

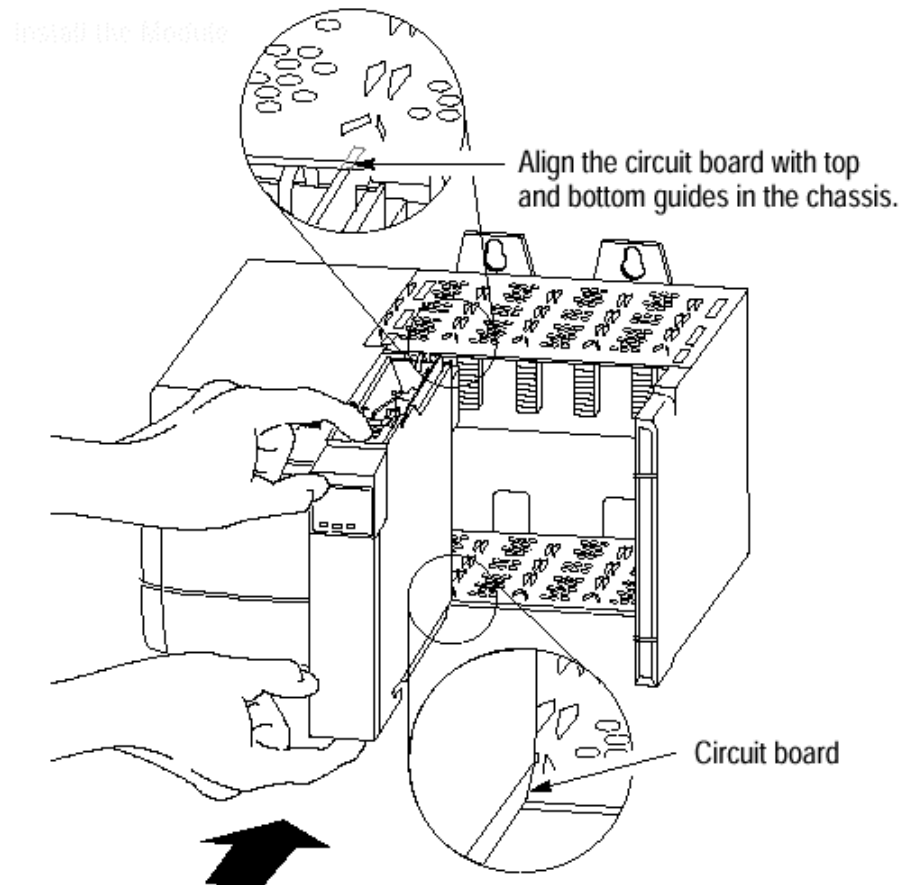
3.1.4 Installing FTE Bridge module (TC-FTEB01/TK-FTEB01)

ATTENTION

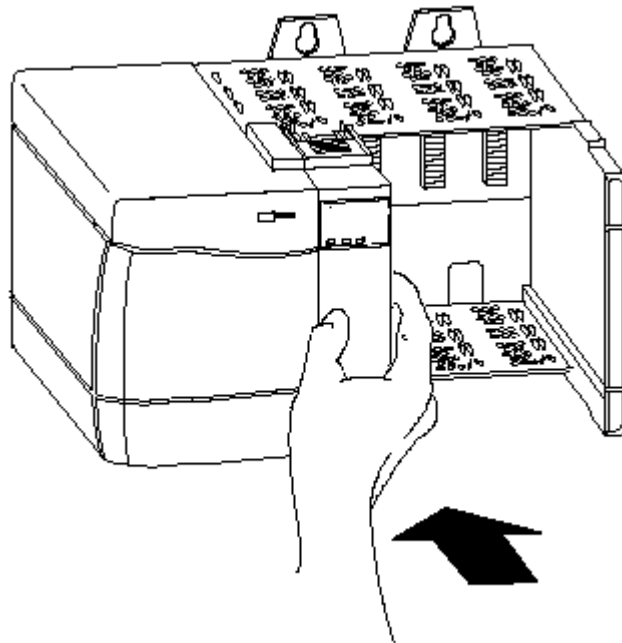
The following procedure assumes that the chassis has been installed and grounded as outlined in the Control Hardware Installation Guide, and power is not applied.

To insert the FTE Bridge module into the chassis

1. Align the module's circuit board with the top and bottom chassis guides for the planned slot location. Typically, slot 0 is reserved for the communication module. (Remember that slot numbering is zero-based and the left most slot is number "0".)



- Slide the module into the chassis, until the module's locking tabs "click" into position. The module is fully installed when it is flush with the power supply or other installed modules.



- Repeat Steps 1 and 2 to install other modules, as required.
- Go to the next Section Attaching FTE cables.

3.1.5 Attaching FTE cables

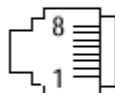
ATTENTION

Unless the location is known to be non-hazardous, do not:

- Connect or disconnect cables
- Install or remove modules while the Control system is powered.

The FTE Bridge module includes two RJ-45 modular jacks located behind its front door. They provide redundant Ethernet media connections for FTE ports A and B. The dust boots on the cables are color coded yellow for port A and green for port B. The following figure shows the pin out for the 8-pin RJ-45 connector.

Pin Number	Description
1	TD+ (Transmit positive polarity of twisted pair output)
2	TD- (Transmit negative polarity of twisted pair output)
3	RD+ (Receive positive polarity of twisted pair input)
4	NC (No Connection)
5	NC (No Connection)
6	RD- (Receive negative polarity of twisted pair input)
7	NC (No Connection)
8	NC (No Connection)
Exterior Shield	(Cable/connector chassis ground shield)



- [Maintenance considerations](#)
- [Updating FTE Bridge module firmware](#)
- [Configuration changes and migration scenarios](#)
- [Migrating from ControlNet or Ethernet supervisory network](#)
- [Migration from FTE based C200 to C300](#)
- [Import/export and on-process migration support](#)
- [Troubleshooting](#)

6.1 Maintenance considerations

6.1.1 Periodic checks

Check the front-panel indicators periodically to ensure all segments of the 4-character display and the light emitting diodes (LED) are working. If segment or LED is not lit or has dimmed, you must replace the FTE Bridge module, since front-panel indicators are not field replaceable.

Refer to the Removal and Insertion Under Power (RIUP) Function Guidelines in the *Control Hardware Installation Guide* before you RIUP any module.

- [Remove and replace FTE Bridge module TC/TK-FTEB01](#)
- [Spare parts](#)

6.1.2 Remove and replace FTE Bridge module TC/TK-FTEB01

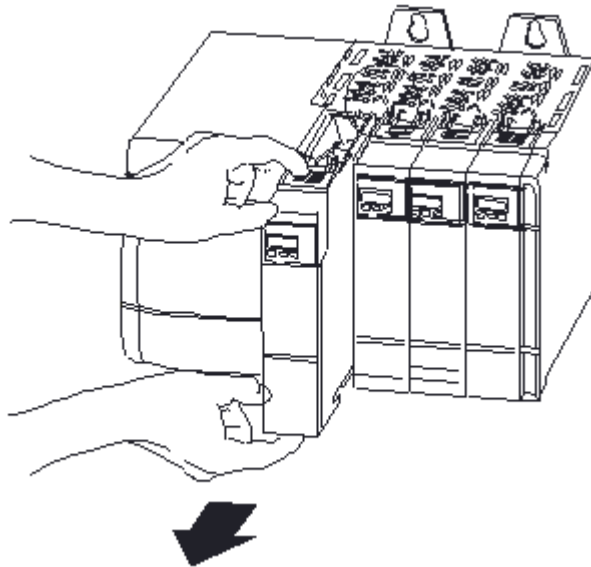
ATTENTION

We recommend that you proceed with **extreme caution** whenever replacing any component in a control system. Ensure the system is offline or in a safe operating mode.

Component replacements may also require corresponding changes in the control strategy configuration through Control Builder, as well as downloading appropriate data to the replaced component.

To remove and replace a FTE Bridge module

1. On the **Project** tab in Control Builder, double click the icon for the FTE Bridge block that represents the FTE Bridge module to be replaced.
Opens **SYSTEM:FTEB Block, XXXXX- Parameters [Project]** configuration form. Where XXXXXX equals the assigned name.
2. On the **Main** tab, record the **Image Version** and **Device Index** number listed for reference. Click the **Cancel** button.
Records data for future reference and closes the form.
3. Is the FTE Bridge Module to be replaced installed in a **non-redundant** chassis configuration or in a **redundant chassis pair** configuration?
 - If answer is **non-redundant** chassis, go to Step 5.
 - If answer is **redundant chassis pair**, go to Step 4.
4. If FTE Bridge module to be replaced is currently running as the Primary, initiate a switchover to make it the secondary.
Ensure the FTE Bridge module to be replaced is functioning as the secondary, so power to the chassis can be turned off. Skip Step 5 and go to Step 6.
5. Put the Controller in its idle state and ensure the backup battery is functioning.
Prepare the non-redundant Controller chassis for shutdown.
6. Flip the switch on the chassis power supply to the **Off** position.
Remove power from the chassis.
7. Open the front-panel door and unplug the primary and secondary cable connectors from the sockets on the module.
Prepare module for removal.
8. Push in the top and bottom locking tabs and pull the FTE Bridge module from its chassis slot.
Remove the module from the chassis.



9.
 - Note if cable shield ground jumpers are installed or not. See *Checking cable shield ground jumper* for more information.
 - Confirm that **Device Index** number set on BCD rotary switches on the module agrees with the one recorded in Step 2. See **Setting unique Device Index** for more information.

Confirm settings on the removed module.

The FTE Bridge has detected an open receive signal line between either of its two Ethernet interface devices and the processor handling incoming communication.

in the system.

Solution Unless you suspect that one of the causes described above exists and is resulting in a spurious indication, you must replace the FTEB module exhibiting this diagnostic at your earliest convenience. When this fault exists, network redundancy for this node no longer is working. See *Installing FTE Bridge module (TC-FTEB01/TK-FTEB01)* for details.

6.7.14 FTEB test codes

Test Code	Function
T000	Self test start test
T001	LED check test
T002	Memc initialization test
T003	CPU mask test
ROM Test	ROM Test
T010	Boot image check test
T011	Loader image check test
RAM and Parity Tests	RAM and Parity Tests
T020	RAM BR or check test
T021	Lower RAM word access test
T022	Upper RAM word access test
T023	Lower RAM byte access test
T024	Upper RAM byte access test
T025	Lower RAM parity int. test
T026	Lower RAM parity int. test
T030	RAM parity sweep test
T031	RAM sweep time test
T032	RAM retention test

Test Code	Function
T033	RAM address test
T034	RAM pattern test
T040	Flash burst test
T044	RAM860 address test
T045	RAM860 pattern test
T046	CPU type test
D-Cache Tests	D-Cache Tests
T050	I Cache function test
T051	I Cache integrity test
T055	D Cache function test
T056	D Cache RAM wrap test
T057	D Cache integrity test
Hardware Status Register and System Control Tests (The following tests look for improper states of hardware status bits.)	Hardware Status Register and System Control Tests (The following tests look for improper states of hardware status bits.)
T060	Stuck watch dog timer pend test
T061	Stuck DC fail test
T062	Stuck IRQ0 test
T063	Stuck ICP timer test
T064	Stuck ICP comm test
T065	Stuck System fail test
T066	System fail assert test
ICP ASIC and Shared RAM Tests	ICP ASIC and Shared RAM Tests
T100	ICP ASIC initialization test
T101	ICP RAM byte write test