

THE BELT RAILWAY COMPANY OF CHICAGO

6900 So. Central Avenue, Bedford Park, IL 60638

MARK FERGUSON
Manager Signal & Communications

Phone: (708) 496-4139
Fax: (708) 496-8011

October 11, 2012

CIRCULAR NOTICE 20121011 Board Replacement

TO: All Signal Employees

FROM: Mark Ferguson

Effective immediately, Circular Notice 20090629, dated June 30, 2009, is hereby replaced by the following:

Due to the changes mandated by the FRA we are required to document test made in the event of a circuit board failure at Solid State Interlockings or signal controlled circuits (Electro Code). We are also required to document and update any circuit board changes made in our field equipment. We must treat any circuit board replacement as a disarrangement and the circuits on that board must be tested.

In the event a circuit board needs to be changed out at a Solid State Interlocking or an Electro Code unit the attached procedures must be followed. **If you are unsure of the circuits that need to be tested or you are unsure of the testing procedure, you must call and get help before changing out the failed circuit board.**

After changing out the failed circuit board and testing, the information in Rail Docs must be filled out and a signal failure report filled out and turned in.

- A) VHLC Circuit boards (*IM-355 VHLC*)
1. VDC Power supply (PN 226609-022)
 - a. Non – vital
 - b. Test procedure: Check input and output voltages. (*Page 1-7 & 3-10*)
 2. RS-232 Module (PN 226650-00)
 - a. Non – vital
 - b. Test procedure: Observe lights and check dispatcher control. (*Page 3-19*)
 3. 1200/300 BPS or point to point modem (PN 226768-xxx)
 - a. Non – vital
 - b. Test procedure: observe lights and check indications to and from remote house. (*Page 3-22*)
 4. Vital Signal Driver VSD (PN 226801-xxx)
 - a. Non-vital
 - b. Test procedure: Verify out puts indicator LED's verify signal indication in field of all circuits on failed circuit board. (*Page 3-66*)
 5. Vital General Purpose I/O Module VGPIIO (PN 226808-xxx)
 - a. Non-vital
 - b. Test procedures verify all inputs and outputs on circuit board. (*Page 3-75*)
 6. Auxiliary Communication Port ACP (PN 22611-xxx)
 - a. Non-vital
 - b. Test procedures Signal Inspector or Supervisor must be called when this circuit board is changed out. You must verify controls and indications with equations. (*Page 3-46*)

7. Vital Logic Processor *VLP* (PN 226610-xxx)
 - a. Vital
 - b. Test procedures: Signal Inspector or Supervisor must be called when this circuit board is changed out

Note: Always verify the content of a replacement EPROM using one of the methods in the section Verifying EPROMs. Never use a replacement EPROM based solely on its label identification.

- c. System performance can only be assured when the *VLP* Module is replaced with a “like” module using EPROMs with the same or greater revision level. A like module is the same type of module as the one being replaced, and carries the same or greater revision level. (*Retesting Guide 100228-007 BD0 Date: Aug. 30, 2010*)

8. Site Specific Module *SSM* (PN 226612-xxx)
 - a. Vital
 - b. Test procedure: Signal Inspector or Supervisor must be called when this circuit board is changed out.

Note: 1. Always verify the content of a replacement EPROM using one of the methods in the section Verifying EPROMs. Never use a replacement EPROM based solely on its label identification.
2. Some systems have more than one SSM EPROM. These procedures apply to all SSM system EPROMs.

- c. System performance can only be assured when the *SSM* is replaced with a similar module that contains an identical EPROM. Refer to the information on Verifying EPROMs for instructions on checking identical EPROMs.
 - d. For a *VHLC* system that has had a complete interlocking test, or has been in service and has been fully functional, no additional system test is required. (*Retesting Guide 100228-007 BD0 Date: Aug. 30, 2010*)

9. Coded Circuit Module *CCI*
 - a. Vital
 - b. Test procedure: Using the display, verify proper track codes use of track simulator may be required.

B) Electro Code

1. Refer to Operating and Service Manual HPN: 100422-004 AC0 chapter 4 for a circuit board description and chapter 7 for troubleshooting. Circuit board replacement is located in the appendixes.

If you are unsure of the circuits that need to be tested or you are unsure of the testing procedure, you must call and get help before changing out the failed circuit board.

