

Instructions on Programming the FieldServer as a Master Using the SST Configuration Software

The notes below provide a guideline for working through the SST configuration software from a FieldServer perspective, and should not be construed as a replacement of the SST documentation for this software.

The purpose of the .bss file is to document the network layout for the Profibus master in order that it knows which Profibus slaves to expect, and what their buffer formats are. All Profibus devices have 3 buffers: An input buffer, an output buffer, and a diagnostic buffer. Most vendors show little or no interest in the diagnostic buffer, but the input and output buffers are crucial to understanding the communications.

- a. Note that when discussing buffers, the direction mentioned is always taken with respect to the Master. For example, Slave 1 input buffer is where the data resides that is being sent to the Master. This is important to understand.
- b. When configuring the BSS file in the SST software, select 5136_PFB_ISA_Master as the master card. The properties are pretty much all auto configured except for the Master Address, which needs to match System station address configured in the csv file (In the SST software, right-click on the device to get to the properties window)
- c. The next step would be to bring in the slave modules. As these are most likely third party devices, you will need to obtain the gse or gsd files for the slaves being configured. (Files ending in these extensions are the official property files for a slave). You can expect one gse (or gsd) file per device type.
- d. Once you have obtained the gse(gsd) file, you can import it into the configuration by clicking on the slaves folder in the left Window Pane, and then selecting the new devices button just above that Pane.
- e. Once you have imported the gse (gsd), you can then add slaves of this device type to the network by dragging this device from the left pane to the right pane. As you do this you will need to allocate addresses to the slaves. If the modules tab in the slave property window is empty, then it means the slave module requires you to configure the modules as well. Consult the vendor for more information on this if needed.
- f. Once the master and all slaves are configured, save your configuration, and then choose Edit -> Export Binary to create a .bss file. Important: The file must be called Bridge.bss.
- g. Download the Bridge.bss file into the fieldserver using the download function in the FieldServer Remote User Interface (ruinet). Cycle power after successful download.

Some important notes:

- i. The input structure and output structure of the slaves must match precisely, both in the bss file and in the csv configuration. If there is a mismatch, it is unlikely anything will communicate.
- ii. The master writes data to the slaves' output buffers. Therefore, for the Master, use wrbc in the map descriptors when accessing the remote Output buffer. Likewise, the Input buffer is written to by the slave, so the correct function to use in the Master is "Passive" for Inputs. Remember that for Fieldserver slaves the functions will be the opposite way around.
- iii. The Master has it's own buffers, and recognizes remote buffers by checking the address allocated in the Node_Id field of the configuration. If the Node_Id equals the System_Station_Address in the Bridge section of the csv, then the fieldserver will write data to it's own buffers (Normally only done when fieldserver is configured as a slave). So, be sure to allocate the station address of the slave when populating the node_ID fields in the csv.

Revision History

Date	Document Revision	Comment
1/02/03	1.00aA	Created