Microlok-II Local Control Panel- LCP

(VDU) Design

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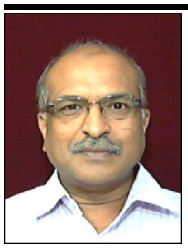


It is possible to configure Microlok Electronic Interlocking (Microlok _II EI) to work with conventional panel (CCIP) as well as VDU control (LCP) using a PC.

Local Control Panel: Computer based GUI application that displays geographical layout of the signaling plan of a station and acts as an interface between the operator and Signaling Interlocking System. It displays various field functions status on the monitor and allows the operator to control the field functions. It also allows user to play back the earlier events whenever the need arises.

By using LCP we can reduce the hard ware like Non-Vital MLK II card file and Panel cable Termination Rack. Thereby the associated failures are removed and maintenance becomes easy.

LCP design involves the following steps.

1. Track plan tool supplied by Ansaldo is used to generate a graphical picture of the station and convert the graphical picture information into a CSV file (Comma separated files).

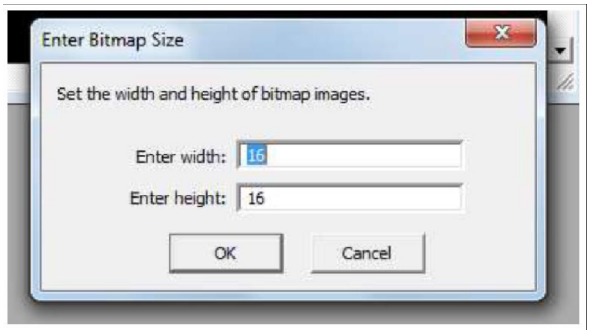
The logic bits used for commands and indications are to be correlated as per Application Software prepared for that station. The final output will be mimic panel zip file

2. Station bit list file creation: The file contain all the Inputs and output bits between VDU and MLK II unit and their offset.
3. Station configuration file creation: This file contain list of item used by VDU Software to communicate to the MLK II unit.
4. Equation file creation: This file contains a list of purely signaling equations generating output by examining and evaluating the incoming bits from MLK.
5. Buzzer file creation : This file contains a list of audible alarms generated by examining the incoming bits from MLK
6. Counter.csv file creation : This file contains a list of counters generated by examining the incoming bits from MLK
7. Persistent.csv file creation : This file contains a list of persistent items
8. Route.csv file creation: Designer has to create this file when VDU is configured as an Entry and exit type panel.
9. Timer.csv file creation: This file contains the list of timer items where each item can be set both On Delay and Off Delay.
10. Version Text file creation : This file contain current version of the archive, which is determined according to the project configuration plan
11. Compilation

In all the above steps major portion of designing is in step1 i.e creation of yard layout using track plan Therefore let us learn about step 1 in detail.

Track plan tool :

Track plan tool is based on X and Y Coordinates and the whole tool is a grid based. In Track plan menu option, when New option is selected, it opens a new track plan window and asks the designer to enter the bit map size as shown in the window below .The bit maps size can be selected either 16x16 pixels or 24x24 pixels depending upon the yard size. Generally we select this option such a way that the entire



yard can be seen in a single screen to facilitate easy operations without scrolling the yard.

With menu option SAVE AS, the yard can be saved with station name mimic panel as zip file. Now onwards station yard can be opened and required station lay out can be created.

Bit maps can be created in two ways and can be imported to the new track plan .

1. By using MS Paint
2. By extracting from already created station LCP Configuration zip file

1. MS Paint:

- Select MS Paint from All Program ----> Accessories ----> Paint
- Track plan shall support size of 16 by 16 and 24 by 24 Pixels bitmap file
- Select Attribute option from image menu as per below snaps
- Enter Width and Height of Bitmap
- Select Require back ground color from the palate and draw the element
- Save the file

2. Extracting from LCP configuration.zip and importing to track plan

Open LCP configuration zip file and open bitmaps folder and extract all bitmaps to some folder on the desktop.

Then open the saved track plan and from menu option----> IMPORT all bitmaps to Track plan

Yard creation:

1. Open the station mimic panel zip with track plan software.
2. The cursor is first clicked on the required bitmap.
3. Then the cursor is moved to the grid where the bitmap has to be placed and clicked again.

Indication map :

Insert bit map that has to be Substituted when above written logic equation is solved (it becomes true)

Control Map:

The control map is used only in operator PC program.

This control map is not used in Maintenance PC program.

The highlighted menu "Control Map..."is selected to write the control logic of that particular selected grid.

When the station Master uses the operator PC and clicks the above option, then the logic bit written in above is set high and sends it to MICROLOK for execution. While writing the control map, if the "Pulsed" is checked then the bit stays high for 2 seconds only and if not it stays permanently high.

Set Master Password:

Using this option, the designer can set the Master User Name and Password for accessing the VDU. This password cannot be changed by station master/user.

On completion of creation of yard layout, when the file is saved, it gets saved as station name mimicpanel.zip file. Then other files are created and compiled. On compilation, we get final output as station name LCP configuration.zip file which is used to run the VDU control panel.