

LINE LOCATION DROP THE BOX VR Experience

Storyboard FINAL V1.0

03-20-2022

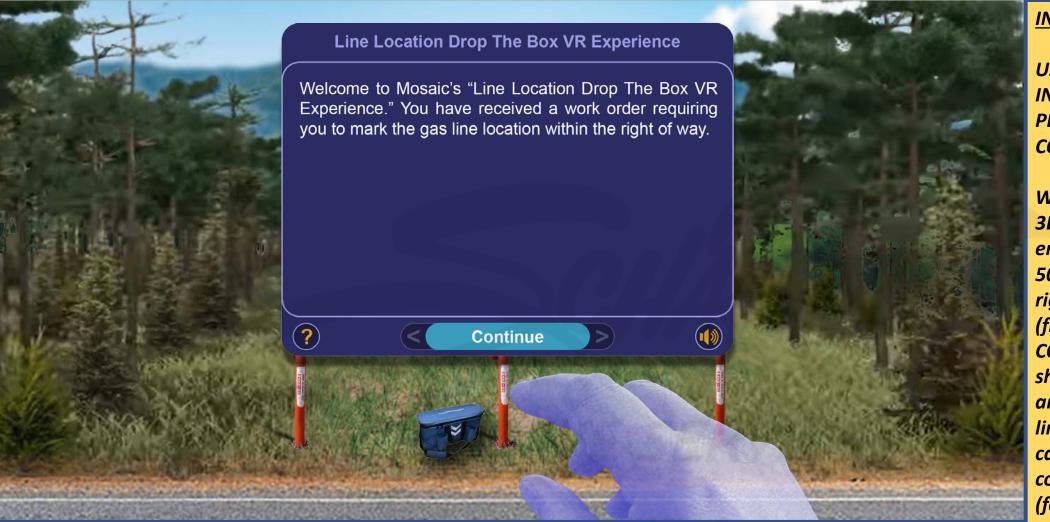
Document History

Version #	Date	Written/Revised By	Description
Draft V0.1	2022-02-24	Eric M. Scharf Solution Design Architect	 Initial storyboard draft for "Right of Way (ROW) VR Experience"
Draft V0.2	2022-02-28	Eric M. Scharf Solution Design Architect	ROW process details updated
Draft V0.3	2022-03-02	Eric M. Scharf Solution Design Architect	 ROW equipment inventory options updated
Draft V0.4	2022-03-18	Eric M. Scharf Solution Design Architect	 Equipment functionality and UX/UI details updated
Draft V0.5	2022-03-19	Eric M. Scharf Solution Design Architect	• ROW process changed to "Line Location Drop The Box"
Final V1.0	2022-03-20	Eric M. Scharf Solution Design Architect	Storyboard finalized

www.emscharf.com

DISCLAIMER: This document – like all storyboards across feature film, episodic broadcast television, interactive software, and other similar media – demonstrates (1) a *visual <u>approximation</u>* and (2) an accurate feature set for development of the agreed upon "Line Location Drop The Box VR Experience" end product (that is one component of a larger AGA 2022 Conference Demo).

<u>**Please NOTE</u>**: This document has been created for both Mosaic internal stakeholders and offshore outsource development resources. This document contains no proprietary information.</u>



<u>DESCRIPTION</u>: The user has entered the "Line Location Drop The Box VR Experience" via the teleportation device from the training room. The user is greeted with a welcome placard (which will always be centered to the user and in front of the user when activated). Tapping CONTINUE allows the user to proceed with the experience.

<u>PLEASE NOTE</u>: Placard content will change with every successful user action. The BACK and NEXT arrows will be disabled unless there is a UX need to grant the user manual control over which instructions are visible. HELP and AUDIO (for voiceover instructions) can be respectively enabled/disabled through the ? and audio buttons.

INTERACTIVITY:

User reads the INSTRUCTIONAL PLACARD and taps the CONTINUE button.

Walkable area within the 3D right of way environment should be 50 feet wide (left to right) and 100 feet deep (front to back). COLLISION VOLUMES should align with left and right of road, tree lines, duffle bag, orange case vent markers, and a collision wall at the rear (for the yellow gas line markers).

While the user can turn around from this starting point, the user cannot go backwards from this point.



<u>DESCRIPTION</u>: The user has entered the "Line Location Drop The Box VR Experience" via the teleportation device from the training room. The user is greeted with a welcome placard (which will always be centered to the user and in front of the user when activated). Tapping CONTINUE allows the user to proceed with the experience.

<u>PLEASE NOTE</u>: Placard content will change with every successful user action. The BACK and NEXT arrows will be disabled unless there is a UX need to grant the user manual control over which instructions are visible. HELP and AUDIO (for voiceover instructions) can be respectively enabled/disabled through the ? and audio buttons.

INTERACTIVITY:

User reads the INSTRUCTIONAL PLACARD and taps the CONTINUE button.

Walkable area within the 3D right of way environment should be 50 feet wide (left to right) and 100 feet deep (front to back). COLLISION VOLUMES should align with left and right of road, tree lines, duffle bag, orange case vent markers, and a collision wall at the rear (for the yellow gas line markers).

While the user can turn around from this starting point, the user cannot go backwards from this point.

Line Location Drop The Box VR Experience



<u>DESCRIPTION</u>: When the HELP screen is active, the CONTINUE, BACK, NEXT, and AUDIO buttons will be disabled. Should there be a change in the amount of HELP screen content required, the BACK and NEXT buttons will be enabled to allow navigation through that content.

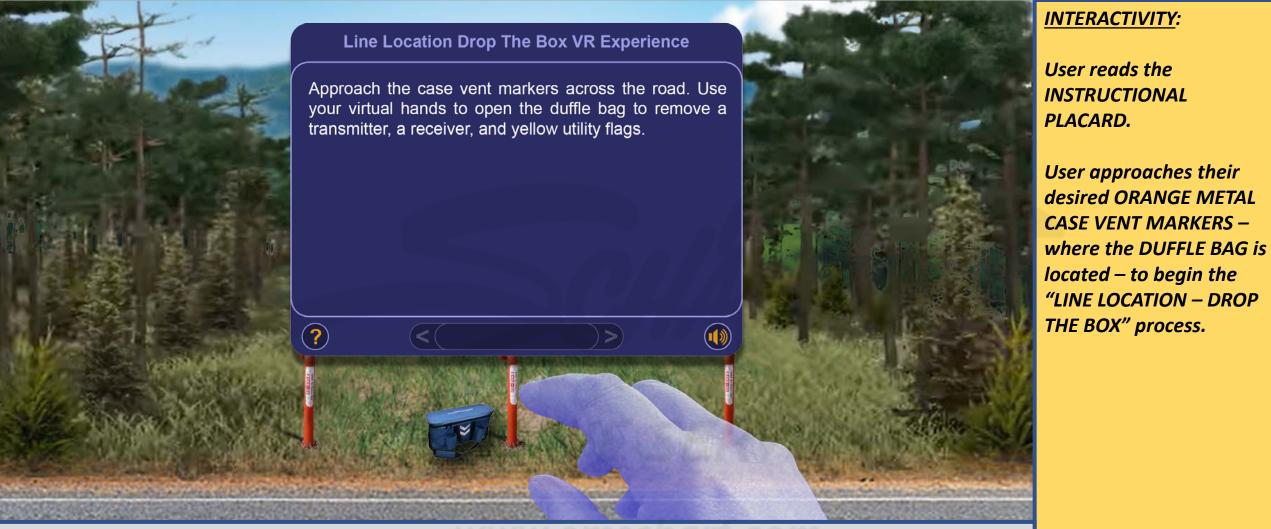
<u>PLEASE NOTE</u>: The HELP screen AND control schema are shared between ALL the VR experiences which comprise the 2022 AGA Conference demo.

INTERACTIVITY:

User reads the INSTRUCTIONAL PLACARD and taps the CONTINUE button.

Walkable area within the 3D right of way environment should be 50 feet wide (left to right) and 100 feet deep (front to back). COLLISION VOLUMES should align with left and right of road, tree lines, duffle bag, orange case vent markers, and a collision wall at the rear (for the yellow gas line markers).

While the user can turn around from this starting point, the user cannot go backwards from this point.



<u>DESCRIPTION</u>: The user approaches some orange case vent markers and prepares to open their equipment duffle bag.



<u>DESCRIPTION</u>: The user approaches some orange case vent markers and prepares to open their equipment duffle bag.



DESCRIPTION: The user prepares to unzip the duffle bag and empty its contents.

INTERACTIVITY:

User reaches (with a controller) to unzip the DUFFLE BAG and empty contents.

DUFFLE BAG is animated to unzip, with the lid being lifted back, exposing the contents of the DUFFLE BAG.

COLLISION VOLUMES – again – should be integrated for each of the ORANGE CASE VENT MARKERS and the DUFFLE BAG.

<u>NO</u> walking through the environment props.

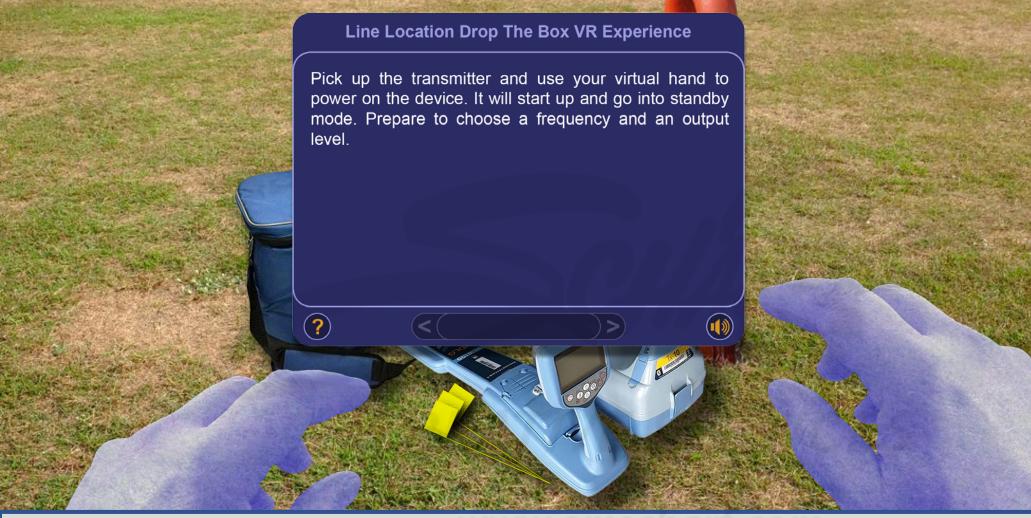


<u>DESCRIPTION</u>: The user has emptied the duffle bag. The contents – including an RD8100 PRECISION LOCATOR, TX-10 TRANSMITTER, and YELLOW UTILITY FLAG – are displayed on the ground and ready for use).

INTERACTIVITY:

The contents of the DUFFLE BAG (TRANSMITTER, RECEIVER, and YELLOW UTILITY FLAGS) are individually animated out of the DUFFLE BAG and placed in front of the DUFFLE BAG on the ground.

COLLISION VOLUMES to be integrated for (1) each of the ORANGE CASE VENT MARKERS, (2) the DUFFLE BAG, (3) TRANSMITTER, and (4) RECEIVER. No walking through the prop objects. The flags do NOT require collision volumes.



<u>DESCRIPTION</u>: The user has emptied the duffle bag. The contents – including an RD8100 PRECISION LOCATOR, TX-10 TRANSMITTER, and YELLOW UTILITY FLAG – are displayed on the ground and ready for use).

INTERACTIVITY:

The contents of the DUFFLE BAG (TRANSMITTER, RECEIVER, and YELLOW UTILITY FLAGS) are individually animated out of the DUFFLE BAG and placed in front of the DUFFLE BAG on the ground.

COLLISION VOLUMES to be integrated for (1) each of the ORANGE CASE VENT MARKERS, (2) the DUFFLE BAG, (3) TRANSMITTER, and (4) RECEIVER. No walking through the prop objects. The flags do NOT require collision volumes.

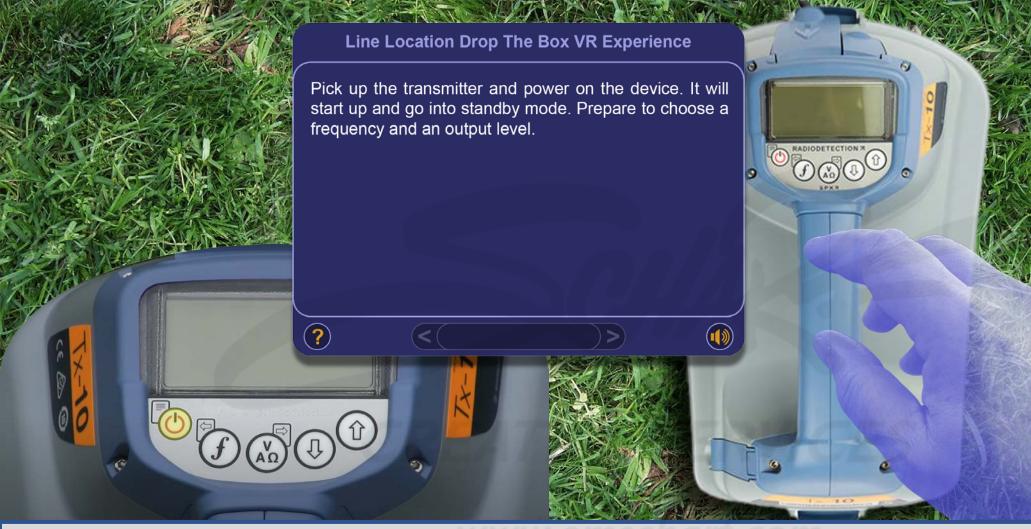


DESCRIPTION: The user reaches down for the TRANSMITTER (on the left) and prepares to power ON the device.

INTERACTIVITY:

User reads the INSTRUCTIONAL PLACARD.

User reaches (with a controller) for the TRANSMITTER to power ON the device.



<u>DESCRIPTION</u>: The user reaches for and powers ON the TRANSMITTER (using the highlighted power button), which will momentarily go from startup mode to standby mode.

<u>PLEASE NOTE</u>: The user does NOT reach down to pick up the TRANSMITTER. The user reaches DOWN to interact with the TRANSMITTER at ground level (almost as if the user was down on one knee, thus, the perspective being displayed above). The HELP screen will ONLY be visible to the user when activated and when the user is in a face-forward (rather than face-down) orientation.

INTERACTIVITY:

User reaches (with a controller) for the TRANSMITTER without actually picking up the device. Upon making contact with the TRANSMITTER, a CLOSE-UP of the TRANSMITTER user interface screen should appear.

User reaches (with a controller) to press the highlighted power button on the TRANSMITTER.

There is no audible alert associated (or necessary) with the TRANSMITTER.



<u>DESCRIPTION</u>: The user reaches for and powers ON the TRANSMITTER (using the highlighted power button), which will momentarily go from startup mode to standby mode.

<u>PLEASE NOTE</u>: The user does NOT reach down to pick up the TRANSMITTER. The user reaches DOWN to interact with the TRANSMITTER at ground level (almost as if the user was down on one knee, thus, the perspective being displayed above). The HELP screen will ONLY be visible to the user when activated and when the user is in a face-forward (rather than face-down) orientation.

INTERACTIVITY:

User reaches (with a controller) for the TRANSMITTER without actually picking up the device. Upon making contact with the TRANSMITTER, a CLOSE-UP of the TRANSMITTER user interface screen should appear.

User reaches (with a controller) to press the highlighted power button on the TRANSMITTER.

There is no audible alert associated (or necessary) with the TRANSMITTER.



DESCRIPTION: The TRANSMITTER momentarily goes from startup mode to standby mode.

INTERACTIVITY:

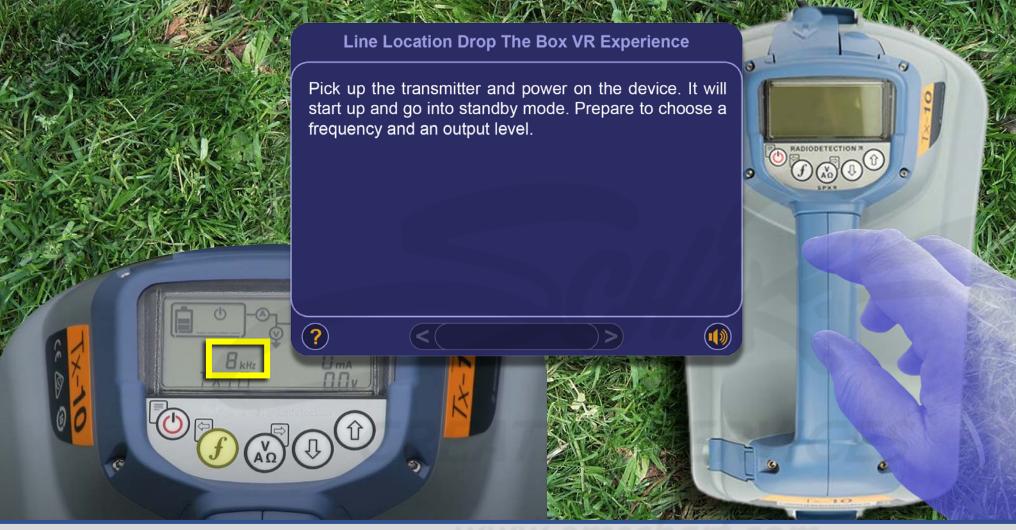
After the user presses the power button to power on the TRANSMITTER, the TRANSMITTER user interface screen boots/starts up ("flashing" all possible interface icons at once, as part of a quicklyappearing single interface image).



<u>DESCRIPTION</u>: The TRANSMITTER is in standby mode and ready to be set up with a FREQUENCY and OUTPUT LEVEL.

INTERACTIVITY:

The TRANSMITTER user interface screen has reached standby mode, and it is ready to be set up by the user with a specific FREQUENCY and OUTPUT LEVEL.



<u>DESCRIPTION</u>: The user presses the highlighted FREQUENCY BUTTON on the TRANSMITTER and continues pressing that button until settling on the desired frequency. THIS purposely-narrowed experience will allow the user to choose from 5 "single" frequencies (4KHz, 8KHz, 33KHz, 65KHz, 200KHz). 4KHz is the default setting.

<u>PLEASE NOTE</u>: There is NO LOGIC being programmed for these FREQUENCIES. The ONLY functionality will involve the user's ability to select ONE of the available frequencies.

INTERACTIVITY:

User reads the INSTRUCTIONAL PLACARD.

User is prompted by the highlighted FREQUENCY button to choose a frequency.

There will be 5 available frequencies (4KHz, 8KHz, 33KHz, 65KHz, 200KHz), so user merely needs to be allowed to push the FREQUENCY button to invoke the desired frequency. Once selected, NO CONFIRMATION step is required. It is JUST "selected." 4KHz is the default (which the user CAN leave as-is).



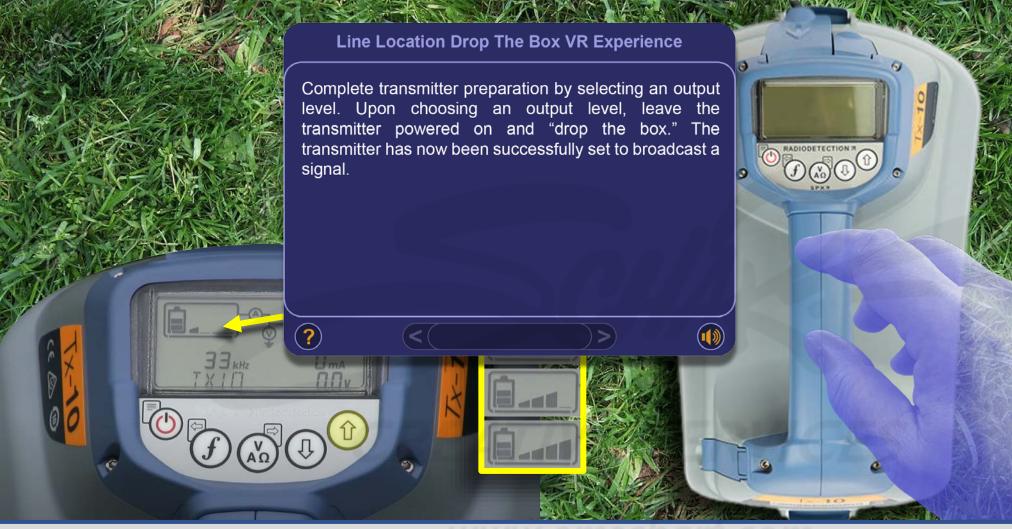
User reads the INSTRUCTIONAL PLACARD.

User is prompted by the highlighted FREQUENCY button to choose a frequency.

There will be 5 available frequencies (4KHz, 8KHz, 33KHz, 65KHz, 200KHz), so user merely needs to be allowed to push the FREQUENCY button to invoke the desired frequency. Once selected, NO CONFIRMATION step is required. It is JUST "selected." 4KHz is the default (which the user CAN leave as-is).

<u>DESCRIPTION</u>: The user presses the highlighted FREQUENCY BUTTON on the TRANSMITTER and continues pressing that button until settling on the desired frequency. THIS purposely-narrowed experience will allow the user to choose from 5 "single" frequencies (4KHz, 8KHz, 33KHz, 65KHz, 200KHz). 4KHz is the default setting.

<u>PLEASE NOTE</u>: There is NO LOGIC being programmed for these FREQUENCIES. The ONLY functionality will involve the user's ability to select ONE of the available frequencies.



<u>DESCRIPTION</u>: The user presses the highlighted OUTPUT LEVEL "UP" BUTTON on the TRANSMITTER and continues to press that button until settling on the desired output level. The user can choose from all 5 OUTPUT LEVELS (including the DEFAULT standby that merely displays the universal "power" icon).

<u>PLEASE NOTE</u>: There is NO LOGIC being programmed for these OUTPUT LEVELS. The ONLY functionality will involve the user's ability to select ONE of the available output levels.

INTERACTIVITY:

User reads the INSTRUCTIONAL PLACARD.

User is prompted by the highlighted OUTPUT LEVEL button to choose an OUTPUT LEVEL.

There is only one OUTPUT LEVEL alternative in this experience, so user needs only to push the "UP" OUTPUT LEVEL button once to invoke a changed output level. Once the desired OUTPUT LEVEL is selected, NO CONFIRMATION step is required. It is JUST "selected."



<u>DESCRIPTION</u>: The user presses the highlighted OUTPUT LEVEL "UP" BUTTON on the TRANSMITTER and continues to press that button until settling on the desired output level. The user can choose from all 5 OUTPUT LEVELS (including the DEFAULT standby that merely displays the universal "power" icon).

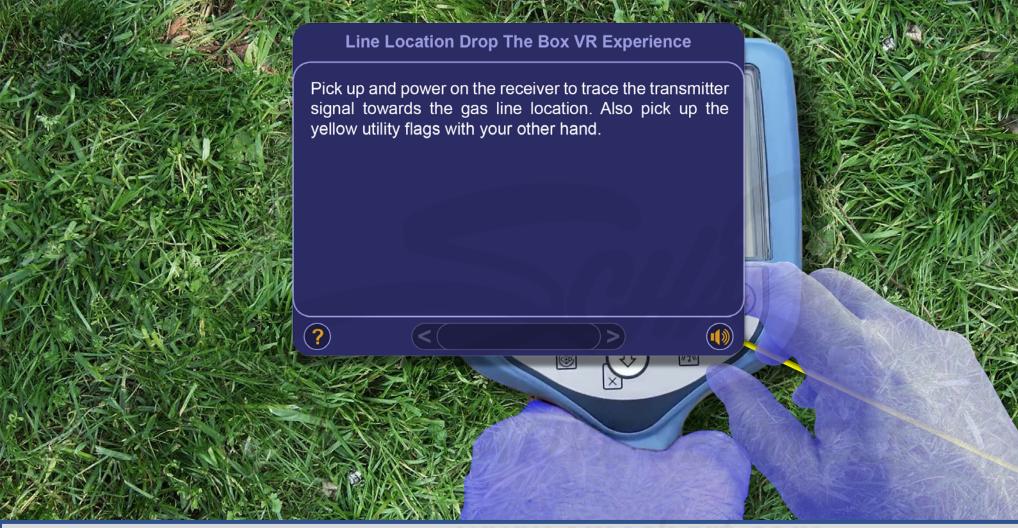
<u>PLEASE NOTE</u>: There is NO LOGIC being programmed for these OUTPUT LEVELS. ONLY the ability to select ONE of them.

INTERACTIVITY:

User reads the INSTRUCTIONAL PLACARD.

User is prompted by the highlighted OUTPUT LEVEL button to choose an OUTPUT LEVEL.

There is only one OUTPUT LEVEL alternative in this experience, so user needs only to push the "UP" OUTPUT LEVEL button once to invoke a changed output level. Once the desired OUTPUT LEVEL is selected, NO CONFIRMATION step is required. It is JUST "selected."



<u>DESCRIPTION</u>: The user picks up ONE of the YELLOW UTILITY FLAGS. The user then picks up and powers ON the RECEIVER using the highlighted power button.

<u>PLEASE NOTE</u>: The above positioning of the YELLOW UTILITY FLAG and RECEIVER is an APPROXIMATION. Once the user has picked up the RECEIVER after picking up ONE YELLOW ULITITY FLAG, that flag is to become HIDDEN yet STILL PRESENT within the user's hand. The flag will REAPPEAR in the user's hand at the activity's conclusion.

INTERACTIVITY:

User reads the INSTRUCTIONAL PLACARD.

User reaches (with a controller) for and picks up <u>ONE</u> of the YELLOW UTILITY FLAGS.

User reaches (with their <u>OTHER</u> controller) for the RECEIVER, picks up the RECEIVER, and powers it ON (using the highlighted power button).

Upon picking up the RECEIVER, the YELLOW UTILITIY FLAG is temporarily HIDDEN from sight.



<u>DESCRIPTION</u>: The user picks up ONE of the YELLOW UTILITY FLAGS. The user then picks up and powers ON the RECEIVER using the highlighted power button.

<u>PLEASE NOTE</u>: The above positioning of the YELLOW UTILITY FLAG and RECEIVER is an APPROXIMATION. Once the user has picked up the RECEIVER after picking up ONE YELLOW ULITITY FLAG, that flag is to become HIDDEN yet STILL PRESENT within the user's hand. The flag will REAPPEAR in the user's hand at the activity's conclusion.

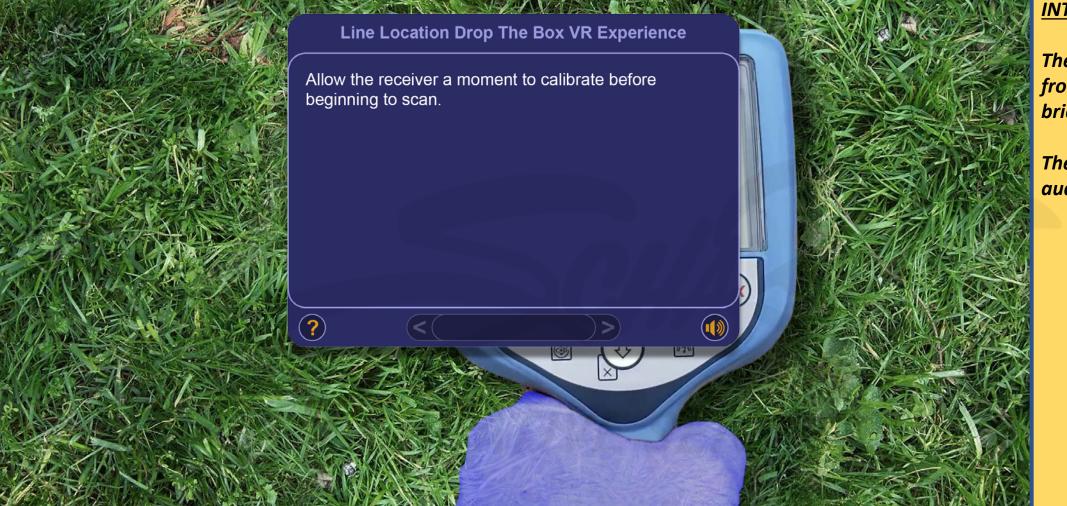
INTERACTIVITY:

User reads the INSTRUCTIONAL PLACARD.

User reaches (with a controller) for and picks up <u>ONE</u> of the YELLOW UTILITY FLAGS.

User reaches (with their <u>OTHER</u> controller) for the RECEIVER, picks up the RECEIVER, and powers it ON (using the highlighted power button).

Upon picking up the RECEIVER, the YELLOW UTILITIY FLAG is temporarily HIDDEN from sight.



<u>DESCRIPTION</u>: The RECEIVER user interface screen goes through a brief calibration before immediately going into signal detection mode.

INTERACTIVITY:

The RECEIVER transitions from powering ON into a brief calibration state.

The consistent, low-level audible alert is active.

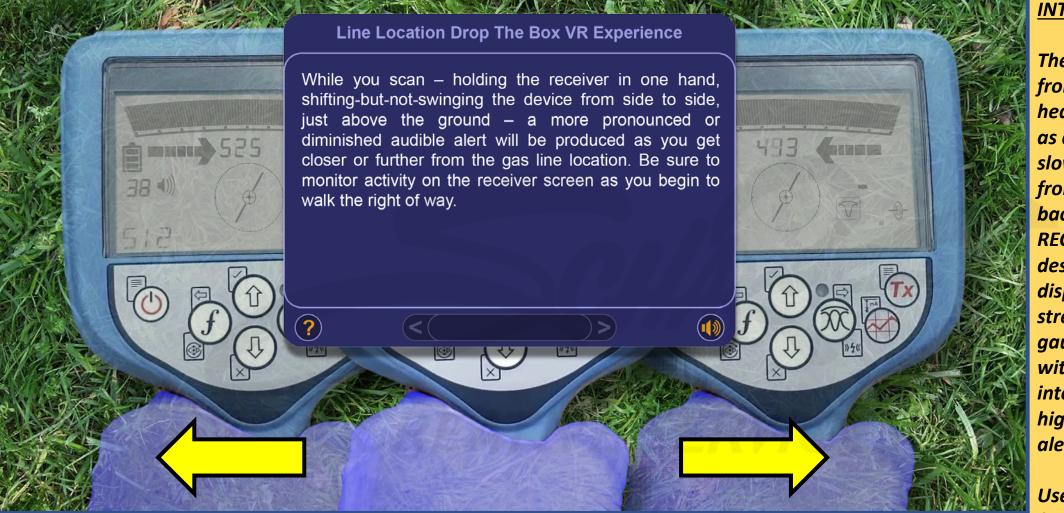


<u>DESCRIPTION</u>: The RECEIVER user interface screen goes through a brief calibration before immediately going into signal detection mode.

INTERACTIVITY:

The RECEIVER transitions from powering ON into a brief calibration state.

The consistent, low-level audible alert is active.



<u>DESCRIPTION</u>: The user walks forward with the RECEIVER, sliding/strafing their wrist from left to right and back again, until the incoming signal has solidified. The closer the user gets to the gas line location, the digital signal gauge – identified above within the RECEIVER user interface screen – will display a strong percentage number AND a "tide mark" ON that same gauge. A consistent, low-level audible alert becomes higher-pitched, the closer the user physically gets to the target gas line.

INTERACTIVITY:

The top-down user view from within the VR headset would resemble as displayed. The user slowly strafes their wrist from left to right and back again until the **RECEIVER** settles on the desired reading, displayed by (1) the strength of the signal gauge and "tide mark" within the device's interface and (2) a higher-pitched audio alert.

Use the 80+ series of GUI frames you received to approximate the desired LCD screen animated behavior for the receiver. The LCD screens as shown on the left are ONLY placeholders.

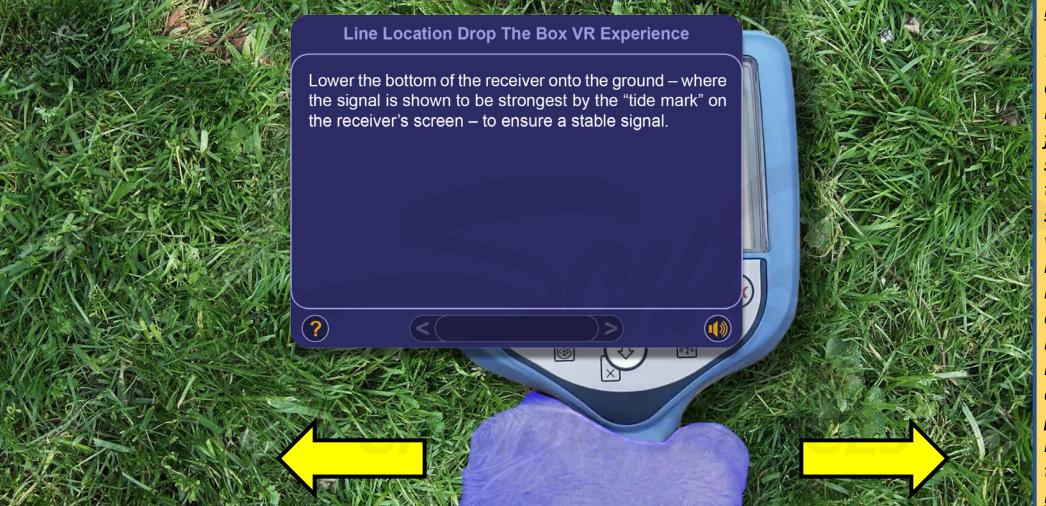


<u>DESCRIPTION</u>: The user walks forward with the RECEIVER, sliding/strafing their wrist from left to right and back again, until the incoming signal has solidified. The closer the user gets to the gas line location, the digital signal gauge – identified above within the RECEIVER user interface screen – will display a strong percentage number AND a "tide mark" ON that same gauge. A consistent, low-level audible alert becomes higher-pitched, the closer the user physically gets to the target gas line.

INTERACTIVITY:

The top-down user view from within the VR headset would resemble as displayed. The user slowly strafes their wrist from left to right and back again until the **RECEIVER** settles on the desired reading, displayed by (1) the strength of the signal gauge and "tide mark" within the device's interface and (2) a higher-pitched audio alert.

Use the 80+ series of GUI frames you received to approximate the desired LCD screen animated behavior for the receiver. The LCD screens as shown on the left are ONLY placeholders.



The signal number displayed within the **RECEIVER** interface is finally solidified (as shown (1) the strength of the signal gauge, (2) the steady "tide mark" within the device's interface, and (3) a higher-pitched audio alert. The consistent, low-level audible alert has changed to a consistent, higherpitched alert as the user lowers the RECEIVER to the ground to confirm. **Regarding the** *lower/higher intensity of* the AUDIBLE ALERTS.

<u>DESCRIPTION</u>: The user continues to walk forward with the RECEIVER, sliding/strafing their wrist from left to right and back again, until the incoming signal finally solidifies. The low-level audible alert has become higher-pitched. The user lowers the RECEIVER onto the ground, at which point the audible alert is consistent and at its highest pitch.



The signal number displayed within the **RECEIVER** interface is finally solidified (as shown (1) the strength of the signal gauge, (2) the steady "tide mark" within the device's interface, and (3) a higher-pitched audio alert. The consistent, *low-level audible alert* has changed to a consistent, higherpitched alert as the user lowers the RECEIVER to the ground to confirm. **Regarding the** *lower/higher intensity of* the AUDIBLE ALERTS.

<u>DESCRIPTION</u>: The user continues to walk forward with the RECEIVER, sliding/strafing their wrist from left to right and back again, until the incoming signal finally solidifies. The low-level audible alert has become higher-pitched. The user lowers the RECEIVER onto the ground, at which point the audible alert is consistent and at its highest pitch.



The signal number displayed within the RECEIVER interface has solidified (as shown by the "tide mark").

The RECEIVER is producing its highestpitch audible alert.

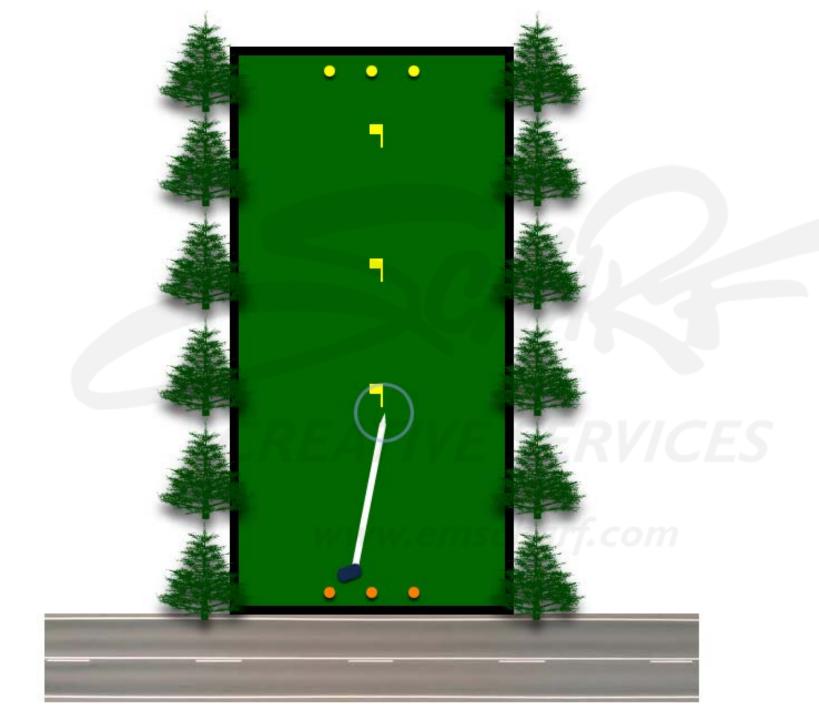
<u>DESCRIPTION</u>: The signal number has solidified on the RECEIVER, and the gas line has successfully been found. The user reaches to place the YELLOW UTILITY FLAG into the ground exactly where the RECEIVER has been lowered to the ground.



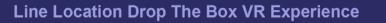
The signal number displayed within the RECEIVER interface has solidified (as shown by the "tide mark").

The RECEIVER is producing its highestpitch audible alert.

<u>DESCRIPTION</u>: The signal number has solidified on the RECEIVER, and the gas line has successfully been found. The user reaches to place the YELLOW UTILITY FLAG into the ground exactly where the RECEIVER has been lowered to the ground.



The top-down view of the right of way space demonstrates where the user is expected to begin walking and scanning the right of way space (starting next to the DUFFLE BAG). The user should be "encouraged" to walk approximately 25 feet FORWARD and away from the ORANGE CASE VENT MARKERS . . . Before the "tide mark" appears on the **RECEIVER'S LCD screen**, indicating to the user that they have successfully located the gas line.



Place one yellow utility flag into the ground where the gas line signal was most strongly detected. The remaining utility flags will automatically be placed further down the right of way.

1)

<u>DESCRIPTION</u>: The user plants the YELLOW UTIILTY FLAG (with the remaining YELLOW UTILITY FLAGS being automatically placed further down the immediate right of way space).

(?)

<u>PLEASE NOTE</u>: For the purpose of this brief demo/experience, once the user has placed the first YELLOW UTILITY FLAG, the remaining utility flags will be automatically placed further down the length of the right of way (with the flags appearing approximately 30 feet from each other within the greater 100-foot space).

INTERACTIVITY:

User reads the INSTRUCTIONAL PLACARD.

User reaches (with the other controller) with the YELLOW UTILITY FLAG to place it into the ground. The flag is animated from the user's controller into the ground. The two remaining flags are automatically placed with all three flags being approximately 30 feet apart (as demonstrated on slide 31).

The audible alert from the RECEIVER is disabled/silenced (by the system, rather than the user).



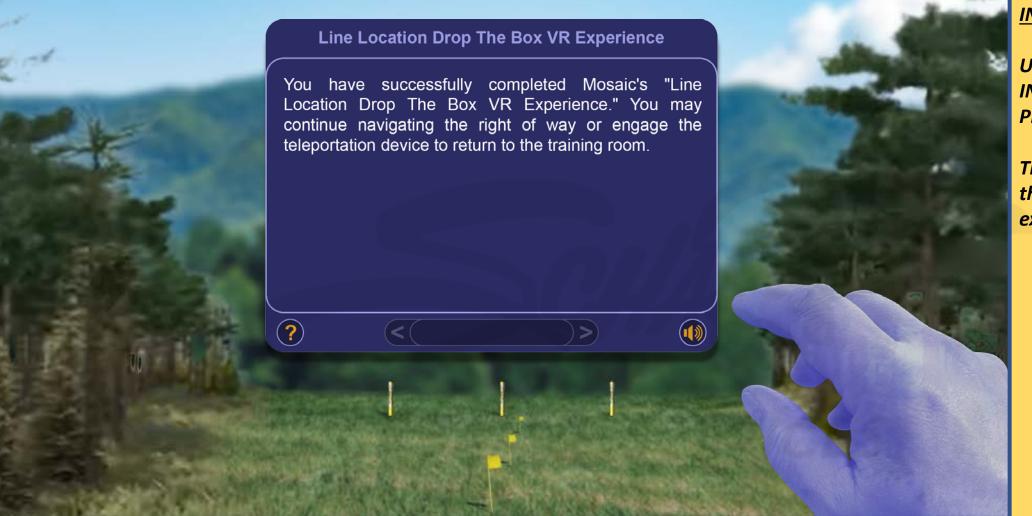
User reads the INSTRUCTIONAL PLACARD.

User reaches (with the other controller) with the YELLOW UTILITY FLAG to place it into the ground. The flag is animated from the user's controller into the ground. The two remaining flags are automatically placed with all three flags being approximately 30 feet apart (as shown on slide 27).

The audible alert from the RECEIVER is disabled/silenced (by the system, rather than the user).

<u>DESCRIPTION</u>: The user plants the YELLOW UTIILTY FLAG (with the remaining YELLOW UTILITY FLAGS being automatically placed further down the immediate right of way space).

<u>PLEASE NOTE</u>: For the purpose of this brief demo/experience, once the user has placed the first YELLOW UTILITY FLAG, the remaining utility flags will be automatically placed further down the length of the right of way (with the flags appearing approximately 30 feet from each other within the greater 100-foot space).



<u>DESCRIPTION</u>: The user has successfully completed the "Line Location Drop the Box VR Experience." The user may continue to navigate the area or turn around, location the teleportation device, and trigger the teleportation device to be returned to the training room.

INTERACTIVITY:

User reads the INSTRUCTIONAL PLACARD.

The "Line Location Drop the Box VR Experience" experience is concluded.