# Tech Note 5002: Detector BIU Setup for Controllers using V76.x Software

This TecNote discusses the setup of Detector BIU's using V76 software.

## Controller Screens and Steps

1) From the controller's Main Menu, use the following key strokes to turn off the Run-Enable Control, **MM-1-7**.

   **Main Menu (MM)**
   ```
                  Main Menu
   1.Controller 4.Scheduler 7.Status
   2.Coordinate 5.Detectors 8.Login,Utils
   3.Preempts    6.Comm
   ```

   **1 (Controller)**
   ```
                  Controller
   1.Phases       4.Flash        7.Enable Run
   2.Unit,Ring    5.Overlaps     8.Channel,I/O
   3.SDLC         6.Alarms       9.I/O
   ```

   **7 (Enable Run)**
   ```
              Run-Enable Control

       Run-Enable Status: ON
               Change to: ON
   ```

   Press any number key to toggle the "Change to" parameter to "OFF".
   ```
              Run-Enable Control

       Run-Enable Status: ON
               Change to: OFF
   ```

   Press the "Enter" key and it will change the "Run-Enable Status to "OFF"
   ```
              Run-Enable Control

       Run-Enable Status: OFF
               Change to: OFF
   ```

2) From the controller main menu, use the following key strokes to setup detectors 1-16 call phases, **MM-5-1**.

**Main Menu (MM)**

```
               Main Menu
1.Controller  4.Scheduler  7.Status
2.Coordinate  5.Detectors  8.Login,Utils
3.Preempts    6.Comm
```

**5 (Detectors)**

```
               DETECTORS
1.Veh Parms     4.Ped Parms    7.Status
2.Veh Options  5.Alt Progs    8.V/O-Speed
3.Veh Parms+   6.Phas Recall  9.Copy
```

**1 (Veh Parms)**

```
Det#   Call Switch Delay Extend Queue >
  1      1     0     0.0    0.0     0
  2      2     0     0.0    0.0     0
  3      3     0     0.0    0.0     0
  4      4     0     0.0    0.0     0
  5      5     0     0.0    0.0     0
  6      6     0     0.0    0.0     0
  7    +  7     0     0.0    0.0     0
```

Use the UP/Down/Left/Right arrow keys to move the cursor under the "Call" column and set "Call" numbers as shown below using the number keys for the first 16 detectors. Make sure to press enter after last entry.

```
Det#   Call Switch Delay Extend Queue >
  1      1     0     0.0    0.0     0
  2      2     0     0.0    0.0     0
  3      3     0     0.0    0.0     0
  4      4     0     0.0    0.0     0
  5      5     0     0.0    0.0     0
  6      6     0     0.0    0.0     0
  7    +  7     0     0.0    0.0     0

  8    -  8     0     0.0    0.0     0
  9      1     0     0.0    0.0     0
 10      2     0     0.0    0.0     0
 11      3     0     0.0    0.0     0
 12      4     0     0.0    0.0     0
 13      5     0     0.0    0.0     0
 14    +  6     0     0.0    0.0     0
 15    -  7     0     0.0    0.0     0
 16      8     0     0.0    0.0     0
 17      0     0     0.0    0.0     0
 18      0     0     0.0    0.0     0
 19      0     0     0.0    0.0     0
 20      0     0     0.0    0.0     0
 21    +  0     0     0.0    0.0     0
```

3) From the controller main menu, use the following key strokes to setup detectors 1-16 call and extend modes, **MM-5-2**.

Main Menu (MM)

```
                Main Menu
1.Controller  4.Scheduler 7.Status
2.Coordinate  5.Detectors 8.Login,Utils
3.Preempts    6.Comm
```

**5 (Detectors)**

```
                DETECTORS
1.Veh Parms     4.Ped Parms    7.Status
2.Veh Options  5.Alt Progs    8.V/O-Speed
3.Veh Parms+   6.Phas Recall  9.Copy
```

**2 (Veh Options)**

```
 Det#    Call   Extend   Queue   Add.Init   >
    1      X       X        .        X
    2      X       X        .        X
    3      X       X        .        X
    4      X       X        .        X
    5      X       X        .        X
    6      X       X        .        X
    7    + X       X        .        X
```

Use the UP/Down/Left/Right arrow keys to move the cursor under the "call" and "Extend" Columns as shown below using any number key to toggle the "X" on for the first 16 detectors and make sure to press. Make sure to press enter after last entry.

```
Det#    Call  Extend  Queue  Add.Init   >
  1       X      X       .        X
  2       X      X       .        X
  3       X      X       .        X
  4       X      X       .        X
  5       X      X       .        X
  6       X      X       .        X
  7    +  X      X       .        X

  8    -  X      X       .        X
  9       X      X       .        X
 10       X      X       .        X
 11       X      X       .        X
 12       X      X       .        X
 13       X      X       .        X
 14    +  X      X       .        X

 15    -  X      X       .        X
 16       X      X       .        X
 17       X      X       .        X
 18       X      X       .        X
 19       .      .       .        .
 20       .      .       .        .
 21    +  .      .       .        .
```

4) From the controller main menu, use the following key strokes to setup detector BIU 1 for detectors 1-16 to enable SDLC communication from controller to external detection device, **MM-1-3-1**.

**Main Menu (MM)**
```
                Main Menu
1.Controller  4.Scheduler  7.Status
2.Coordinate  5.Detectors  8.Login,Utils
3.Preempts    6.Comm
```

**1 (Controller)**
```
                Controller
1.Phases      4.Flash       7.Enable Run
2.Unit,Ring   5.Overlaps    8.Channel,I/O
3.SDLC        6.Alarms      9.I/O
```

**3 (SDLC)**
```
                Controller
1.Phases      4.Flash       7.Enable Run
2.Unit,Ring   5.Overlaps    8.Channel,I/O
3.SDLC        6.Alarms      9.I/O
```

**1 (TS2 Devices)**

```
            TS2 & FIO SDLC
1.TS2 Devices 4.MMU Permissives 7.Status
2.Parms        5.MMU Map
```

Use the UP/Down/Left/Right arrow keys to move the cursor under the "Detector 1" parameter as shown below using any number key to toggle the "X" on for just Detector 1. Make sure to press enter after last entry.

```
SDLC Device: Term/Fac  Detector MMU Diag
       BIU #: 12345678  12345678
Dev. Present ........  X.......  .   .
Peer-to-Peer ........  ........  .   .
```

Make sure external detection device is setup to use BIU 1 and is set up to output to detectors 1-16. Also make sure the SDLC cable is connected between the controller and the external detection device.

5) From the controller main menu, use the following key strokes to turn on the Run-Enable Control, **MM-1-7**.

**Main Menu (MM)**

```
             Main Menu
1.Controller 4.Scheduler 7.Status
2.Coordinate 5.Detectors 8.Login,Utils
3.Preempts   6.Comm
```

**1 (Controller)**

```
             Controller
1.Phases     4.Flash      7.Enable Run
2.Unit,Ring  5.Overlaps   8.Channel,I/O
3.SDLC       6.Alarms     9.I/O
```

**7 (Enable Run)**

```
         Run-Enable Control

    Run-Enable Status: OFF
            Change to: OFF
```

Press any number key to toggle the "Change to" parameter to "ON".

```
         Run-Enable Control

    Run-Enable Status: OFF
            Change to: ON
```

Press the "Enter" key and it will change the "Run-Enable Status to "ON"

```
            Run-Enable Control

     Run-Enable Status: ON
              Change to: ON
```

6) To monitor operation of detection, go to main menu and use the following key strokes to view real-time operation, **MM-5-7-1**.

**Main Menu (MM)**
```
                Main Menu
1.Controller 4.Scheduler 7.Status
2.Coordinate 5.Detectors 8.Login,Utils
3.Preempts   6.Comm
```

**5 (Detectors)**
```
                DETECTORS
1.Veh Parms    4.Ped Parms    7.Status
2.Veh Options 5.Alt Progs    8.V/O-Speed
3.Veh Parms+  6.Phas Recall 9.Copy
```

**7 (Status)**
```
           DETECTOR STATUS
1.VehDets   1-32 4.Delay,Extend 7.Audible
2.VehDets 33-64 5.V/O Sample
3.Ped Dets       6.Speed Sample
```

**1 (VehDets)**
```
    (1-16)  Det #  1.......   9.......   >
Veh Field Call     --------   --------
Veh Call           --------   --------
Veh Alarm          --------   --------
```

You should see and asterisk appear in both "Veh Field Call" and "Veh Call" rows at same time when a detection is received by controller from external detection device.  If you only see a blank screen or see an asterisk in the "Veh Alarm" row, check to make sure external detection device is operating properly and is set for detector BIU 1 operation.

```
    (1-16)  Det #  1.......   9.......   >
Veh Field Call     *-*-*-*-   *-------
Veh Call           *-*-*-*-   *-------
Veh Alarm          --------   --------
```

7) To further check SDLC operation for detector BIU 1 go to main menu and use the following key strokes to view real-time operation of the SDLC communication for detector BIU 1, **MM-1-3-7**.

**Main Menu (MM)**

```
                Main Menu
1.Controller 4.Scheduler 7.Status
2.Coordinate 5.Detectors 8.Login,Utils
3.Preempts   6.Comm
```

**1 (Controller)**

```
                Controller
1.Phases        4.Flash        7.Enable Run
2.Unit,Ring     5.Overlaps     8.Channel,I/O
3.SDLC          6.Alarms       9.I/O
```

**3 (SDLC)**

```
                Controller
1.Phases        4.Flash        7.Enable Run
2.Unit,Ring     5.Overlaps     8.Channel,I/O
3.SDLC          6.Alarms       9.I/O
```

**7 (Status)**

```
             TS2 & FIO SDLC
1.TS2 Devices 4.MMU Permissives 7.Status
2.Parms         5.MMU Map
```

Use the page down key to get to the "DET BIU1" row and look to the far right of that row and it should say "OK" if everything is operating correctly.  If it says "Fail" and the "Errors" column to the left shows a number increasing then SDLC communication is not operating correctly. Check to be sure the correct detector BIU was turned on in step 4  and make sure the external detection device is powered up, SDLC cable is connected and the external detection device is setup for detector BIU 1.

```
 I/O Message Status (C or ALT-7 Clears)
Device    Addr   Tx   Rx    Errors   Status
FIO        20                  0      OK
MMU        16     0  128       0      OK
MMU        16     1  129       0      OK
MMU        16     3  131       0      OK
TF BIU1     0    10  138       0      OK
TF BIU2     1    11  139       0      OK
TF BIU3     2    12  140       0      OK
TF BIU4     3    13  141       0      OK
DET BIU1    8    20  148       0      OK
DET BIU2    9    21  149       0      OK
DET BIU3   10    22  150       0      OK
DET BIU4   11    23  151       0      OK
```

## Summary

Setting up Detector BIU's for a controller using V76.x software an easy task if you follow the steps listed above.