The **Panasonic Navigation Radio** can support up to four cameras, to improve visibility around the truck: Rear, LH, RH, and Front.

A camera view can be accessed manually at any time. The LH, RH and Rear views can also be set to automatically pop up when the reverse gear, the LH, or the RH turn signal is selected.

CAMERA INSTALLATION PARTS

Cameras

The Panasonic Navigation Radio can support up to four cameras:

➤ *Front*
➤ *Rear*
➤ *Left Side*
➤ *Right Side*

Adaptor Harness

This supports up to four cameras.

Optional Extension Cables

These are required if the standard cables are not long enough.

CAMERAS VIA PACCAR PARTS

Two Camera brands are available through PACCAR Parts:
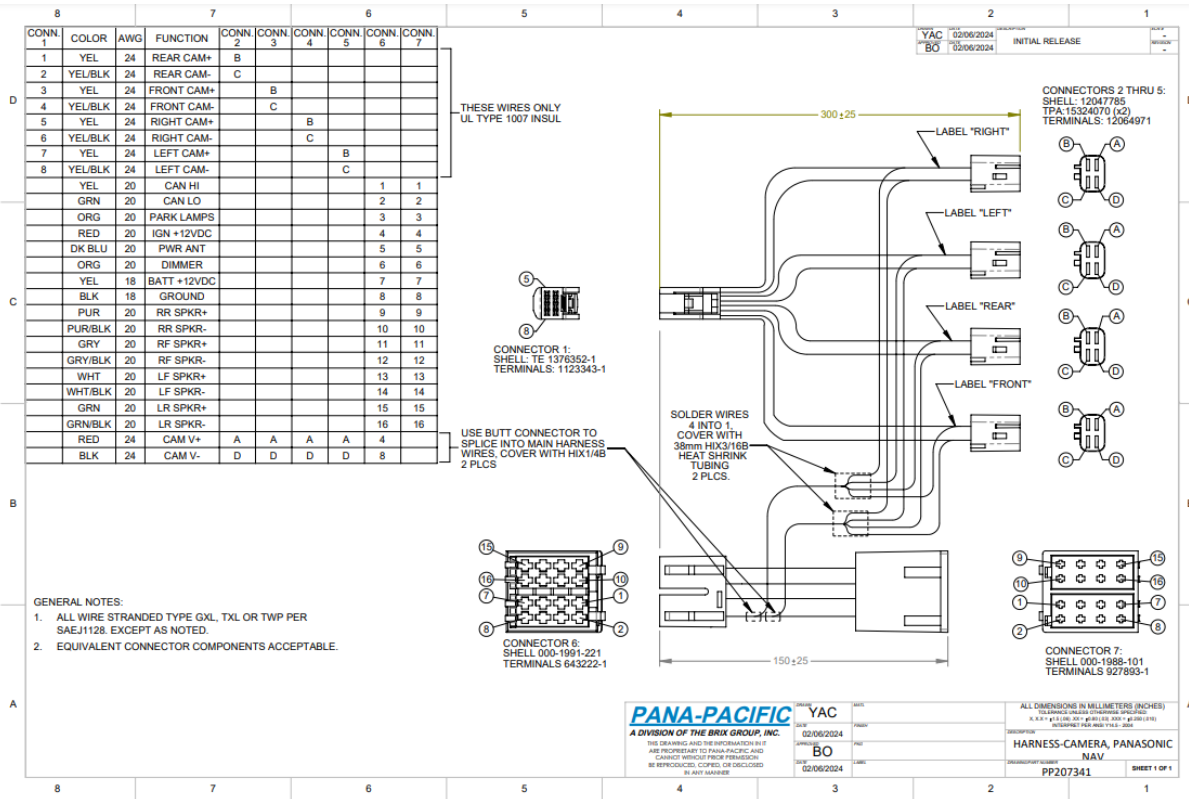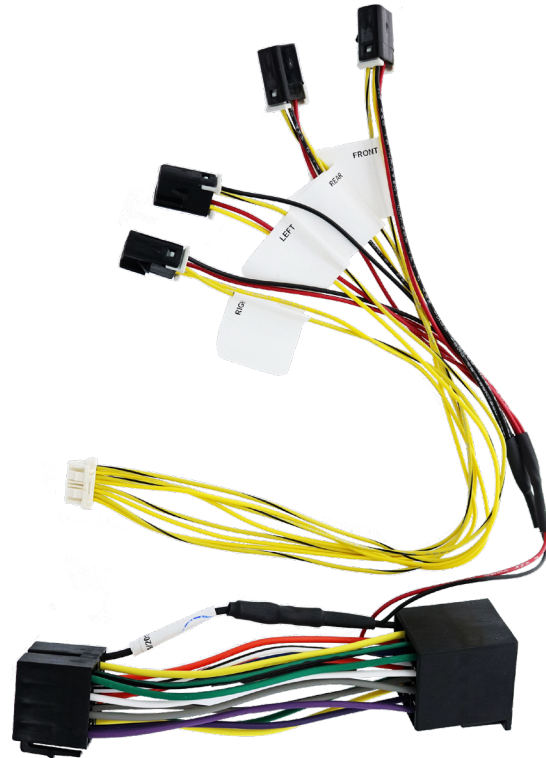
Pana-Pacific CVBS Analog Camera Kits
➢ *Left, Right, Front, and Rear cameras available*

TVI 720P Analog HD Camera Kits
➢ *Left, Right, Front, and Rear cameras available*
➢ *Extension cables if required*

PANA-PACIFIC KIT – PP207341 ADAPTOR HARNESS

PANA-PACIFIC KIT – CAMERAS AND CABLES

CVBS Analog Camera Kits
- *PP807032 – Front Camera with 16 ft cable*
- *PP804395 – Rear Camera with 70 ft cable*
- *PP804396 – Right Side Camera with 16 ft cable*
- *PP804397 – Left Side Camera with 16 ft cable*

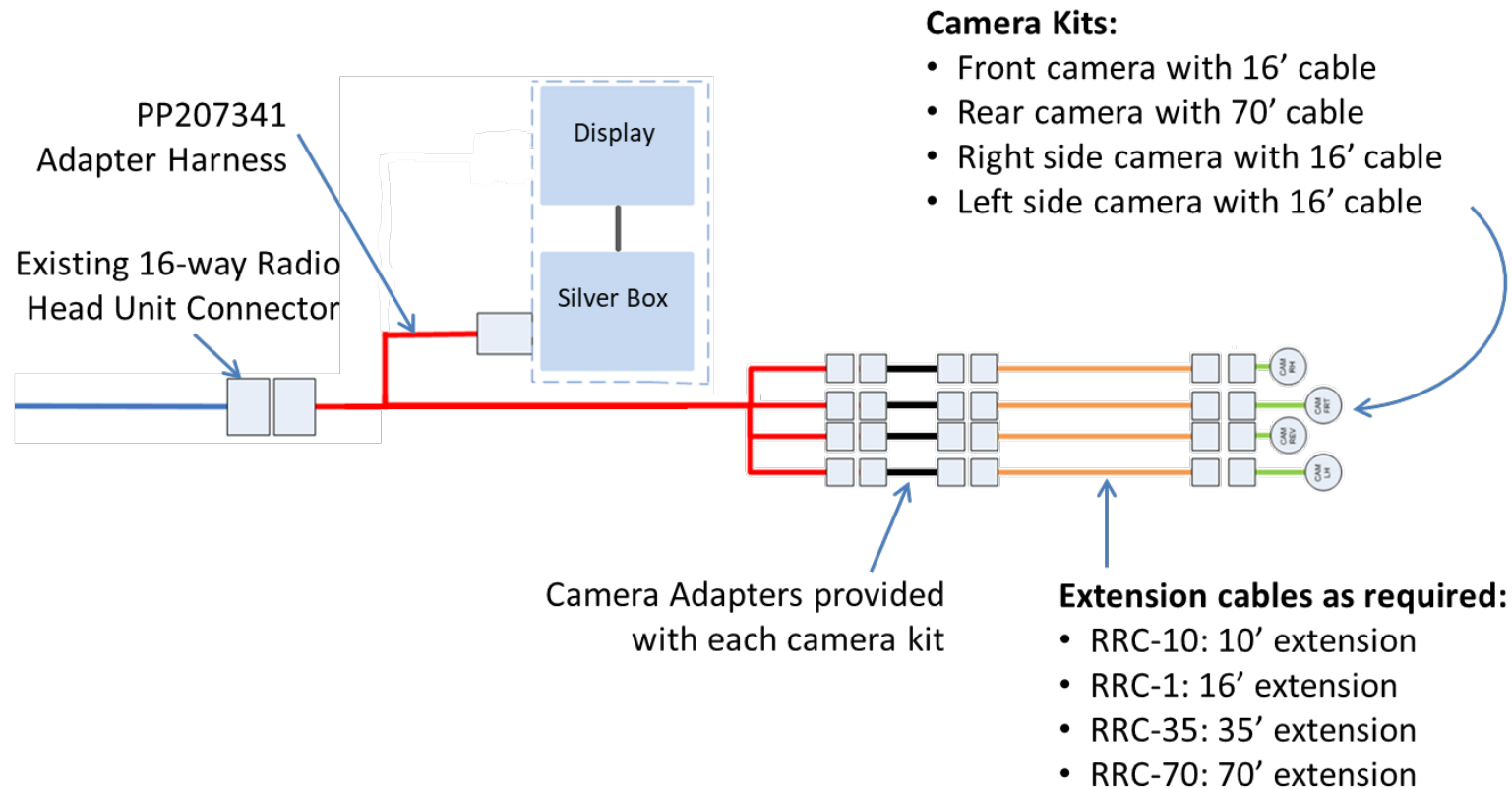### Extension Cables (Optional)
- *RRC-10 – 10 ft extension*
- *RRC-16 – 16 ft extension*
- *RRC-35 – 35 ft extension*
- *RRC-70 – 70 ft extension*

720P Analog HD Camera Kits
- *PP807272 – Front Camera with 16 ft cable*
- *PP807273 – Rear Camera with 70 ft cable*
- *PP807274 – Right Side Camera with 16 ft cable*
- *PP807275 – Left Side Camera with 16 ft cable*

PANA-PACIFIC KIT – INSTALLATION BLOCK DIAGRAM

PP207341
Adapter Harness

Existing 16-way Radio
Head Unit Connector

Display

Silver Box

Camera Kits:
- Front camera with 16' cable
- Rear camera with 70' cable
- Right side camera with 16' cable
- Left side camera with 16' cable

Camera Adapters provided
with each camera kit

Extension cables as required:
- RRC-10: 10' extension
- RRC-1: 16' extension
- RRC-35: 35' extension
- RRC-70: 70' extension

PANA-PACIFIC INSTALLATION – PP207341 ADAPTOR HARNESS

PP207341 adaptor harness inserts between the silver box and the existing 16-way connector.

To Install:

1. *Disconnect the truck 16-way connector from the silver box.*

2. *Mate the truck 16-way connector to the PP207341 adaptor harness.*

3. *Mate the PP207341 16-way connector to the silver box.*

To truck 16-way radio connector

To Panasonic Silver Box

To camera adapters - tie back unused breakouts

Note the printed labels!
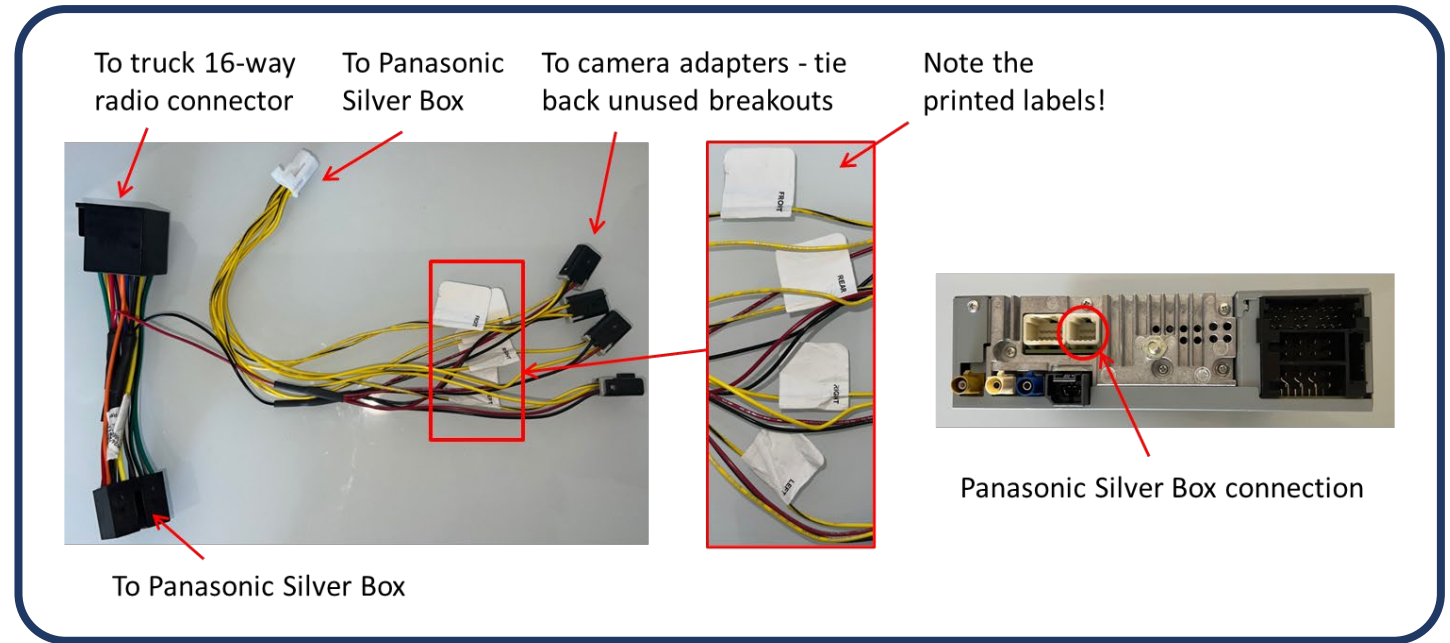
To Panasonic Silver Box

Panasonic Silver Box connection

CAMERA DISPLAY ACTIVATION

After the cameras are connected physically, it must be specified what type are being used and enabled within the Panasonic silver box software:

Enter the Advanced Menu

1. *From the Home screen go to the Setup menu.*

2. *Scroll down and enter the System Version menu.*

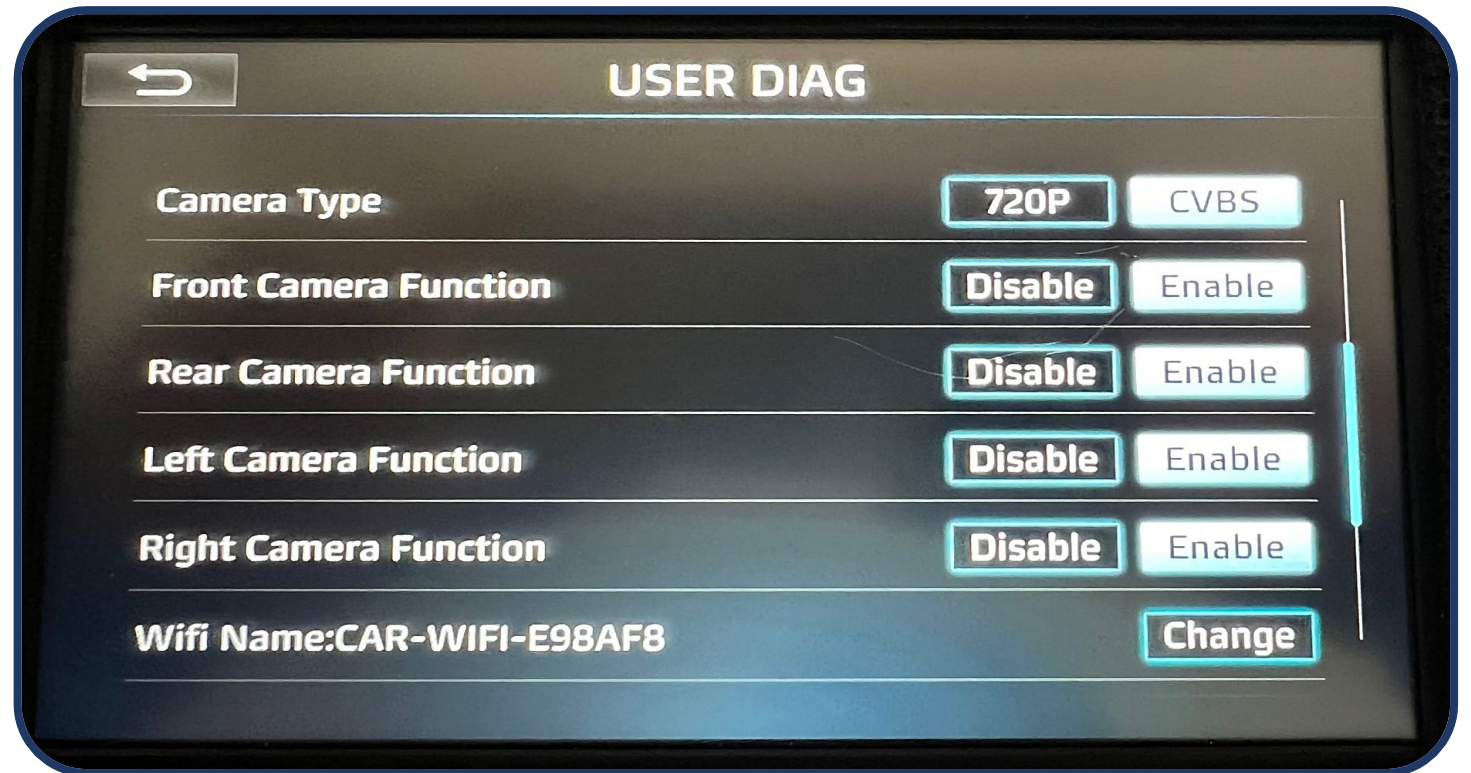3. *Tap the screen 8-10 times to access the Advanced menu.*

CAMERA DISPLAY ACTIVATION

Define Camera Type & Enable Function

1. *Select the Camera Type you will be using (cannot mix 720P with CVBS camera types) and enable all the cameras you will be using.*

2. *Select the return arrow on the top left corner. Radio will reboot and save changes.*

USER DIAG

Camera Type	**720P**	CVBS
Front Camera Function	**Disable**	Enable
Rear Camera Function	**Disable**	Enable
Left Camera Function	**Disable**	Enable
Right Camera Function	**Disable**	Enable
Wifi Name:CAR-WIFI-E98AF8		Change

MANUALLY SELECTING CAMERA VIEWS

Select "Camera" in the Home screen to access the available camera views.

Split screen of camera views will open.

MANUALLY SELECTING CAMERA VIEWS

To activate a different camera view, select the ">" symbol.

Select from the Left/Right or Front/Rear that have a highlighted border.

The active camera will show on the top right corner of the split screen.

MANUALLY SELECTING CAMERA VIEWS

To expand a camera view to full screen, tap the screen of your choice.
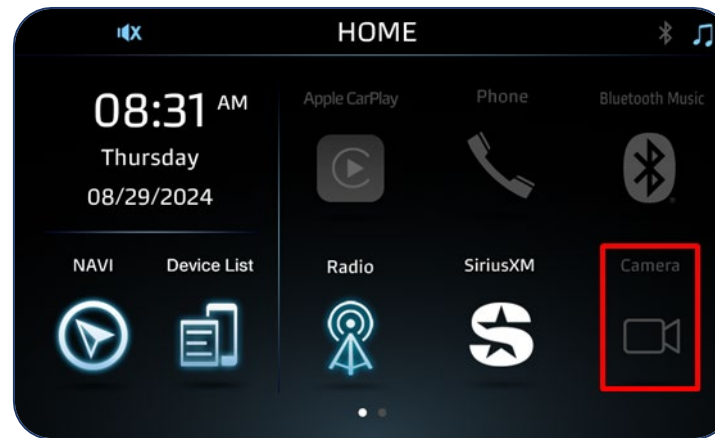
To return to split screen, tap the screen again.

SETUP ERRORS

If the cameras are not enabled in the Advanced menu, the Camera icon in the Home screen will be disabled.

If the camera input is enabled, but no camera is connected, a black screen will be displayed.

SETUP ERRORS

If the incorrect camera types are selected in the Advanced menu, the camera views will show distorted images like the image to the right.

Camera Type selected in Advanced menu and cameras being used must match. Cannot mix and match 720P and CVBS.

AUTOMATIC CAMERA VIEWS

Individual camera views can be displayed automatically when a turn signal or reverse is selected. Views are triggered by the J1939 CAN messages for LH Turn, RH Turn and Reverse.

Two Steps are Required:

1. *Automatic Camera Views must be turned ON in the Panasonic menu.*

2. *The J1939 CAN messages must be broadcast on the J1939 CAN bus connected to the Panasonic silver box.*

NOTE: Automatic Mode will only work if the Panasonic is in camera mode. Some truck models do not support some Automatic Camera Modes.

Kenworth Auto Camera Availability

Model	LH Camera	RH Camera	Reverse Camera
T270	YES	YES	NO
T370	YES	YES	NO
T440	YES	YES	YES
T460	YES	YES	YES
T470	YES	YES	YES
C500	YES	YES	YES
T660	YES	YES	YES
T680	YES	YES	YES
T800	YES	YES	YES
T880	YES	YES	YES
W900	YES	YES	YES

Peterbilt Auto Camera Availability

Model	Auto Camera	
325	NO	
330	NO	
337	NO	
348	NO	
382	NO	
320	NO	
365	YES	
367	YES	
389	YES	
587	NO	
567	YES	
579	YES	

AUTOMATIC CAMERA VIEWS – TURNING ON

To Turn Automatic Camera Views ON or OFF:

1. *Select "Setup" in the Home screen.*

2. *Scroll down and enter the "Camera Settings" menu.*

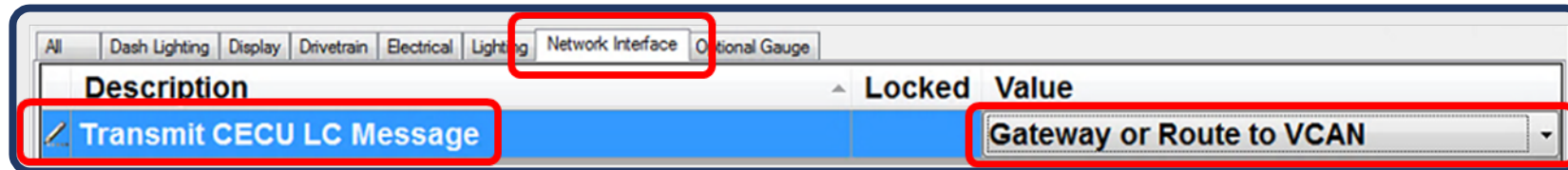3. *Turn the desired cameras ON.*

4. *Return to the Setup menu.*
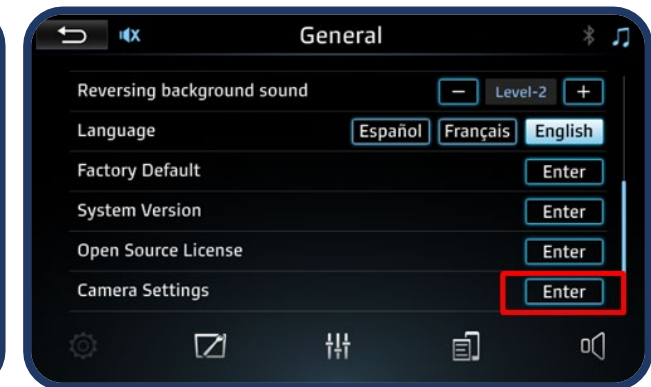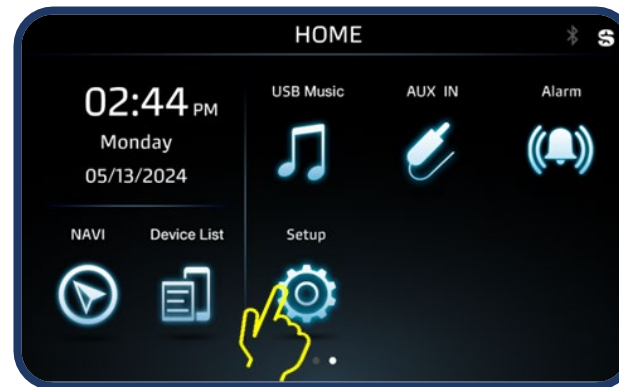
BROADCASTING J1939 CAN MESSAGES

To ensure the proper CAN messages are broadcast for automatic camera mode, enter the Program area of ESA (use the program button at top).

For NAMUX 2 Trucks (Medium Duty, T270/T370):
1. *Select the "Network Interface" tab.*
2. *Verify "Transmit CECU LC Message" is set to "Gateway or Route to VCAN".*

NOTE: NAMUX 2 does not support a CAN message for reverse. Therefore, only manual mode is available for the rear camera on NAMUX 2 trucks. Automatic mode will not work.

BROADCASTING J1939 CAN MESSAGES

For NAMUX 3 Trucks (C500, T660, T800 and W900 models):

1. *Select the "Network Interface" tab.*
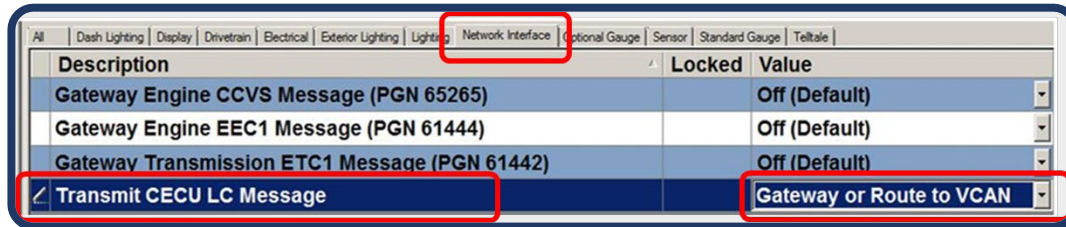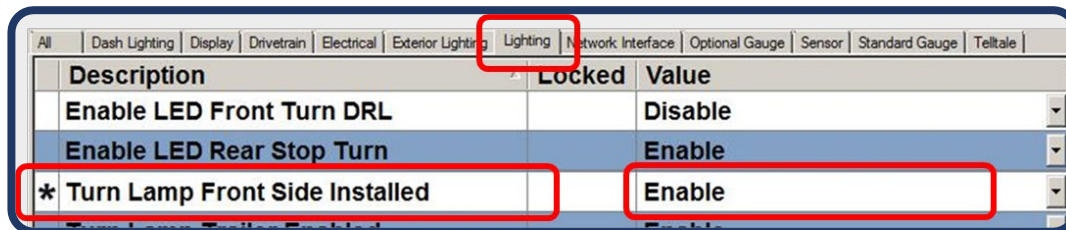2. *Verify "Destination for Lighting Control Message" is set to "Vehicle Databus".*

BROADCASTING J1939 CAN MESSAGES

For NAMUX 4 Trucks (T680 and T880 models):

1. *Select the "Network Interface" tab.*
2. *Verify "Transmit CECU LC Message" is set to "Gateway or Route to VCAN".*

3. *Select the "Lighting" tab.*
4. *Verify "Turn Lamp Front Side Installed" is set to "Enable".*

J1939 CAN MESSAGES FOR AUTOMATIC ACTIVATION

The J1939 CAN messages used to activate camera views in Automatic Mode are:

- *SPN 2367, PGN 65089 Left Turn Signal*
- *SPN 2369, PGN 65089 Right Turn Signal*
- *SPN 2391, PGN 65089 Backup Light*

NOTE: There is no J1939 CAN message to activate the front camera. The front camera can only be selected manually.

AUTOMATIC CAMERA MODE VERIFICATION

**To Verify Automatic
Camera Mode is Active:**

1. *Select the "Camera" button.*

2. *Verify the default camera view is displayed.*

3. *Activate the turn signals and verify the LH or RH camera view pops up.*