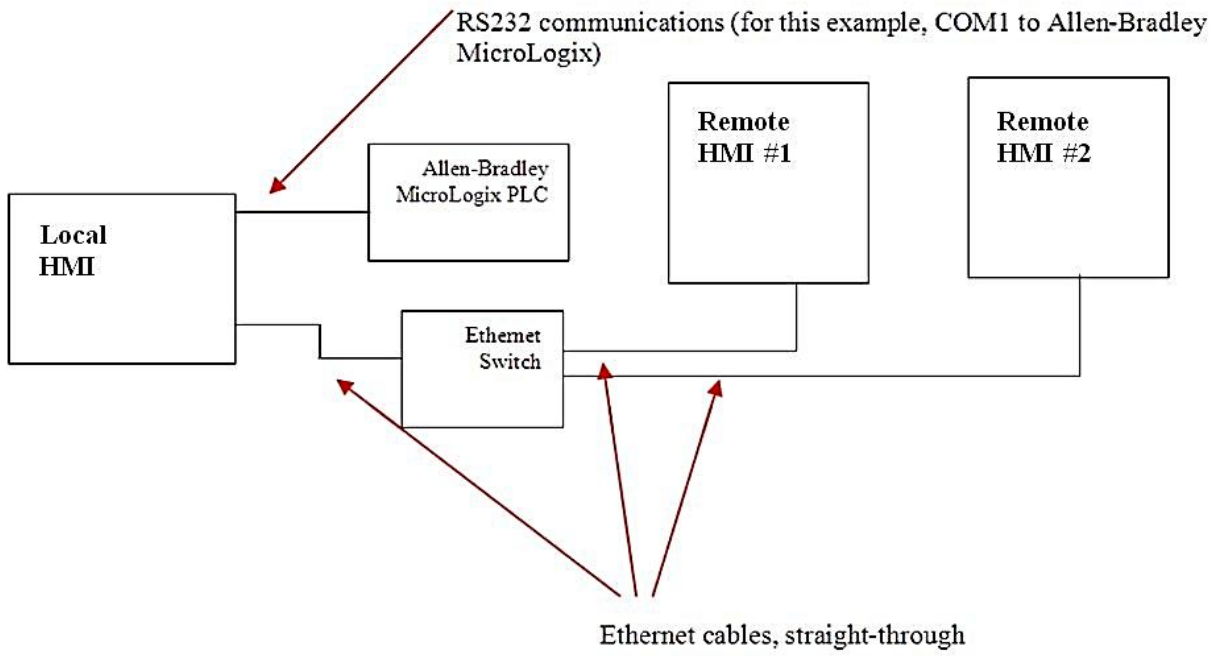
TECHNICAL NOTE

Maple Model(s)	Title	TN5033
HMI5000 cMT Series RMI5010	Multiple HMIs connecting to one PLC	
P/N: 0907-5033 Rev. 03 Date: 10/04/2022		

Summary

Several Graphic HMI units can be connected to one PLC as shown below. The HMI's can also directly share data.

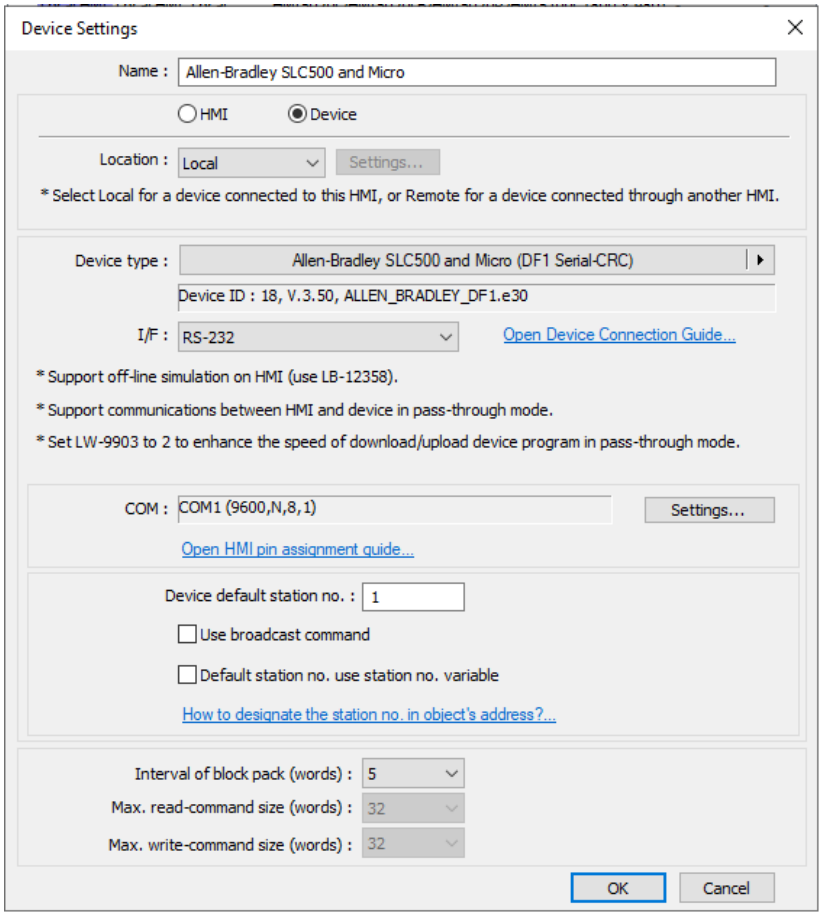


Solution

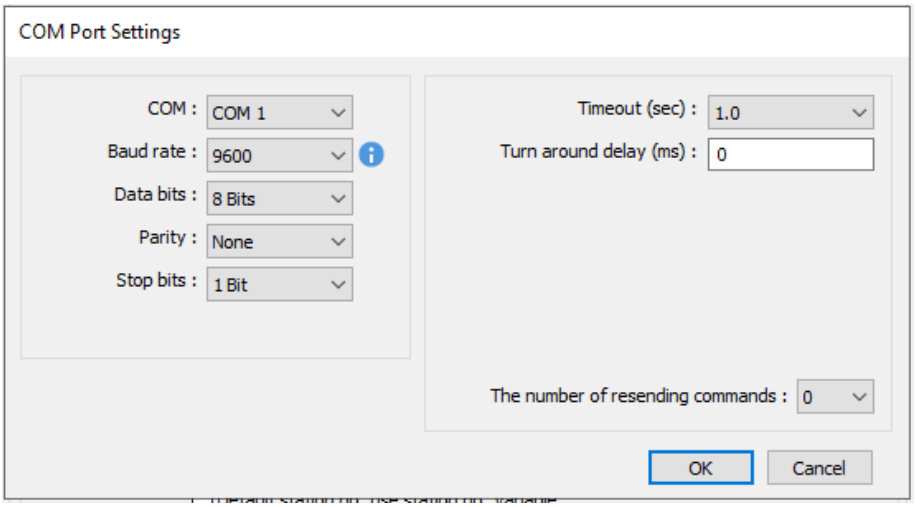
Local HMI Software Setup:

To set up the Local HMI (master HMI), use EBPro and follow the steps listed below:

After starting a new project for the local HMI, select *Home* > *System Parameters*. When the System Parameter Setting dialog box appears, select the *Device* tab and click *New Device/Server…* The Device Properties dialog box is displayed.



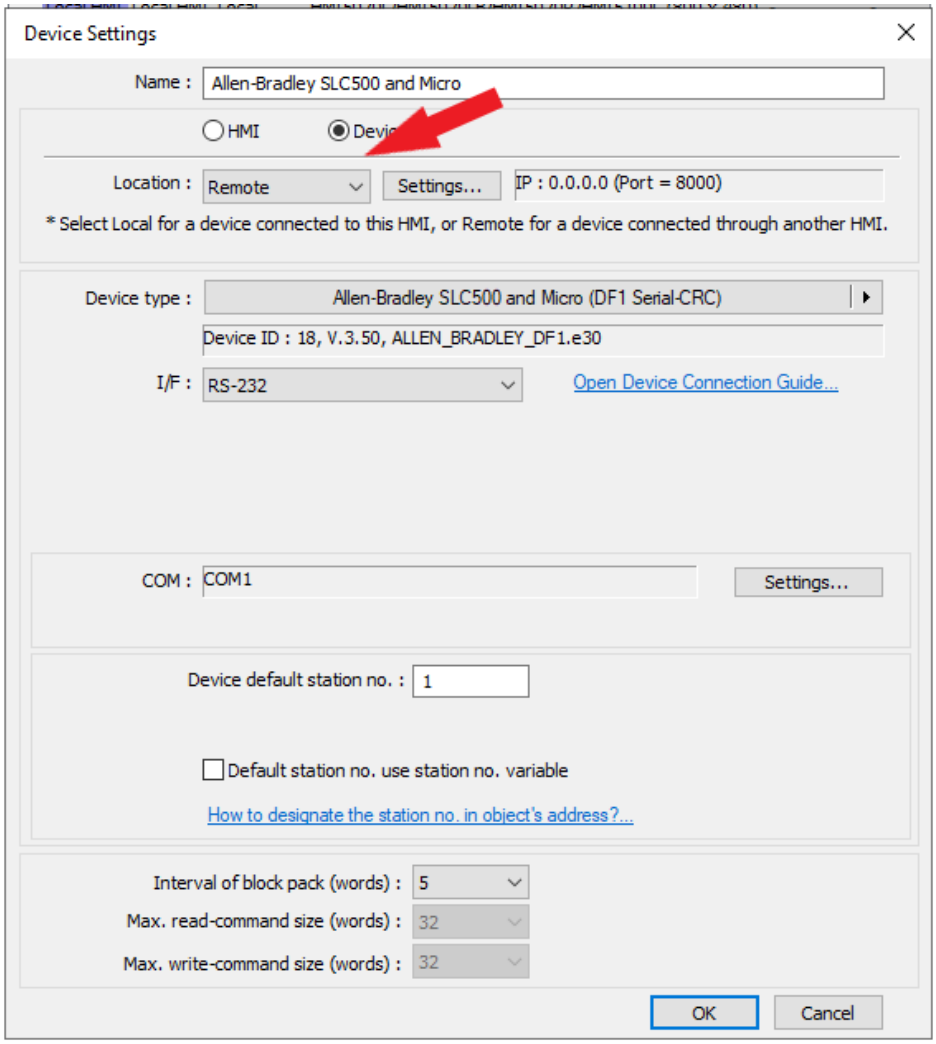
In the Device Properties dialog box, ensure the Location is set to "Local" then select the appropriate communications driver – in this example Allen-Bradley SLC500 and Micro (DF1 Serial-CRC) is selected. Click *Settings* to display the COM Port Settings dialog box shown below.



Adjust the communications parameters as needed to match the PLC settings, and those outlined in the appropriated Controller Information Sheet found on our website. When finished, click *OK* on all open windows to accept changes. This completes the communications setup of the local HMI (master HMI).

Remote HMI #1 Software Setup

After starting a new project for the first remote HMI, go to the System Parameters and select *New Device/Server,* as was done in steps 1 and 2 of the local HMI set-up. Select Remote for the Location (see below). Click the *Location Settings…* button to display the IP Address Settings dialog box.



Enter the IP address of the **Local HMI** (each HMI needs to have an IP address assigned to it in order to download to it). This should be the IP address of the device that we just configured, which is connected directly to the PLC.

Select the PLC Type (communications driver) that the Local HMI is connected to. In the above example, Allen-Bradley SLC500 and Micro (DF1 Serial-CRC) has been selected. Click the PLC type *Settings…* button to display the COM Port Settings dialog box.

Verify that the COM port selected is the COM port used by the Local HMI for communications to the PLC. Click *OK* on all open screens to save settings. This completes the communications set up of Remote HMI #1.

Remote HMI #2 Software Setup:

After starting a new project for the second remote HMI, follow the steps for setting up Remote HMI #1.

The configuration should be wired as follows:

Local HMI:

For this example, the cable used connects COM port 1, via RS232 to Allen-Bradley MicroLogix or SLC500 PLC.

The Ethernet port is connected to an Ethernet switch (straight through cable type).

Remote HMI #1:

For this example, the Ethernet port of Remote HMI 1 is connected to an Ethernet switch (straight through cable type).

Remote HMI #2:

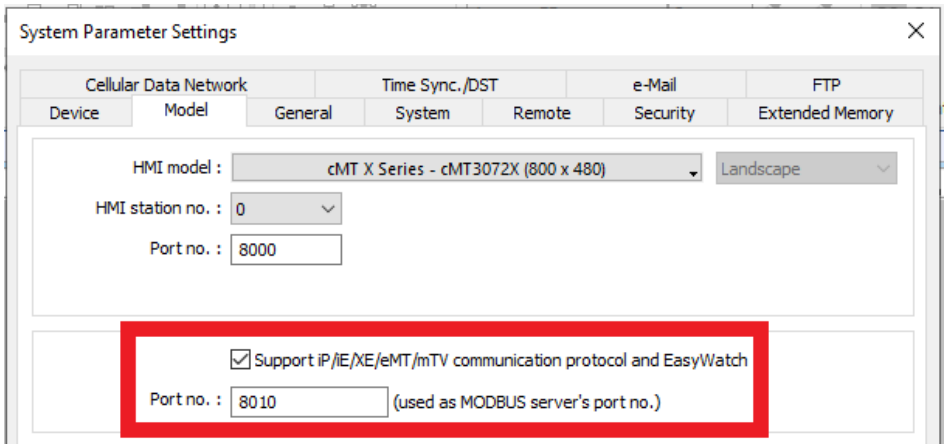
For this example, the Ethernet port of Remote HMI 2 is connected to an Ethernet switch (straight through cable type).

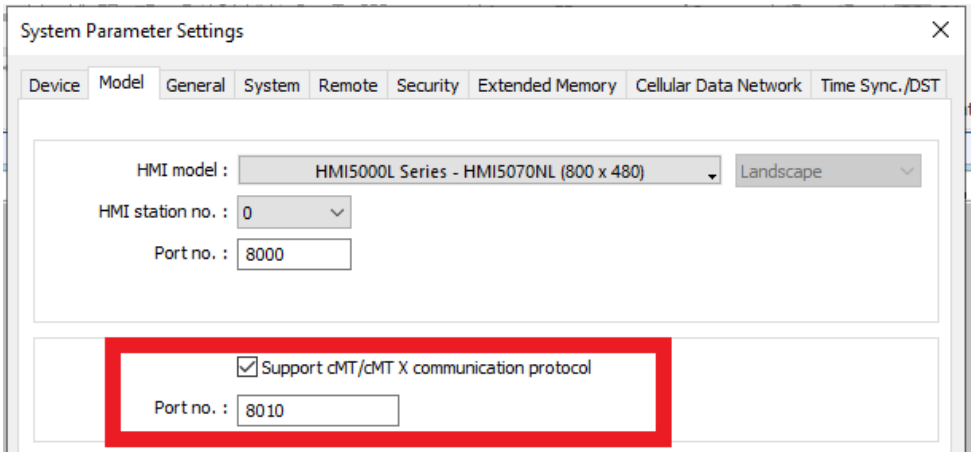
Summary of Connecting cMT Series devices to other HMI units

Maple Systems has always had a simple method for communicating between HMI products. An HMI is simply added to an EBPro project as a 'remote' HMI, as demonstrated above. With the addition of our cMT series (as well as the older RMI series), another step has been added.

cMT as the Communications Master (cMT unit Polls Other Models)

In each device that is to be polled by a cMT unit, this new protocol must be included in the project. This is accomplished by checking a box on the Model tab of the System Parameters dialog as shown below:





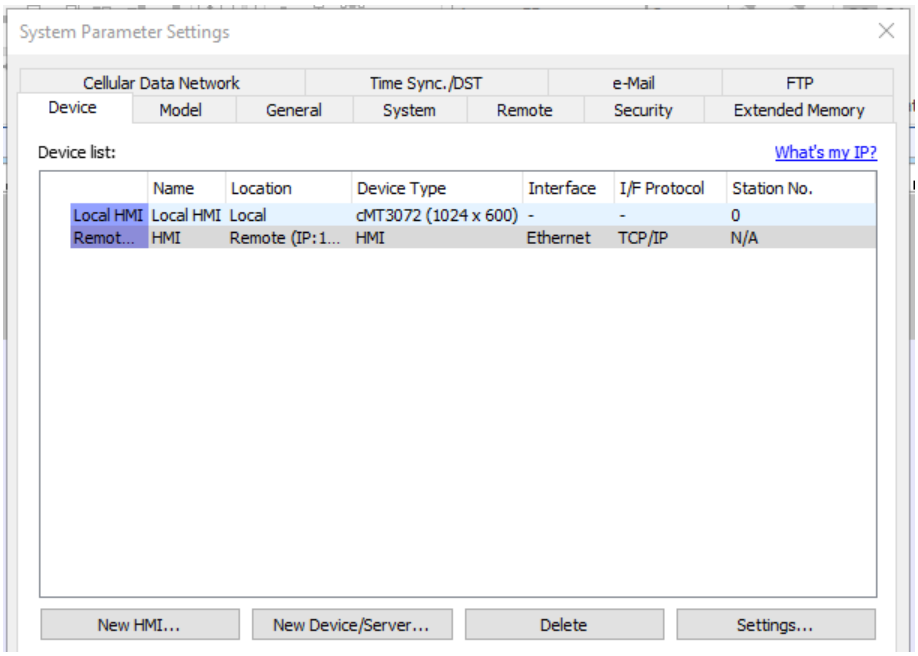
Note – For older RMI series and HMI5000 series devices, this setting is labeled "Support cMT/cMT X Communication protocol" as shown above.

This must be done in the EBPro project file for **any** HMI product that the cMT unit is to communicate with. If the cMT device is to communicate with existing HMI products, the projects in those units must be updated accordingly:

1. Open the project for the HMI to be updated.
2. Go to the Model tab of the System Parameters dialog.
3. Check the "Support cMT/cMT X Communication protocol" or "Support iP/iE/XE/eMT/mTV communication protocol and EasyWatch" box. Leave the corresponding new port setting at at Port 8010.
4. Save and compile the project, download to the HMI.

After the project has been updated, that HMI can be added to the cMT device project as a 'Remote' HMI.

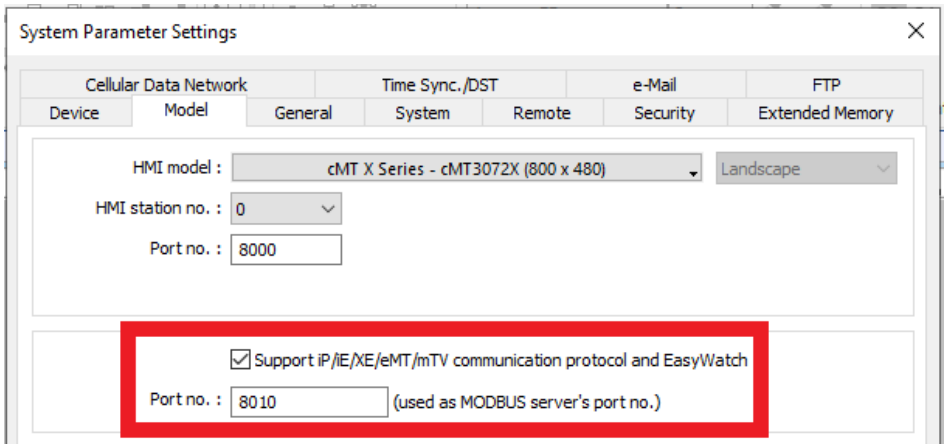
This is done through the System Parameters dialog by selecting the New HMI… option.



When adding this new device, you can set the name as you see fit. You will also need to click the Settings… button and change the IP address to that of the Remote HMI you are connecting.

cMT device as the Communications Slave (cMT gets polled by Other HMI Models)

In the cMT, the old protocol must be included in the project. This is accomplished by checking a box on the Model tab of the System Parameters dialog:



In the project for the HMIs that will be polling the cMT device, the cMT must be added as a Remote HMI.