Dot Matrix Display Configuration & Operation manual

Operating Procedure for Dot matrix Display (Hardware settings) in different modes:

Common behavior on Power ON:

During Power on it would show up a diagonal row of light up LEDs, then "TEST" would come up and blink all LEDs thrice. LED on bottom side of PCB would also keep blinking as long as board is powered.

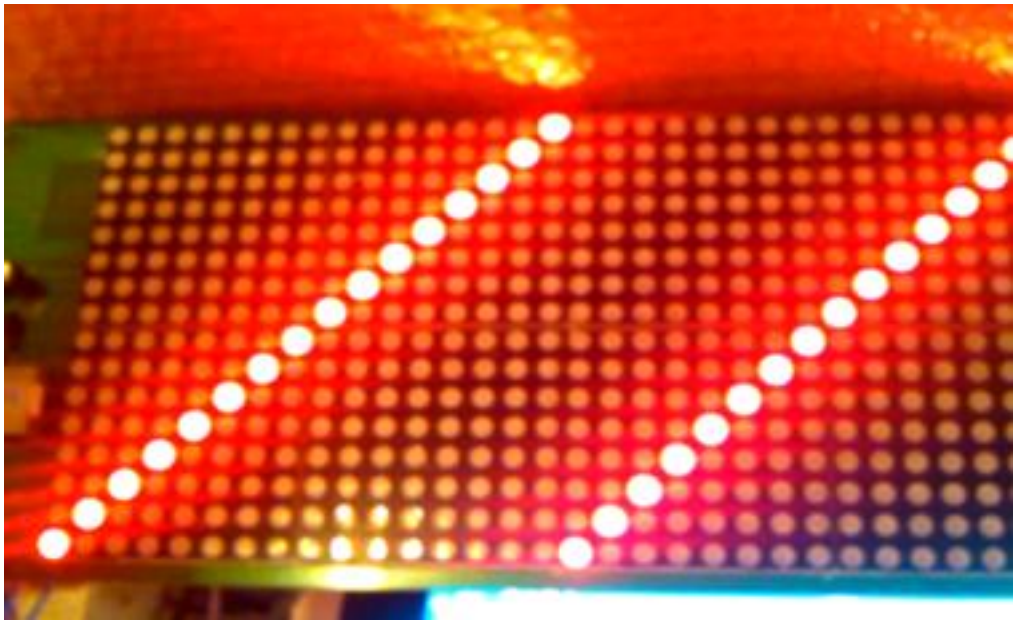

Figure 1: First Screen on Powern of Device

By default board will be set into Master mode, with buzzer ON.

Change Settings:
To change mode of operating device, keep SW1 pressed during Power ON, until device enters into settings mode.

Settings Mode:
To enter into settings mode: Keep SW1 pressed during Power ON, until it shows "NTF" on display. (This means you have entered settings mode).

Note: SW1 changes parameter. To move to next parameter, press sw1, it will take default value showed up on display.
SW2 and SW3 changes parameter value. To change value press SW2/SW3

1. Stand Alone Mode:

a. Set first parameter to NWF (No network node). Then press SW1 to move to next parameter. On display it will show "NWF".
b. Press SW3. It will take Slave mode as in standalone; this parameter is not user changeable in standalone mode only. On display it will show "SLAV". Press SW1 to move to next parameter.
c. Press SW3, it will take Multiple service. This parameter is not user changeable in standalone mode only. On display it will show "MULT". Press SW1 to move to next parameter.
d. It will ask to select device ID. Press SW2 to increment number.SW3 to decrement number. ID range is between 01 to 32. On display it will show "ID01" or whichever ID user has selected. Press SW1 to move to next parameter.
e. This is digit selection for count value parameter. Press SW2 to select 2 digit count value i.e. it will count from 01 to 99. On display it will show "DIG2". Press SW3 to select 3 digit count value i.e. it will count from 001 to 999. On display it will show "DIG3". Press SW1 to move to next parameter.
f. It will set Prefix for device. This prefix is SERVICE ID. Press SW2 to move from A to Z. Press SW3 to move from Z to A. user can choose any prefix between A to Z. on display it will show "SUFA" or whichever prefix as user selected. Though it is not useful for standalone mode. It is kept for future use only. Press SW1 to move to next parameter.
g. This parameter will keep bell on or off for entire operation. Press SW2 to turn ON bell. On display it will show "BELT". Press SW3 to turn bell OFF. On display it will show "BELF". Press SW1 to move on to next parameter.
h. This parameter asks to save or discard above selected values. Press SW2 to save. On display it will show "SAVE". Press SW3 to discard above selected values. If user select "SAVE" all selected parameter values will be stored in memory.
   Once all parameters are saved, it will show "OUT", followed by display of selected parameters.
   As all parameters will be read from memory and shown on display, it will print "ALON". Now device is ready to use in STANDALONE mode.

2. Slave with Single Services:

a. Set first parameter to NWT (network node). Press SW2 to select "NTW" Then press SW1 to move to next parameter. On display it will show "NWT".
b. Press SW3. It will take Slave mode. On display it will show "SLAV". Press SW1 to move to next parameter.
c. Press SW3, it will take SINGLE service. On display it will show "SING". Press SW1 to move to next parameter.
d. It will ask to select device ID. Press SW2 to increment number. Press SW3 to decrement number. ID range is between 01 to 32. On display it will show "ID01" or whichever ID user has selected. Press SW1 to move to next parameter.
e. This is digit selection for count value parameter. Press SW2 to select 2 digit count value i.e. it will count from 01 to 99. On display it will show "DIG2". Press SW3 to select 3 digit count value i.e. it will count from 001 to 999. On display it will show "DIG3". Press SW1 to move to next parameter.
f. It will set Prefix for device. This prefix is SERVICE ID. Press SW2/SW3, it will take 0 for single service ID is '0' ZERO. This parameter is fixed for single services. On display it will show "SUF0" . Press SW1 to move to next parameter.
g. This parameter will keep bell on or off for entire operation. Press SW2 to turn ON bell. On display it will show "BELT". Press SW3 to turn bell OFF. On display it will show "BELF". Press SW1 to move on to next parameter.
h. This parameter asks to save or discard above selected values. Press SW2 to save. On display it will show "SAVE". Press SW3 to discard above selected values. If user select "SAVE" all selected parameter values will be stored in memory.
   Once all parameters are saved, it will show "OUT", followed by display of selected parameters.
   As all parameters will be read from memory and shown on display, it will print "SLAV". Now device is ready to use in SLAVE mode with SINGLE service.

3. Slave with Multiple Services:
   a. Set first parameter to NWT (network node). Press SW2 to select "NTW" Then press SW1 to move to next parameter. On display it will show "NWT".
   b. Press SW3. It will take Slave mode. On display it will show "SLAV". Press SW1 to move to next parameter.
   c. Press SW2, it will take MULTIPLE service. On display it will show "MULT". Press SW1 to move to next parameter.
   d. It will ask to select device ID. Press SW2 to increment number. Press SW3 to decrement number. ID range is between 01 to 32. On display it will show "ID01" or whichever ID user has selected. Press SW1 to move to next parameter.

e. This is digit selection for count value parameter. Press SW2 to select 2 digit count value i.e. it will count from 01 to 99. On display it will show "DIG2". Press SW3 to select 3 digit count value i.e. it will count from 001 to 999. On display it will show "DIG3". Press SW1 to move to next parameter.
f. It will set Prefix for device. This prefix is SERVICE ID. Press SW2 to move from A to Z. Press SW3 to move from Z to A. User can choose any prefix between A to Z. on display it will show "SUFA" or whichever prefix as user selected. Press SW1 to move to next parameter.
g. This parameter will keep bell on or off for entire operation. Press SW2 to turn ON bell. On display it will show "BELT". Press SW3 to turn bell OFF. On display it will show "BELF". Press SW1 to move on to next parameter.
h. This parameter asks to save or discard above selected values. Press SW2 to save. On display it will show "SAVE". Press SW3 to discard above selected values. If user select "SAVE" all selected parameter values will be stored in memory. Once all parameters are saved, it will show "OUT", followed by display of selected parameters.
As all parameters will be read from memory and shown on display, it will print "SLAV". Now device is ready to use in SLAVE mode with MULTIPLE service.

4. Master with Multiple Services:

a. Set first parameter to NWT (network node). Press SW2 to select "NTW" Then press SW1 to move to next parameter. On display it will show "NWT".
b. Press SW2. It will take MASTER mode. On display it will show "MSTR". Press SW1 to move to next parameter.
c. Press SW2, it will take MULTIPLE service. On display it will show "MULT". Press SW1 to move to next parameter.
d. It will ask to select device ID. Press SW2/SW3 it will take ID "00". On display it will show "ID00" or Master has fixed ID "00". Press SW1 to move to next parameter.
e. This is digit selection for count value parameter. Press SW2 to select 2 digit count value i.e. it will count from 01 to 99. On display it will show "DIG2". Press SW3 to select 3 digit count value i.e. it will count from 001 to 999. On display it will show "DIG3". Press SW1 to move to next parameter.
f. It will not ask for service ID in master mode. Instead it will directly ask to set bell parameter.

g. This parameter will keep bell on or off for entire operation. Press SW2 to turn ON bell. On display it will show "BELT". Press SW3 to turn bell OFF. On display it will show "BELF". Press SW1 to move on to next parameter.
h. This parameter asks to save or discard above selected values. Press SW2 to save. On display it will show "SAVE". Press SW3 to discard above selected values. If user select "SAVE" all selected parameter values will be stored in memory. Once all parameters are saved, it will show "OUT", followed by display of selected parameters.
As all parameters will be read from memory and shown on display, it will print "MSTR". Now device is ready to use in MASTER mode with MULTIPLE service.

5. Master with Single Services:

a. Set first parameter to NWT (network node). Press SW2 to select "NTW" Then press SW1 to move to next parameter. On display it will show "NWT".
b. Press SW2. It will take MASTER mode. On display it will show "MSTR". Press SW1 to move to next parameter.
c. Press SW3, it will take SINGLE service. On display it will show "SING". Press SW1 to move to next parameter.
d. It will ask to select device ID. Press SW2/SW3 it will take ID "00". On display it will show "ID00" or Master has fixed ID "00". Press SW1 to move to next parameter.
e. This is digit selection for count value parameter. Press SW2 to select 2 digit count value i.e. it will count from 01 to 99. On display it will show "DIG2". Press SW3 to select 3 digit count value i.e. it will count from 001 to 999. On display it will show "DIG3". Press SW1 to move to next parameter.
f. It will not ask for service ID in master mode. Instead it will directly ask to set bell parameter.
g. This parameter will keep bell on or off for entire operation. Press SW2 to turn ON bell. On display it will show "BELT". Press SW3 to turn bell OFF. On display it will show "BELF". Press SW1 to move on to next parameter.
h. This parameter asks to save or discard above selected values. Press SW2 to save. On display it will show "SAVE". Press SW3 to discard above selected values. If user select "SAVE" all selected parameter values will be stored in memory. Once all parameters are saved, it will show "OUT", followed by display of selected parameters.
As all parameters will be read from memory and shown on display, it will print "MSTR". Now device is ready to use in MASTER mode with SINGLE service.

Once board is set in desired mode, it will read out and display parameters on display as set by user.

It will then display token number as 000 or 00 or A00 or A000 as parameters set by user.

If board is loaded with previous settings, it will read last served token number from its memory and show it on display.

Operation in different modes:

1. Stand Alone Mode: In this mode single display will operate with single remote keypad with 3 keys with RS485 protocol. Now as operator will call next/previous/clear from its keypad, this board will process instruction received from its connected keypad. It will then increment/decrement/clear count depending upon instructions received and it will update display with new token value.
2. Slave Mode: In this mode as master will send token value, it will process command and update token value on display.
3. Master Mode: In this mode it will act as brain of system, as keypad sends instruction, it will process data and send response to keypad, slave display and kiosk software and updates its own display.