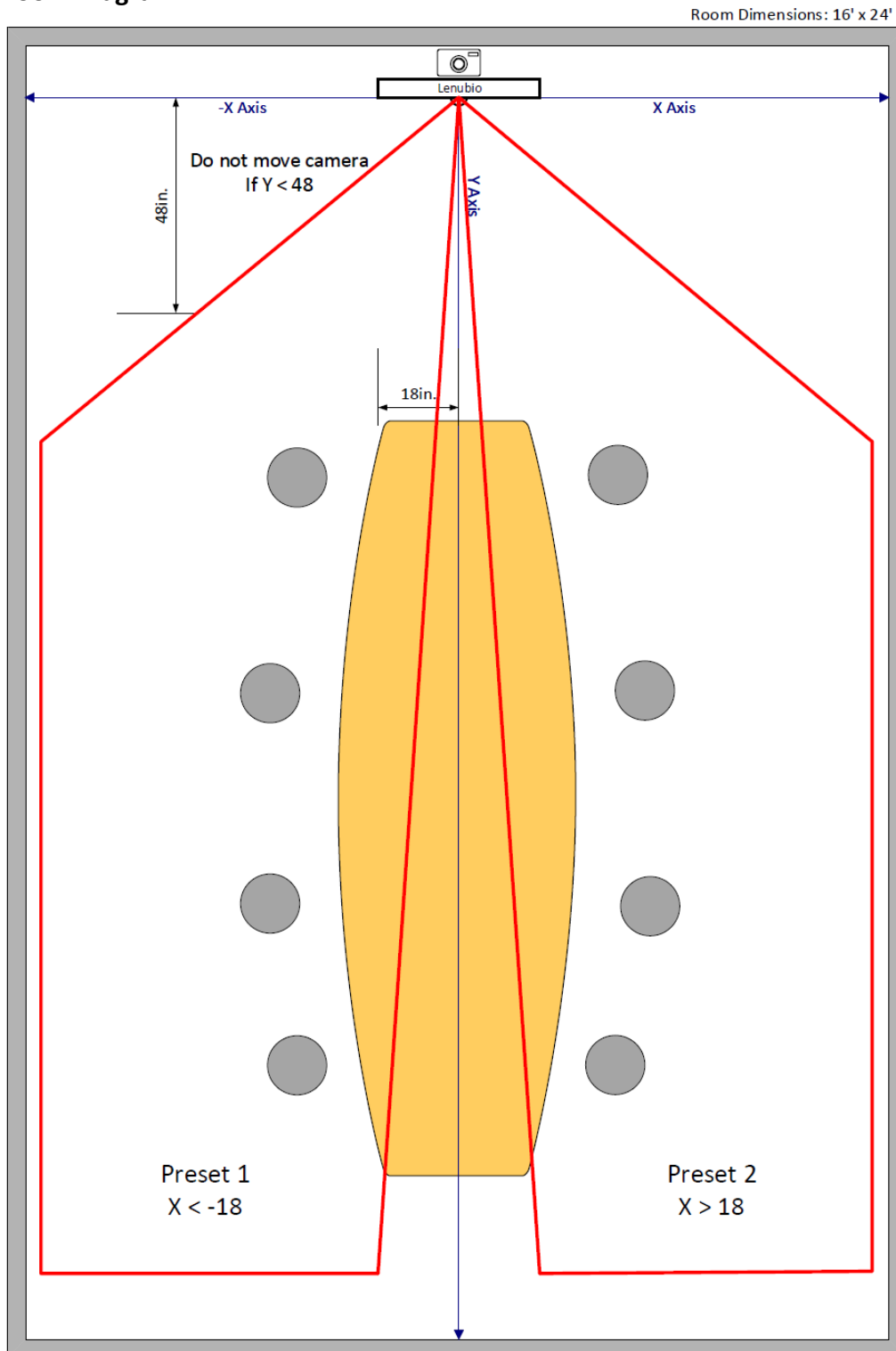
changeValue
MACROS "TOA_set_BeamSteering_Notifications"("10", "0", "0") in Device("KD-TOA-Audio-AM_CF1-v2107")
RS232 Send("#POWER OFF", Var@KD_CAMUSB_ID) to Device("CAMUSB_RS232_v2001_1")
  
```

Properties: Call Macro-Function Action, Device Name (ID), Function, Parameter 1, Parameter 2, Parameter 3, Comments.

### Example 2

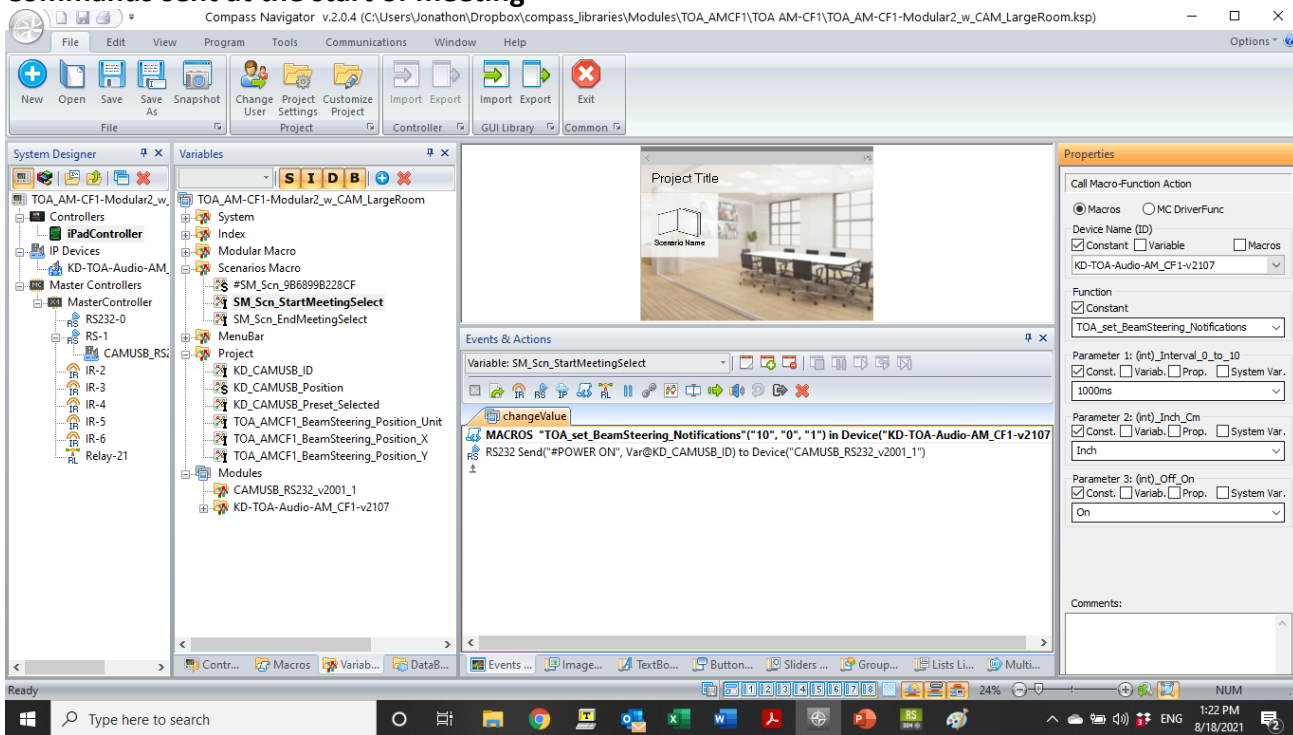
TOA\_AM-CF1-Modular2\_w\_CAM\_LargeRoom

### Room Diagram

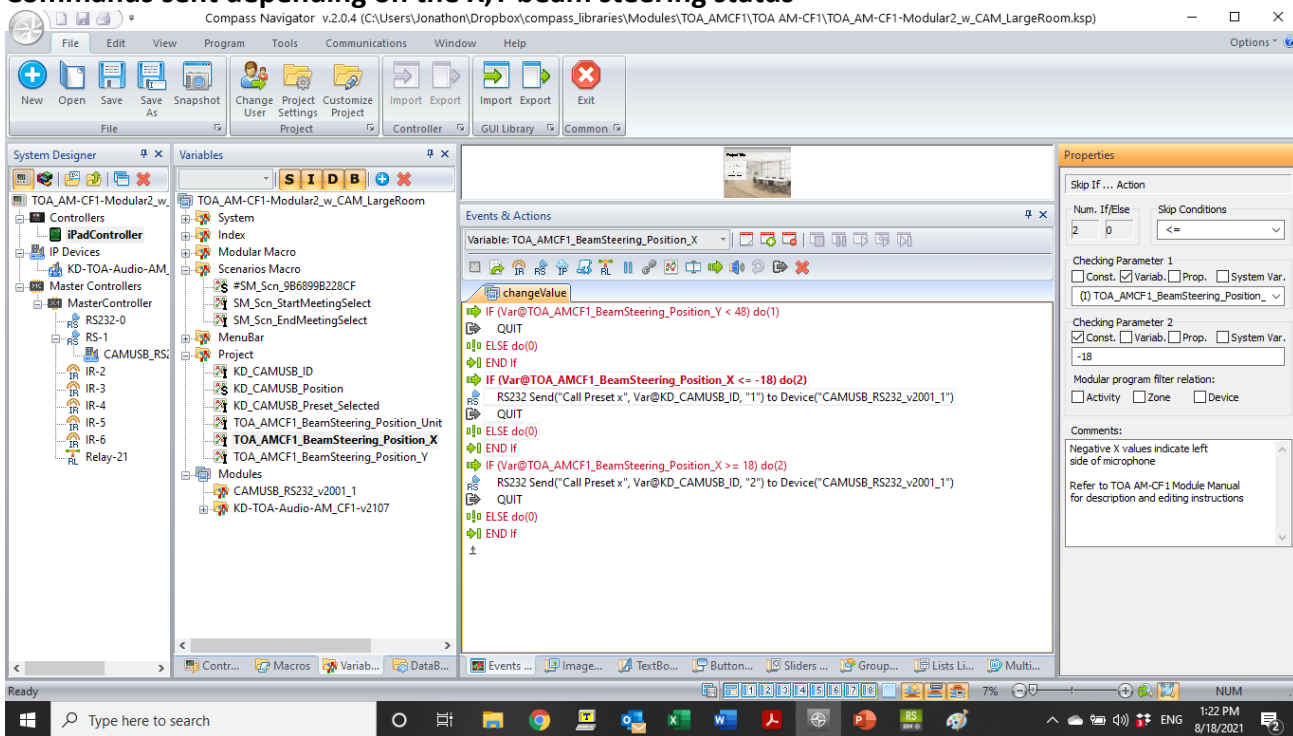




## Commands sent at the start of meeting



## Commands sent depending on the X,Y beam steering status



## Commands sent at the end of meeting

