

Traffic Light System

Introduction

This document contains all the information to program, configure and operate the complete traffic light system (from the master controller unit). The master controller programming method is explained in detail. Visit the link: <http://forbixindia.com/fbx/traffic-light/> to read though other documents viz. connection diagram dimensions etc.

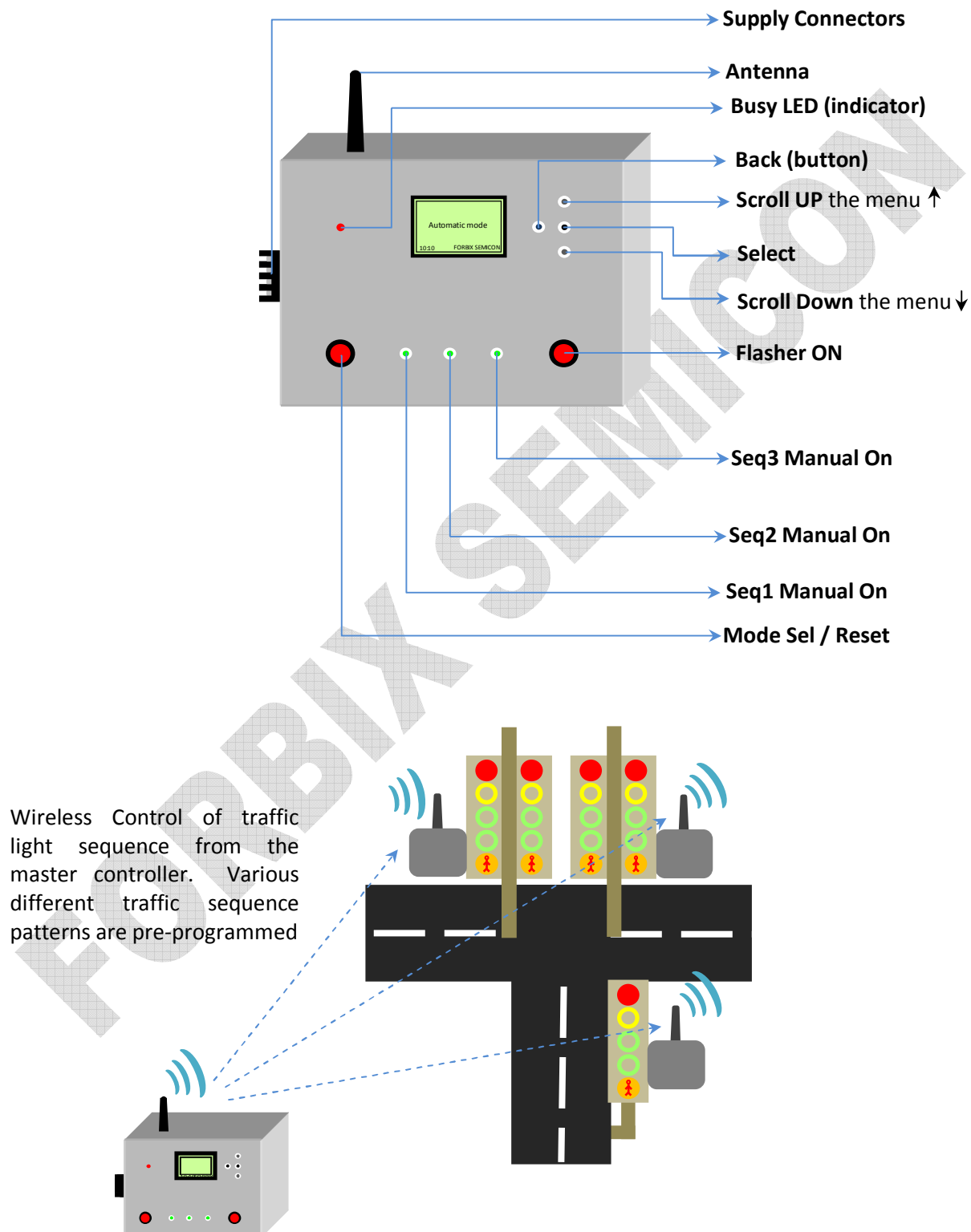
This User Manual describes procedure to operate the Wireless Traffic Light System by

- Automatic Mode
- Manual Mode

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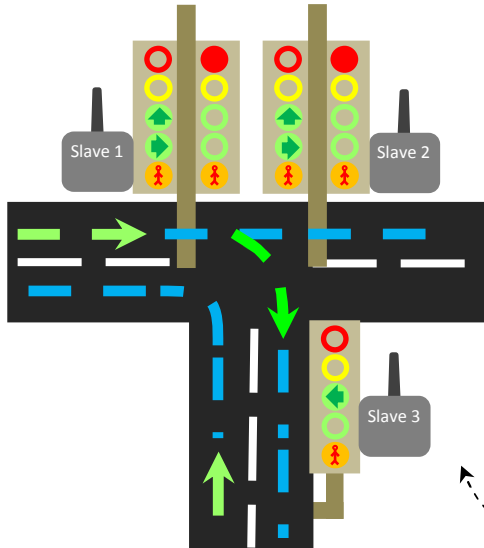
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1.0 Traffic Light System - Master Controller Unit

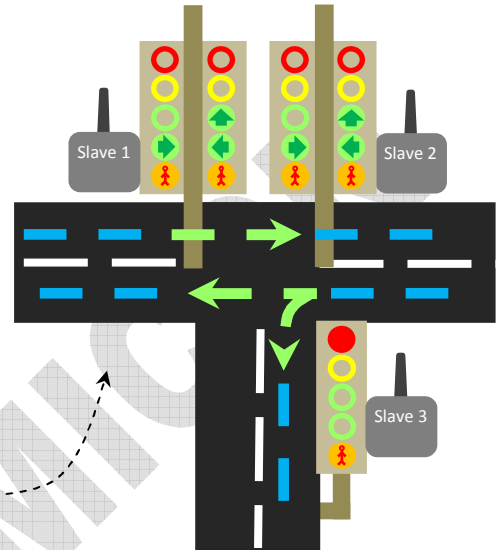


2.0 Preprogrammed – Pattern 1 (with free left)

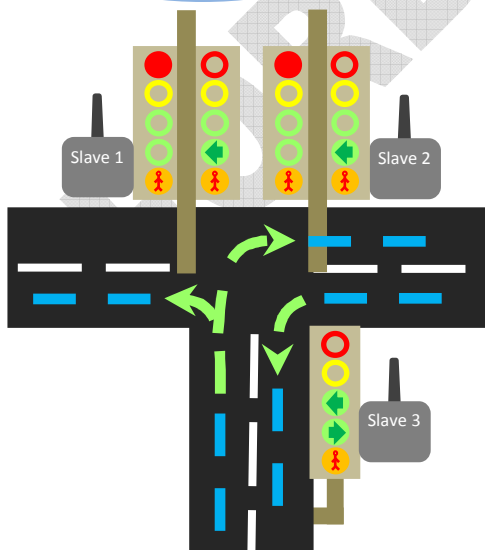
Sequence 1:



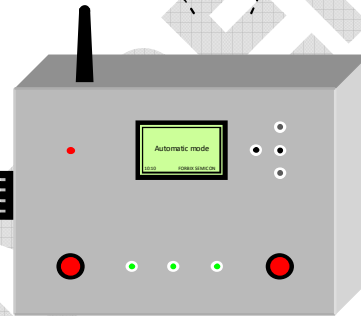
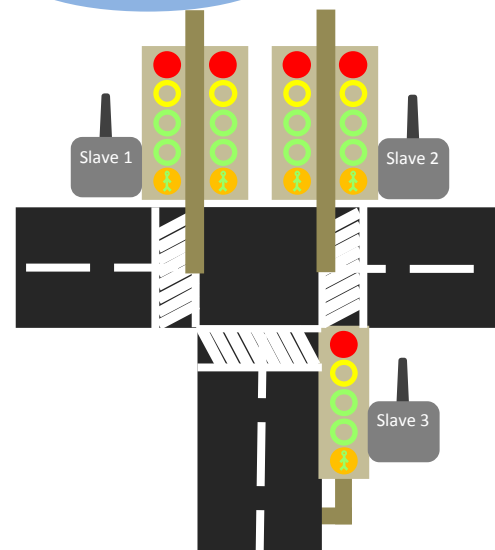
Sequence 2:



Sequence 3:

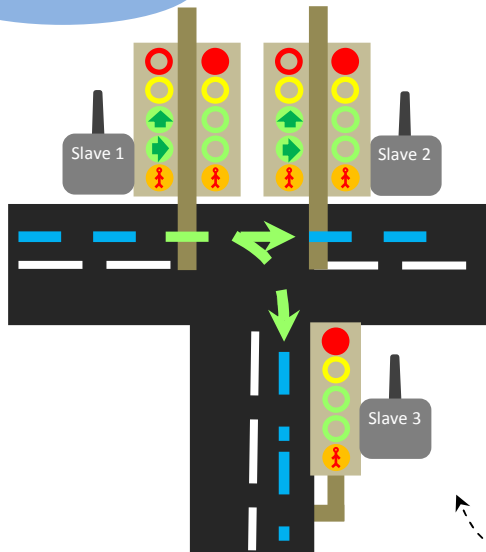


Pedestrian:

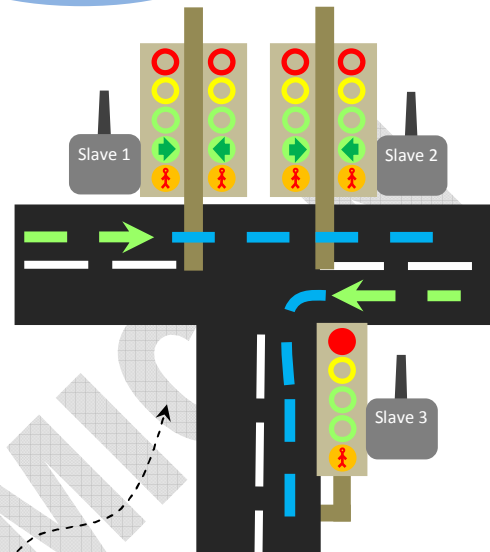


3.0 Traffic Light System – Pattern 2 (without free left)

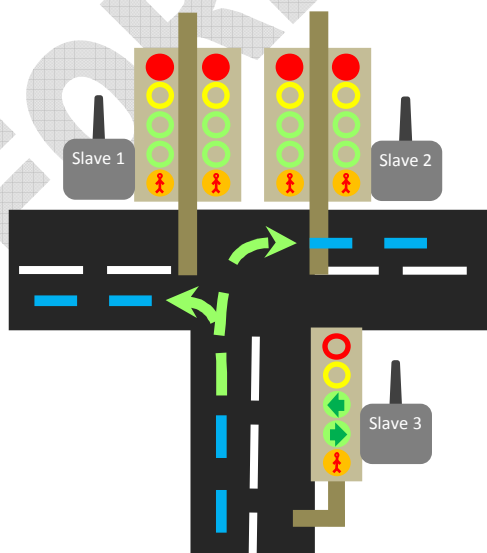
Sequence 1:



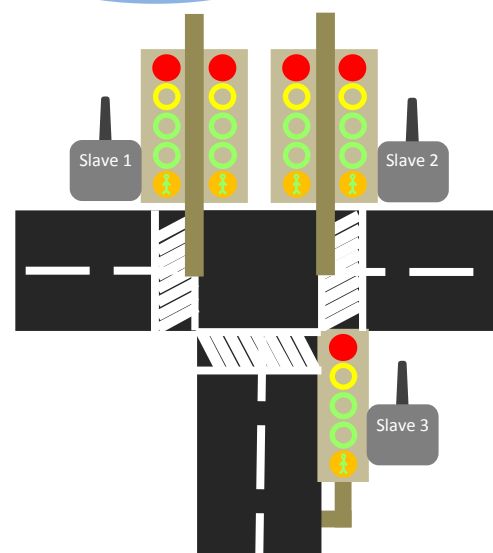
Sequence 2:



Sequence 3:



Pedestrian:





4.0 Master Controller Buttons Description

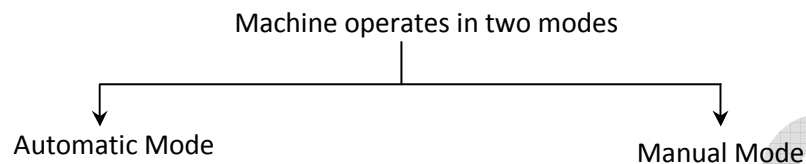
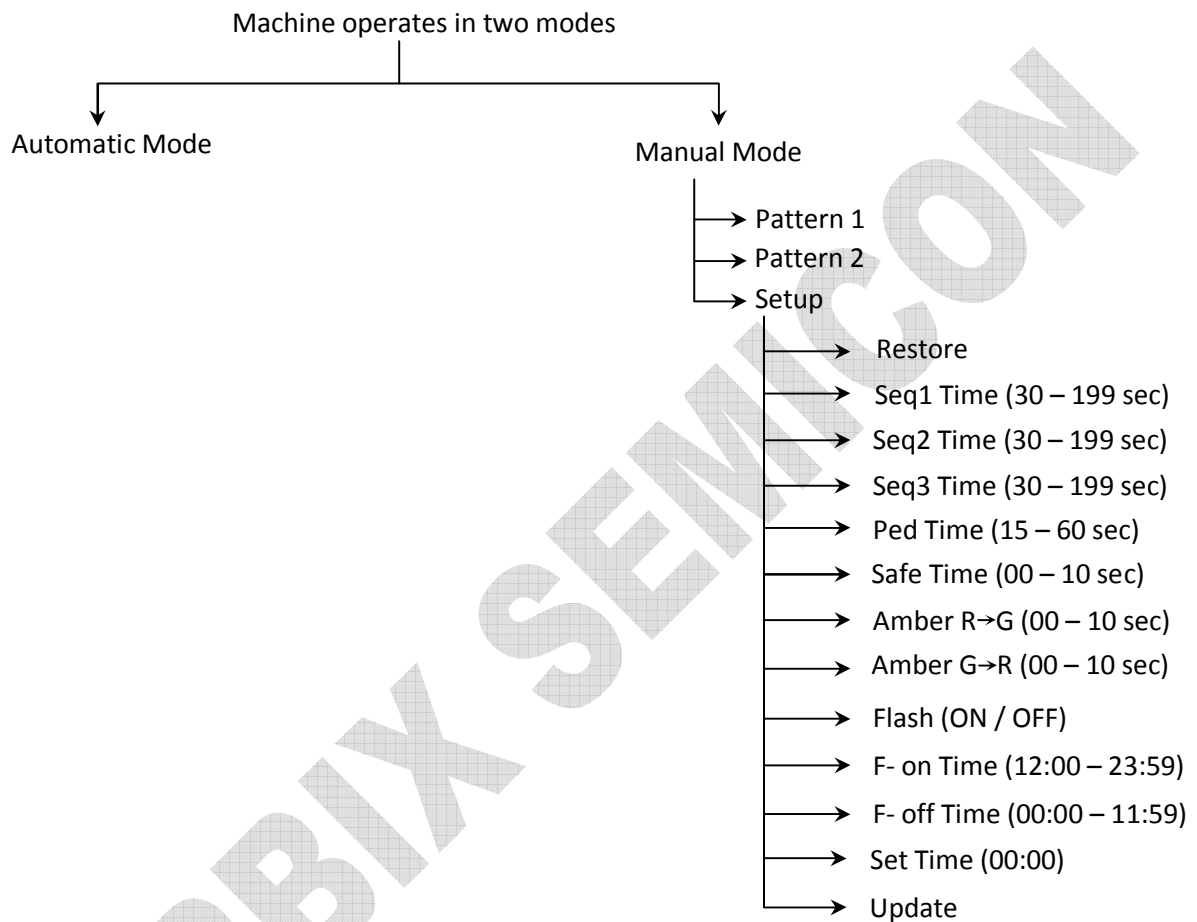


Diagram	Buttons	Description
	Mode Sel / Reset	Selects between Automatic Mode and Manual Mode. Also resets the machine. In reset state all slave units turn ON to Safe Time (all Red lights ON)
	Seq1 Manual On	Selects Sequence 1 manually (Road 1 light turn Green) (Red->Amber->Green)
	Seq2 Manual On	Selects Sequence 2 manually (Road 2 light turn Green) (Red ->Amber ->Green)
	Seq3 Manual On	Selects Sequence 3 manually (Road 3 light turn Green) (Red ->Amber->Green)
	Flasher ON	Flash Mode is ON (All roads have their respective Amber lights blinking)
	Up	Scroll up items on present menu page (LCD display)
	Down	Scroll down items on present menu page (LCD display)
	Select	To select an item from present menu (LCD display)
	Back	Go back to earlier menu page (LCD display)



5.0 Master Controller LCD (Display) - Menu Tree

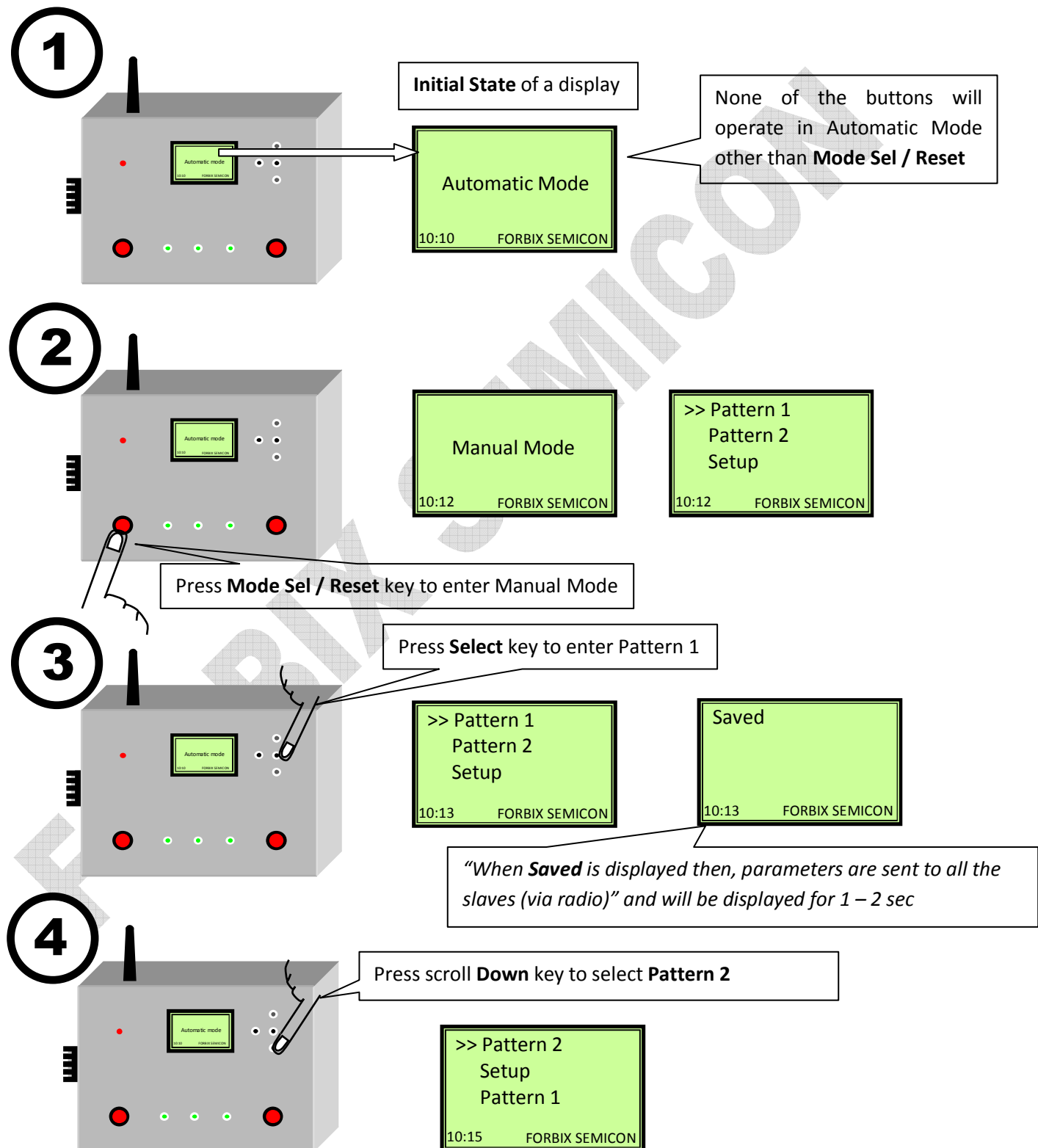


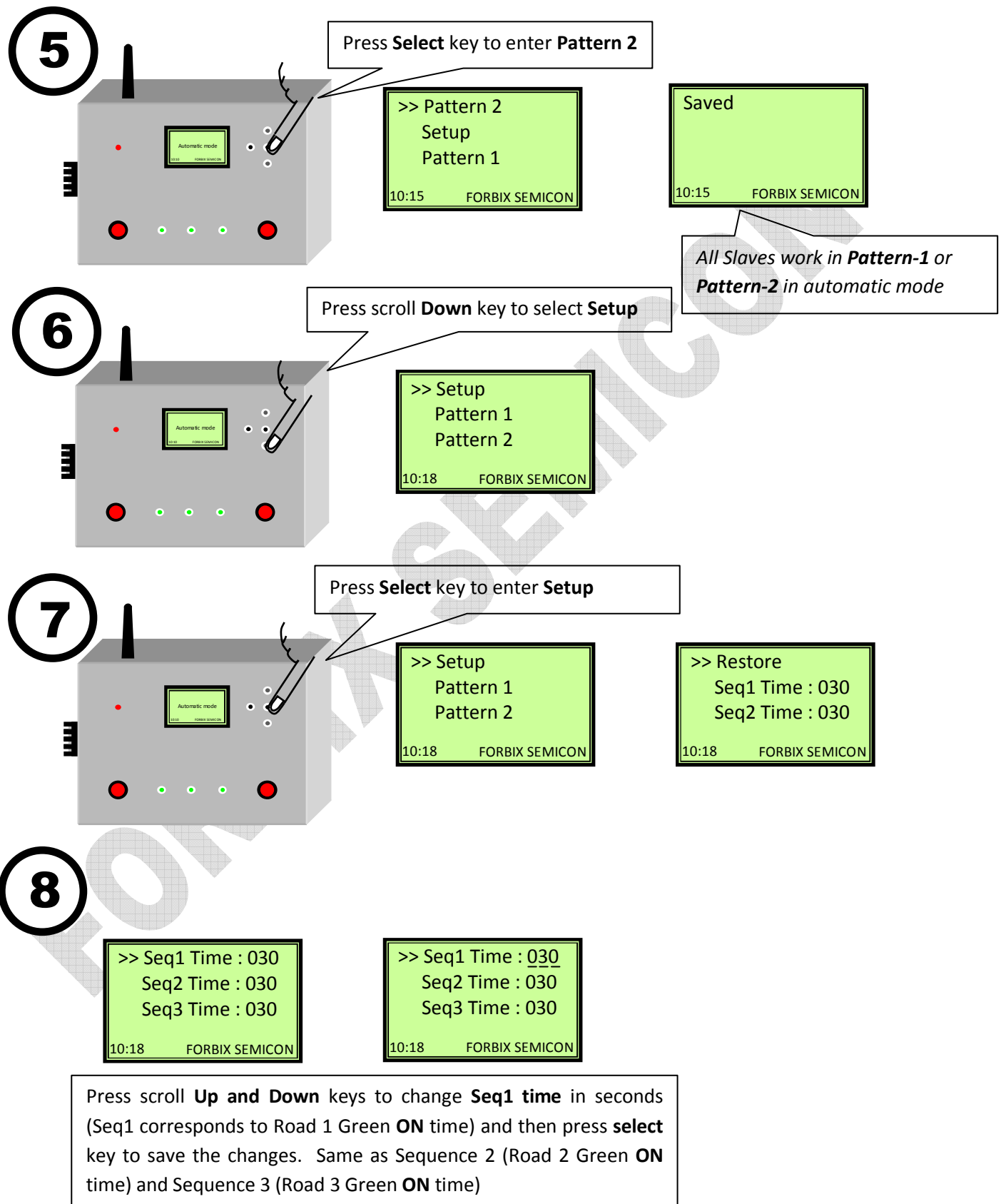
6.0 Master Controller – Important Notes / Warnings

Important Notes / Warning:

1. The **Master Controller Machine** takes around 5-10 sec booting time
 2. Do not press any buttons in the **Master Controller Machine**, when **Busy LED** is blinking (transmitting information to slaves)
 3. If power not supplied to **Master Controller Machine**, the slaves will continue to stay in the Previous State.
 4. Do not dismantle antenna that will permanently damage the system
 5. In the **Manual Mode**, only timing parameters can be changed / modified. After entering all the data, the user have to **Update** and then press **Mode Sel / Reset** to enter **AUTOMATIC Mode**
 6. In the **Manual Mode** Real Time Clock ticking/changes will not be visible
 7. Once the User has pressed the **Update** then to come out of the present page the **Back** button is should be pressed
 8. Make sure the master controller is at least 2-3 meters away from the slave units
 9. For better communication, the master controller antenna should be visible to the slave unit antenna (failure to do so in the installation, will cause signal loss)
-
1. *After power up of master state is IDLE model, all slaves in red light*
 2. *After power up of slaves, the state is RED Light ON*
 3. *While doing setting in the **Manual Mode** option the slaves are in **Idle State** (All roads are in Red)*

7.0 Master Controller Display Messages and Program





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```
>> Ped Time : 10
Safe Time : 05
Amber R→G : 10
10:18 FORBIX SEMICON
```

Press **Select** key to select an option **Ped Time**, press scroll **Up** and **Down** keys to change the Pedestrian time and then press again **Select** key to save the changes. In this state the pedestrian lights will **ON** (All 3 Roads of Pedestrian Light) up to 15 – 60 sec

10

```
>> Safe Time : 05
Amber R→G : 05
Amber G→R : 10
10:18 FORBIX SEMICON
```

Press **Select** key to select an option **Safe Time**, press scroll **Up** and **Down** keys to change the **Safe Time** (All 3 Roads are in Red Light) and then again press **Select** key to save the changes (up to 0 – 10 sec)

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```
>> Amber R→G : 05
Amber G→R : 05
Flash : On/ Off
10:18 FORBIX SEMICON
```

Press **Select** key to select an option **Amber R to G**, press scroll **Up** and **Down** keys to change the Amber Red to Green (The Amber Light of 3 Roads) and then again press **Select** key to save the changes. This timing corresponds to the time while Amber is ON while changing from Red to Green. The value can be set (up to 0 - 10 sec)

12

```
>> Amber G→R : 05
Flash : On/Off
F-on Time : 23:00
10:18 FORBIX SEMICON
```

Press **Select** key to select an option **Amber G to R**, press scroll **Up** and **Down** keys to change the Amber Green to Red (The Amber Light of 3 Roads) and then again press **Select** key to save the changes. This timing corresponds to the time while Amber is ON while changing from Green to Red. The value can be set (up to 0 – 10 sec)

13

```
>> Flash : On/Off
F-on Time : 23:00
F-off Time : 07:00
10:18 FORBIX SEMICON
```

Press **Select** key to select an option **Flash**, press scroll **Up** and **Down** keys to change the **Flash On / off** (The Amber Light of 3 Roads) and then again press **Select** key to save the changes. Flasher On time is depending on the **F-on Time** and Flasher Off time is depending on **F-off Time**

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```
>> F-on Time : 23:00
    F-off Time : 07:00
    Set Time   : 00:00
10:18 FORBIX SEMICON
```

If the **Flash On** (in Step 13) is set, then flash on time has to be set. Press scroll **Up** and **Down** keys to change flash on time. Similarly for **Flash OFF** time option (If the Flash is set to **OFF** then there is no need of changing of Flash on time and Flash Off time)

Range of Flash:

- The range of **Flash On time** is between 12:00 – 23:59
- The range of **Flash Off time** is between 00:00 – 11:59

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```
>> Set Time : 00:00
    Update
    Restore
10:18 FORBIX SEMICON
```

Press **Select** key to select an option **Set Time**, to change the time. This is the Real Time Clock and the complete traffic light system is rely on this time

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```
>> Update
    Restore
    Seq1 Time : 025
10:18 FORBIX SEMICON
```

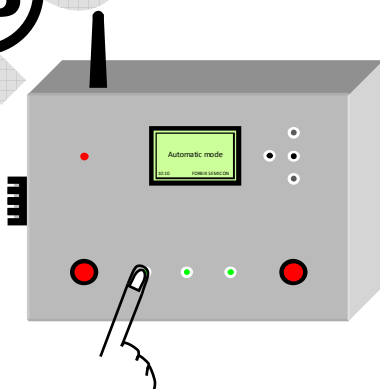
Entering all the data in the **setup**, then select **Update** option to store the values in the slave machine via radio. Then press the **Back** button to come out of the **setup**. And press the Button **Mode Sel / Reset** only then the slaves work according to user changes (The Manual Mode settings)

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```
>> Restore
    Seq1 Time : 025
    Seq2 Time : 025
10:18 FORBIX SEMICON
```

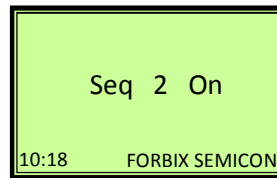
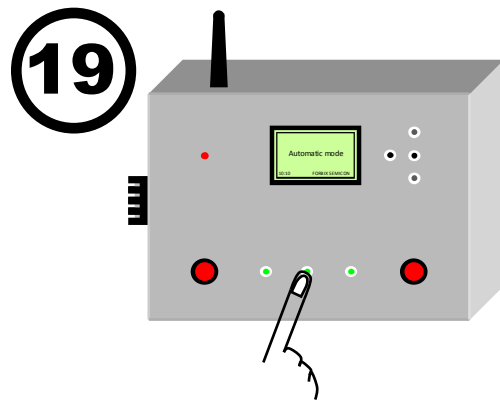
Restore option is for restoring default value (factory programmed value) of system

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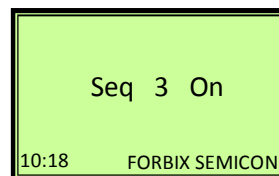
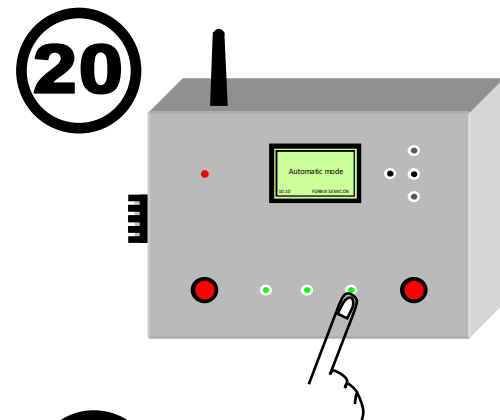


```
Seq 1 On
10:18 FORBIX SEMICON
```

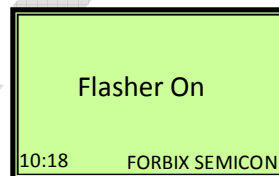
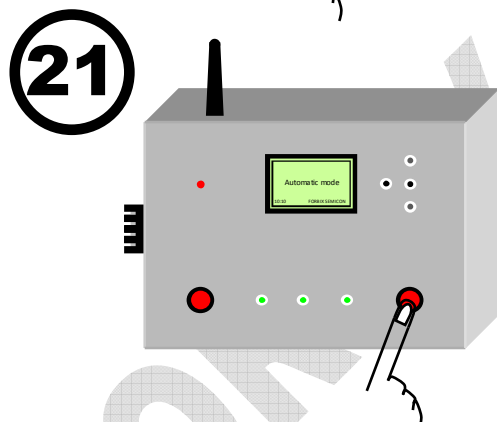
Pressing the **Seq1 Manual On** Button, Sequence 1 will execute and machine will remain in this state till any other change



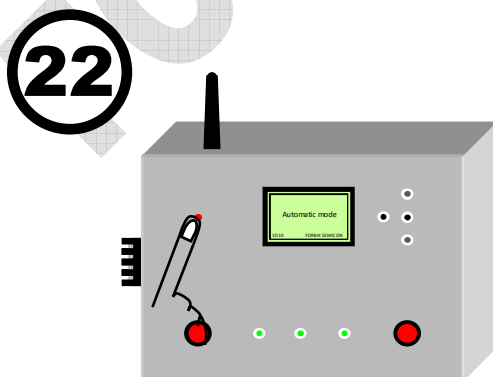
Pressing the **Seq2 Manual On** Button, Sequence 2 will execute and machine will remain in this state till any other change



Pressing the **Seq3 Manual On** Button, Sequence 3 will execute and machine will remain in this state till any other change



Press the **Flasher ON** Button, to turn ON the Flasher manually. Following to this the Amber Light will blink 3 sec of **ON** time and 1 sec of **OFF** time. The range Flasher **ON** and **OFF** time can be set in the **Setup**



Do not press any buttons in the **Master Controller Machine**, when the **Busy LED (transmitting to slaves)** is blinking. The busy button blinking indicates that the master controller is busy doing internal calculations or sending data over wireless to the slaves

8.0 Document History

Revision / Date	Approved	Description / Changes
Apr-2014	Yes	Initial Release

FORBIX SEMICON