3M™ Wireless Drive Thru System Model G5
Upgrading XT-1 basestation to 3M™ Drive Thru Basestation G5

<u>Overview</u>:
This document describes and illustrates the steps involved to successfully upgrade a 3M™ Wireless Communication System Model XT-1 basestation with a 3M™ Drive Thru Basestation G5, in sites employing a Single Lane drive thru operation.
For the remainder of the document, the

- *3M™ Wireless Communication System Model XT-1 basestation* will be referred to as *XT-1 Basestation*, and
- *3M™ Drive Thru Basestation G5* referred to as *G5 Basestation*.

<u>Pre-Requisites:</u>

1. Interview the Store Manager and verify they are currently NOT experiencing any issues with their Drive Thru equipment..
    Otherwise, these issues need to be rectified first before conducting the Basestation upgrade.

2. Use the Pre-Install Checklist (attached to this document) to capture <u>ALL</u> information related to Store Operation, and
    Greeter functionality by
    - Checking and writing down the current settings on the XT-1 Basestation
    - Inspecting the XT-1 basestation for all connected peripherals (Timers, Greeters , External or |
      Internal Vehicle Detectors, Pre-Approach Loops, etc
    - Interviewing the Store Manager for any desired changes in operation (such as OT Modes,, Range etc)

3. Verify the cable to the outside Order Post is in good condition

4. Inspect the Order Post to verify Speaker and Microphone are properly positioned and the post is treated with 3M™ Acoustic Kit.

<u>IMPORTANT NOTES:</u>

1. The G5 Basestation allows for *ONLY ONE* internal Vehicle Detector Boar\d per Lane (for the Order Point Loop).
    If the current XT-1 Basestation has more than one Internal Vehicle Detectors Board , ALL but tone (he Vehicle Detector Board
    connected to the Order Point) *MUST* be replaced with External Detectors.

2. The Greeter functionality is built into the G5 Basestation.

3. All G5 Basestation configuration will have to be manually conducted either via the
    -- Basestation's Front Panel (Keypad and LCD Screen) or
    -- Basestation's Web Server
    Any Configuration File you may have exported from the XT-1 Basestation cannot be imported/loaded onto the G5 Basestation.

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It is recommended you follow the steps outlined below to successfully conduct the upgrade from XT-1 Basestation to G5 Basestation.

1. Disconnect and Remove XT-1 Basestation off the wall
2. Mount G5 Basestation to the wall
3. Re-wire Lane1 - Speaker, Microphone, Loop
4. Install Vehicle Detector Board and any External Antennas.
5. Timer Greet Event
6. Re-wire any external button to change Order Taking Modes, SPLIT/CROSS, or DAY/NIGHT
7. Alert Message Re-wiring
8. Power up the G5 Basestation
9. Register (G5 and/or XT-1) Headsets
10. Connecting to G5 Basestation Web Server (for configuration)
11. Configuring G5 Basestation for Store Operation, Greeter, Alert and Reminder functionality
12. Save the current G5 Basestation settings

<u>G5 Basestation Wiring Terminals - Reference</u>

The labels on the illustration below correspond to the recommended steps listed above, to properly migrate from XY-1 Basestation to G5 Basestation, outlined in the remainder of this document.
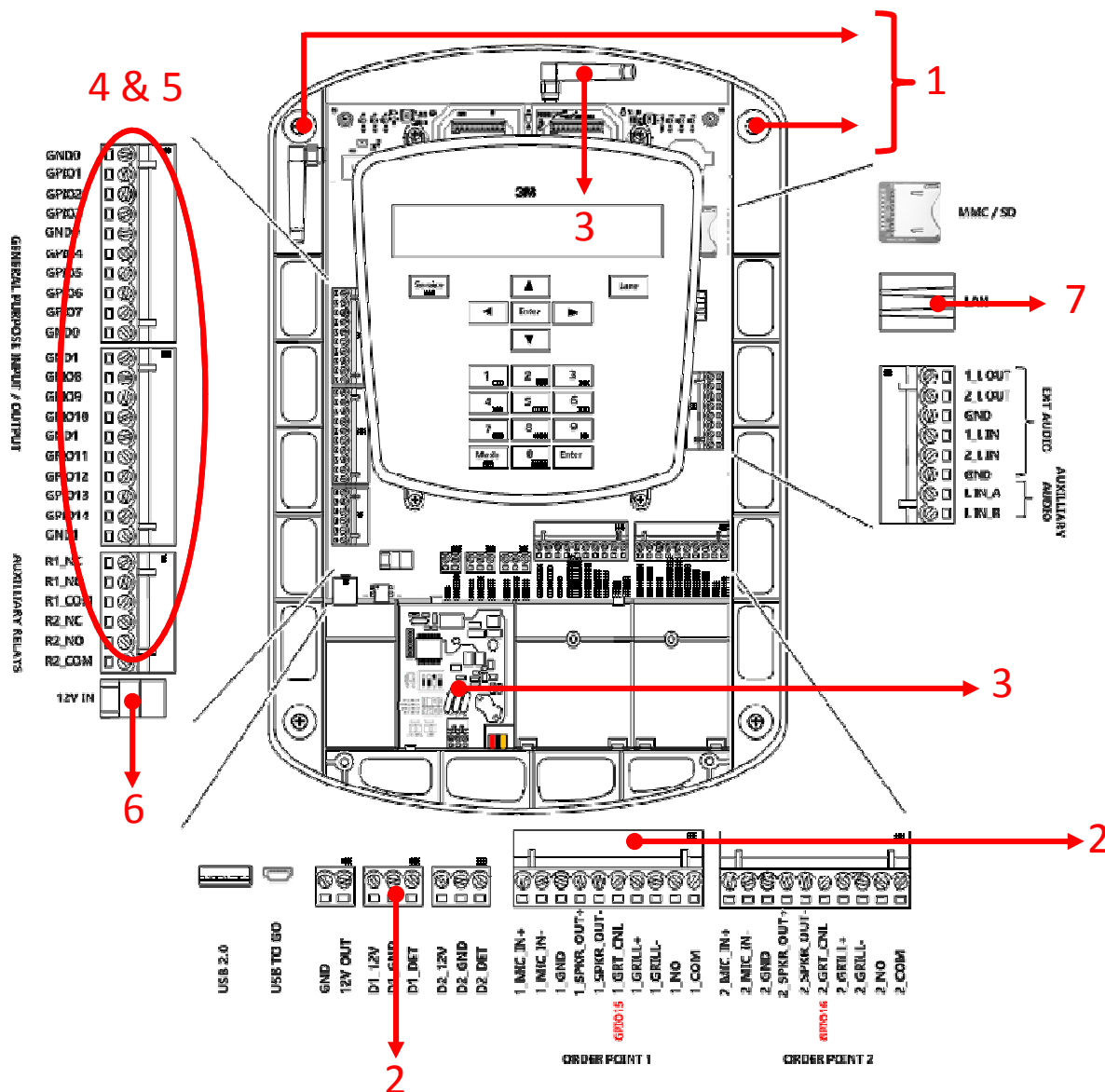
1. Disconnect and Remove the XT-1 Basestation off the wall

To remove the base station cover:
· Disconnect power from the base station.
· Loosen the two screws located at the bottom of the cover.
· Lift the cover upward and away. The display and keypad remain with the base, not with the cover.

Disconnect wires terminating on XT-1 basestation
· Disconnect one wires, one at a time, from the phoenix connectors on the XT-1 basestation.
 - Make sure you label each wire so you know what terminal they connect to.
   For example: MEN SKR +, or MEN SKR -, or GND or MIC+ or MIC- etc
   This should not be required if you have employed 3Ms guidelines on properly terminating color coded cables to
  terminals on the XT-1 Basestation.
       Blue & White -> Order Point Speaker
       Red & Black +Shield -> Order Point Microphone + GND
       Green & Yellow -> Loop terminals on Vehicle Detector board (If using Internal Vehicle Detector)

Disconnect any Range Extenders
· Disconnect one any Omni-Directional or Patch antennas connected to the XT-1 Basestation

Disconnect any external Momentary Closed Switches they may have installed to change Order Taking Modes, SPLIT/CROSS, or DAY/NIGHT
· Most often these external switches are labeled (on the wall). It is important that while re-wiring, the same functionality (relative
 to each switch) is maintained.

Remove the XT-1 basestation off the wall
· Detach the XT-1 basestation off the wall by removing the 4 screws.
· Set XT-1 basestation aside.

Screws   Screws

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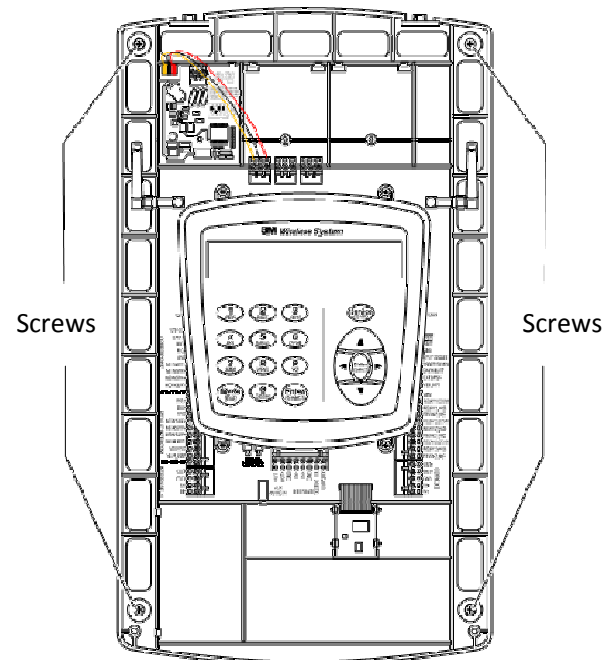
2. Mount G5 Basestation to the wall

The G5 Basestation can be mounted in the same place as the current XT-1 Basestation.
You may use either the Top or Bottom two mounting screws of existing XT-1 Basestation to hold the G5 Basestation on the wall.
Which one you choose depends on
    • Where the cut-out (in the wall) that feeds the cable, is located.
   • There being sufficient cable length to terminate the Speaker, Microphone, Induction Loop and Timer (Greet Event) wires.

Once this is completed you will need to drill the remaining two holes to secure Venus basestation to the wall.

NOTE:
If the current cable lengths terminating on the XT-1 Basestation are not long enough to re-wire the G5 Basestation, you may have to pull new cable
However, if you are short by a few inches, you may splice in sufficient length of wire from an another spool of 3M Cables.
Make sure the point where you connect the two wires (or splice) is properly insulated with Electrical Insulation Tape and/or securely held with wire nuts. This ensures against any accidental grounding of the wires.
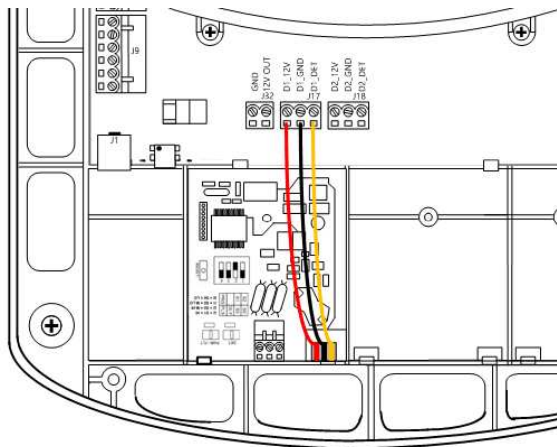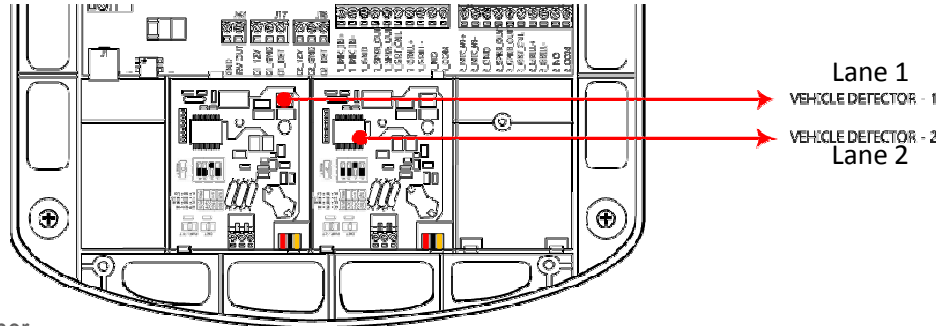
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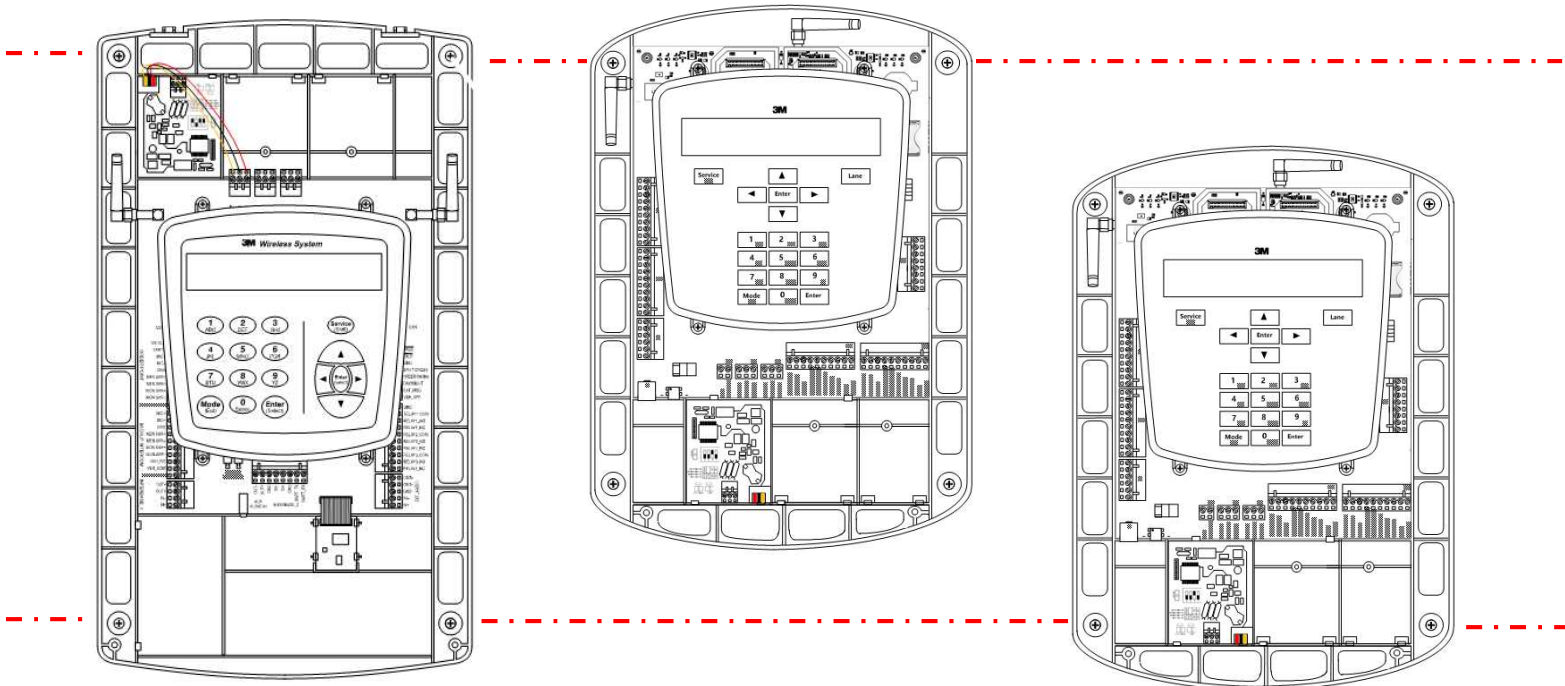
3. Re-wire Lane1 - Speaker, Microphone, Induction Loop to G5 Basestation

Follow the illustration below to wire the Order Point Speaker, Microphone and Induction Loop, ,and Monitor Speaker (if applicable).

NOTE: If the current wires do not extend out to the terminals on the G5 Basestation, you may splice in sufficient length of wire from an another spool of 3M Cables.
Make sure the point where you connect the two wires (or splice) is properly insulated with Electrical Insulation Tape and/or securely held with wire nuts. This ensures against any accidental grounding of the wires.
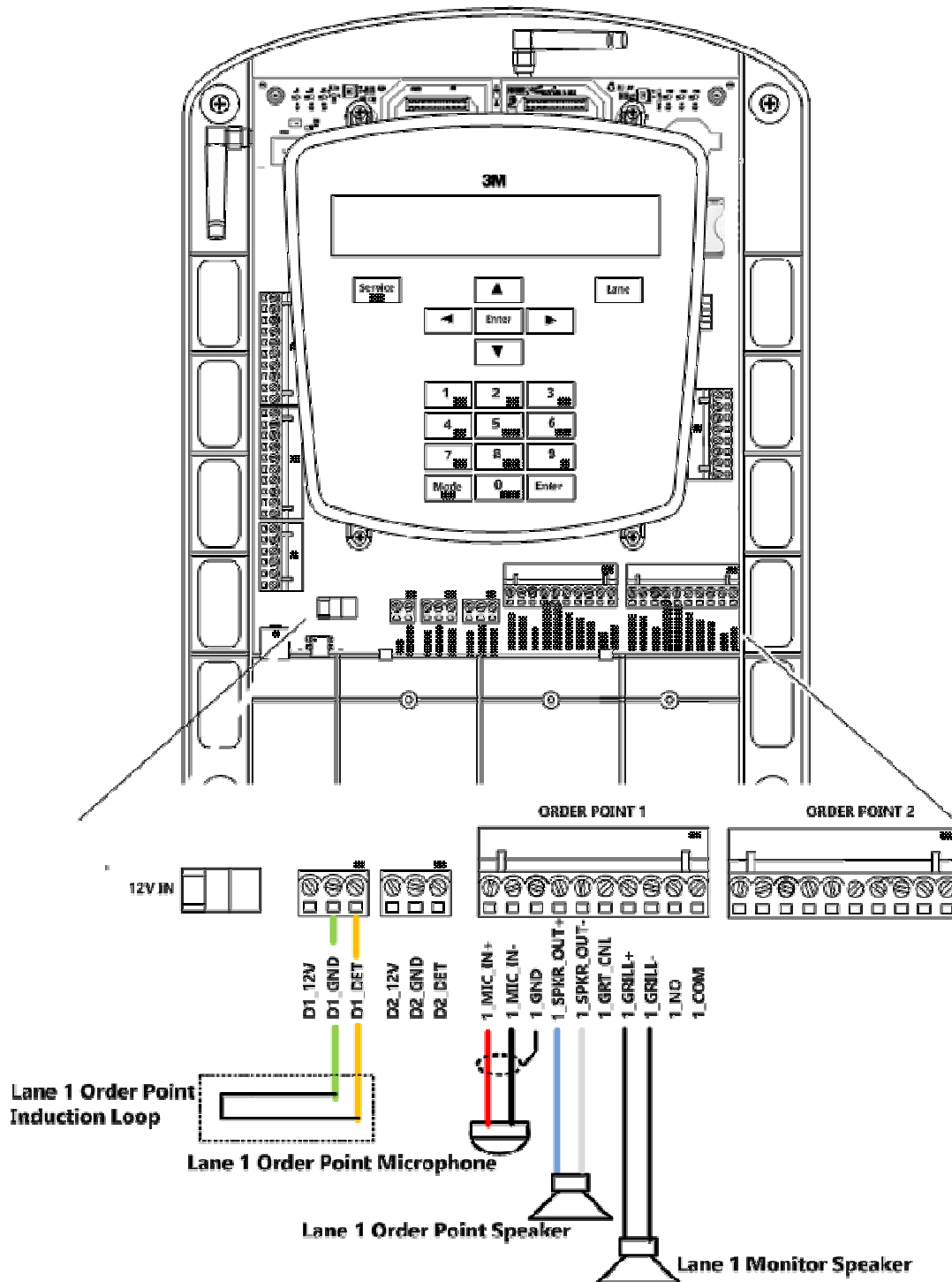
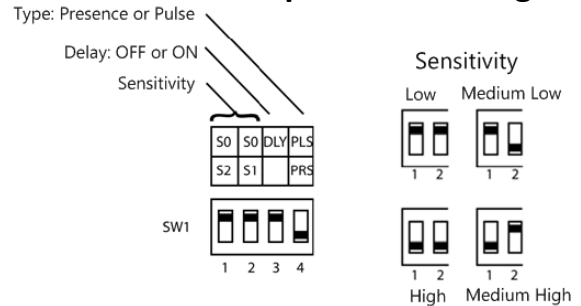## 4. Install Vehicle Detector Board and any External Antennas.

Installing Vehicle Detector Boards

G5 Basestation accommodates up to TWO vehicle detector boards and these MUST be connected to the Order Point induction loops.
Follow the procedure below to install them into the G5 basestation.

- Align the bottom of the vehicle detector board with the installation slot.
- Slide the top edge of the board between the back of the base station and the two raised tabs.
- Install and gently tighten the screw.
- Carefully install the three wires between the vehicle detector board and the base station board. The left-to-right pin order is the same on both boards: the left pin on one corresponds to the left pin on the other.
- Configure the dip switches, if required, according to the table on the circuit board and your needs .

Lane 1
VEHICLE DETECTOR - 1
VEHICLE DETECTOR - 2
Lane 2

Dip Switch Settings

Type: Presence or Pulse
Delay: OFF or ON
Sensitivity

| S0 | S0 | DLY | PLS |
| S2 | S1 | | PRS |

SW1
1 2 3 4

Sensitivity

Low   Medium Low
1 2   1 2

High   Medium High
1 2   1 2

Installing External Antenna(s)

If the store currently uses an External Antenna (either Omni-Directional or Patch Antenna), it is assumed that the location of the external antenna is not going to change.

Follow the steps below to re-connect the existing external antenna.

- Remove either the left or right antenna on the G5 Basestation
- Connect the pigtail to basestation antenna connector, in spot where antenna was removed
  NOTE: DO NOT use a tool to tighten the pigtail to the Base Station, leave the connection finger tight.
- Connect coaxial cable (of the external antenna) to pigtail.

G5 Basestation Antenna

Service Shift
Lane
Enter
1 ABC 2 DEF 3 GHI

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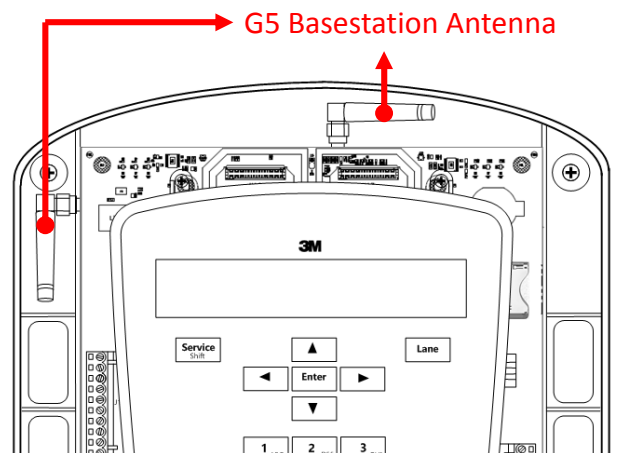
5. Timer Greet Event.

Currently The Greet Event (for a Timer) is extracted from the XT-1 Basestation using any one of the following procedures.

        a. Using $\overline{\text{TALK}}$ and GND on the XT-1 Basestation

        b. Using a combination of XT-1 Basestation's

                -- $\overline{\text{TALK}}$ and GND

                -- 3rd Detector Relay on top of the XT-1 Basestation and

                -- The Auxiliary Relay #3 and it's COM

        c. Using XT-1 Basestation's Menu Board Speaker terminals (MEN SKR+ and MEN SKR-)

To extract the Greet Event from the G5 Basestation, connect the wires from the Timer system to **GPIO11** and **GND1** as illustrated.

Default Digital General IO Settings		
IO #	**IN / OUT**	**Signal**
GND0		Ground
GPIO1	IN	SPLIT/CROSS
GPIO2	IN	ORDER TAKING
GPIO3	IN	DAY/NIGHT
GND0		Ground
GPIO4	IN	EXT_MSG
GPIO5	IN	Cooler Open
GPIO6	IN	Door Open
GPIO7	IN	Unused
GND0		Ground
GND1		Ground
GPIO8	IN	VEH_APP_1
GPIO9	IN	VEH_APP_2
GPIO10	OUT	Unused
GND1		Ground
GPIO11	OUT	TALK_1
GPIO12	OUT	PAGE_1
GPIO13	OUT	TALK_2
GPIO14	OUT	PAGE_2
GND1		Ground
GPIO15	OUT	1_GRT_CNL Active low talk. Must use one of the GND0 or GND1 from GPIO terminal block
GPIO16	OUT	2_GRT_CNL Active low talk. Must use one of the GND0 or GND1 from GPIO terminal block

To Timer System
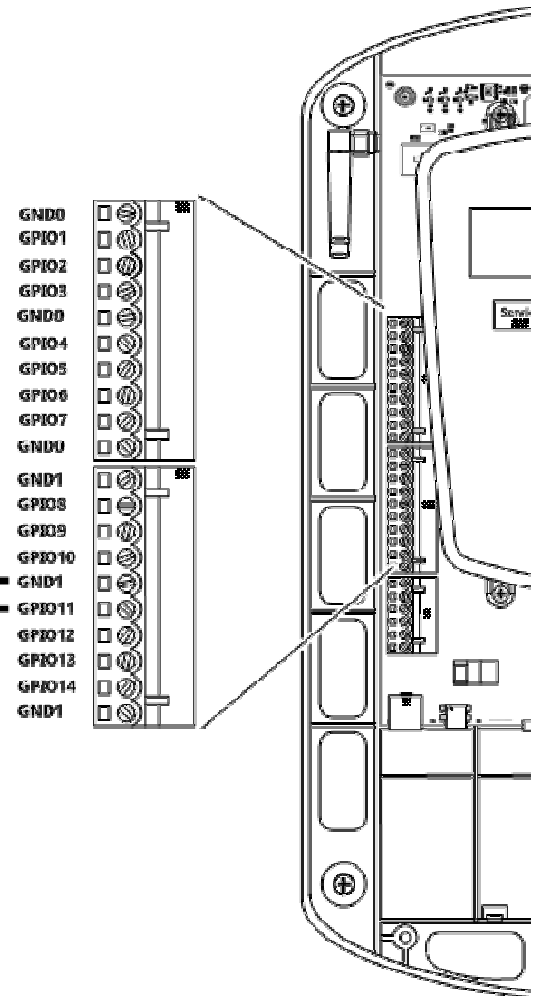
NOTE: GENERAL PURPOSE INPUT / OUTPUTs (GPIOs):

The G5 Basestation provides 16 configurable logical Inputs and Outputs.

All Inputs and Outputs are Active Low and are factory set to the following signals.

You can reassign any of these GPIOs to output or take as input a different signal via Digital IO Setup in the System Menu

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6. Re-wire any external button to change Order Taking Modes, SPLIT/CROSS, or DAY/NIGHT

Connect Use the following GPIOs to re-wire external buttons

        Change Order Taking Modes   --- GPIO2 and GND0
        Split/Cross   --- GPIO1 and GND0
        Day/Night   --- GPIO3 and GND0

7. Wiring to trigger Alert Messages

The Greeter functionality is built into the G5 Basestation Model G5B1. In addition to
- Playing back a Greet message to the customer at the Order Point and/or
- Playing a Reminder message at a scheduled time of day,

The user can also program the system to playback an Alert message whenever an external event occurs, such as Opening the Back Door or Opening the Refrigerator.

You can configure any of the 16 GPIOs on the G5 Basestation Model as ALERT Message Trigger Inputs.
For example, if you chose to wire the back door sensor to GPIO7 and GND0, any time these two pins are shorted, the ALERT message assigned to this input (such as Back Door Open) will play on each headset configured to play the ALERT Message.
See illustration below:

NOTE:
- *Programming the G5 Basestation to play the Alert Message and*
- *Configuring which Headsets you want the G5 Basestation play this message on,*

will be covered later in this document.
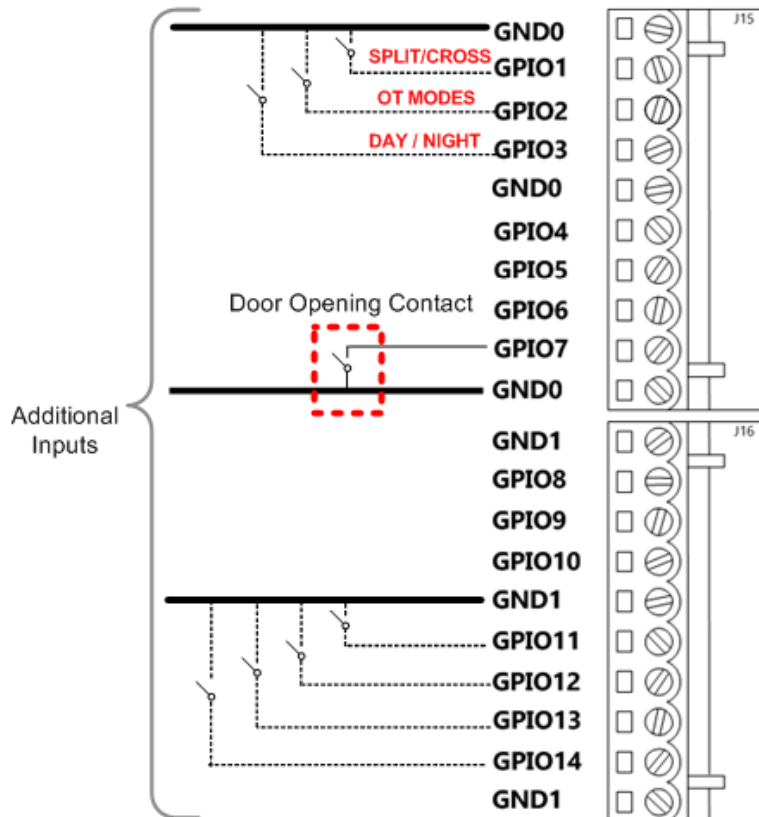
8. Power up the G5 Basestation and close the Basestation cover

You may now power up the system by plugging in the Power Supply's barrel
connector to the 12V input terminal on the Basestation, as illustrated:

To replace the base station cover:
  -- Verify there are no obstructions (tools, etc.) in the way of the cover being closed.
  -- Align the top edge of the cover with the base.
  -- Swing the bottom half of the cover down into place and gently push it against the base
     until it locks into place.
     Tighten the two screws located at the bottom of the cover.
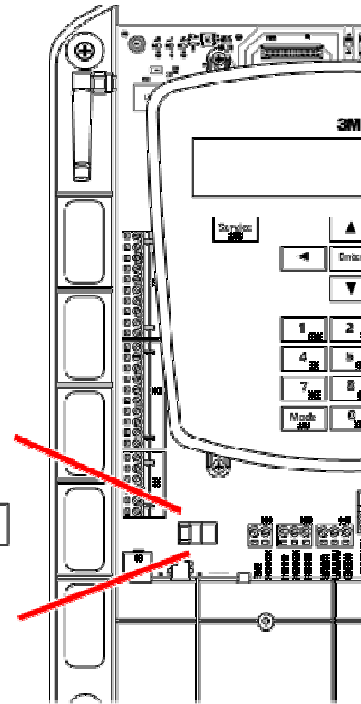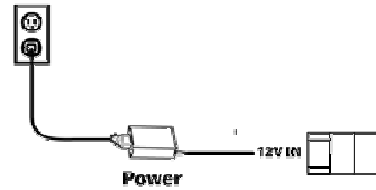
9. Register (G5 and/or XT-1) Headsets to the basestation
In order to register headset(s) to the G5 Basestation, you will have to:
- Enter the Configuration mode on the basestation
- Register headsets from the Registration option on the System Menu

Enter Configuration Mode:
Configuration mode is a passcode-protected area that contains most of the configuration options for the G5 Basestation system.
Using the access provided for users, it is possible to set up all of the functionality of the system.
To enter the configuration mode:

> 1. From the Run mode screen, enter your user passcode.
> 2. Press **Mode**. The display will show the user name and ID number
>   (e.g., Installer1ID = 1 or User1ID = 1)
> 3. Press **Mode** again and the system will display the Main Menu with options to
>   select *System Menu* or *Greeter Menu*
> 4. Use keypad's arrow keys to navigate to *System Menu* and press **Enter**.
> **Notes:**
> The default Installer password is 12345 and the default User password is 1234

```
13:25 THU,DEC/10/2015 ▌ Mode> AL/MLT <
NOISE REDUCTION [MED]  ▌ Single Lane
GREETER                ▌ Volume < DAY >
INSTALLER MODE, ID = 1
```

Register Headset(s):
From the System Menu
> •· Select **04 Registration** > **1 Add New Headsets**.
> •· Power on the headset when prompted.
>   Or in the case of a G5 headset, insert he battery to automatically power on the headset.
> •· Wait up to two minutes for {**Headset xxxxxxx Has Been Registered!**} to appear at the bottom of the display.
> •· Repeat the steps above for additional headsets.
> •· Press **Mode** when finished.

10. Connect laptop to G5 Basestation Web Server
Please refer to the document, "TB-160 Logging onto G5 Basestation Web Server.pdf".

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11. Configuring Basestation for Store Operation, Greeter, Alert and Reminder functionality

All G5 Basestation configuration will have to be manually conducted.
Any Configuration File you may have exported from the XT-1 Basestation cannot be imported/loaded onto the G5 Basestation.
Please refer to the

-- Previously completed Pre-Installation checklist and to the
-- G5 Basestation Model G5B1-Installation Manual v1.0 - July 17 2015.pdf
-- G5 Basestation Model G5B1-Operating Instructions v1.0 - July 17 2015.pdf

In order to

- Configure Basestation for Store Operation
- Configure G5 Basestation for Greeter functionality
- Configuring Reminder messages on G5 Basestation .
- Configuring Alert messages on G5 Basestation

12. Save the current G5 Basestation settings

In order to save the current G5 Basestation settings, you will have to:

- Enter the Configuration mode on the basestation and get to System Menu – as described on Page 10
- · Select **14 Installer Setup**.
- · Change the value for **Save Installation Settings** to **Yes**.

```
           :INSTALLER SETUP:
     LOAD  Installation Settings? <NO >
     SAVE  Installation Settings? >YES<
              {MODE=Exit}                    ↓
```

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