

DETROIT DIESEL



Installation Instructions

18SP570 –Planning an IRIS® Installation

Introduction

This document is to be used with the *IRIS User and Installation Guide (7SA804)* included in this kit as a help to successfully create a working IRIS® (Infrared Information System) installation. See Figure 1. Before continuing with this document, DDC recommends that you carefully read and understand the *IRIS User and Installation Guide (7SA804)*.

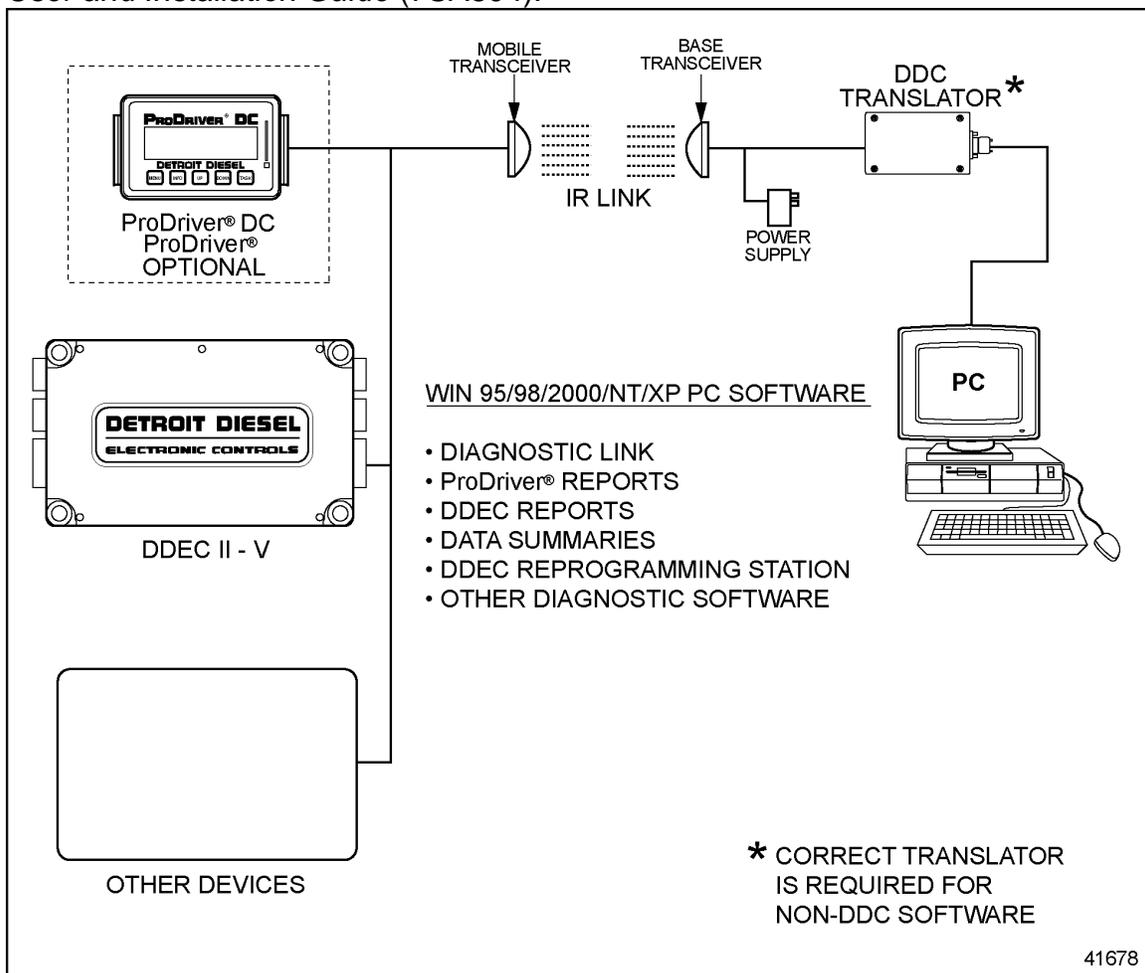


Figure 1 Typical IRIS Installation

System Overview

The Infrared Information System (IRIS) provides for infrared two-way communication between a vehicle and a PC. IRIS replaces direct cable hook-up with an infrared beam. See Figure 1.

IRIS works with most extraction hardware, including the Detroit Diesel extraction hardware. The Detroit Diesel extraction hardware includes the RS 232 cable and either the DDEC[®] Translator or the Multi-Link Translator. IRIS will also work with the RDI for data extractions. Distance restrictions must be taken into consideration when planning the IRIS installation.

Planning Site Installation

Careful planning should take place before any of the IRIS components are installed to ensure the most efficient overall use of the product. The Base and Mobile Transceivers should be installed so that they are as well aligned as possible to ensure maximum range and satisfactory performance. The infrared beam may allow misalignment of several feet, depending on the distance between transceivers.

For optimal performance, mount the transceiver at least 7 ft. (2.13 m) above the ground to minimize beam obstruction during operation. When the IRIS installation is indoors, the maximum connection range is 50 ft. (15.24 m). When the IRIS installation is outdoors, the maximum connection range is 25 ft. (7.62 m). See Figure 2. Detroit Diesel recommends strict adherence to these guidelines.

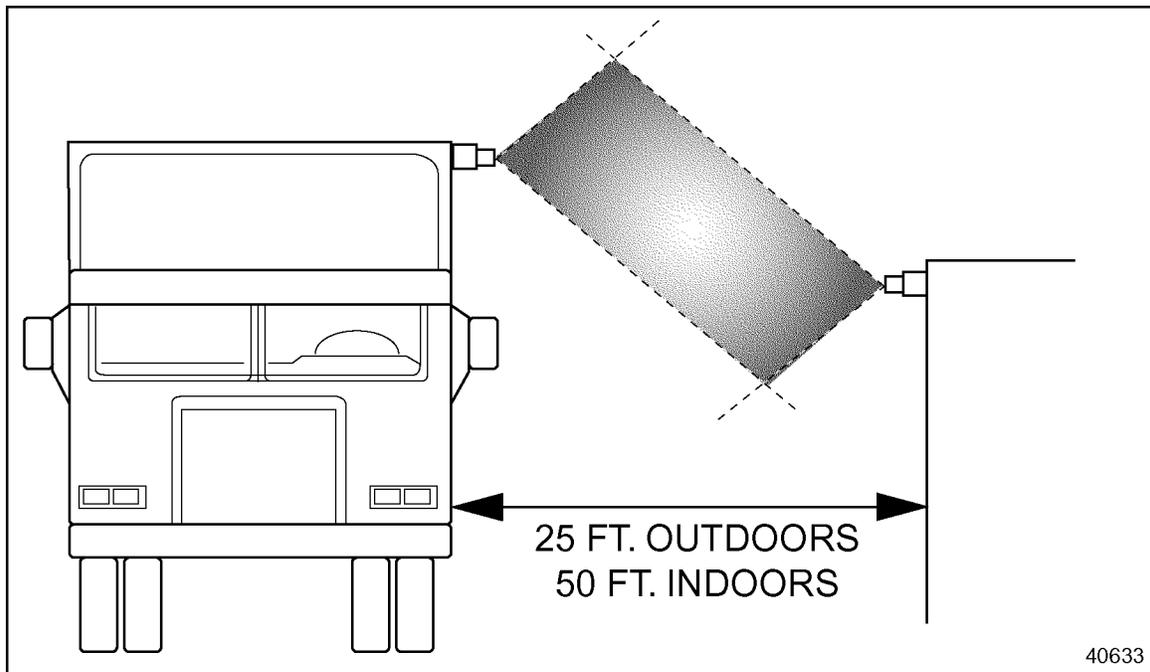


Figure 2 IRIS Alignment and Connection Range

Sunlight and Shading Base Transceiver

Lighting conditions can affect IRIS operation. Use the following lighting guidelines:

- Do not shine electronic ballast fluorescent lights into the transceiver.
- Do not install transceivers where they are exposed to strobe lights.

NOTE:

The transceivers can be shaded to minimize the adverse effects of less than ideal lighting conditions.

Overall Layout of the Facility

Observe the layout of the yard or facility. Consider the direction of vehicle traffic, i.e. trucks entering and exiting the yard or service bay. Identify a location where the trucks stop for lengthy periods of time (at least 2-5 minutes). If installing IRIS in a facility where there is one lane, you can choose one of the following options. See Figure 3 and Figure 4.

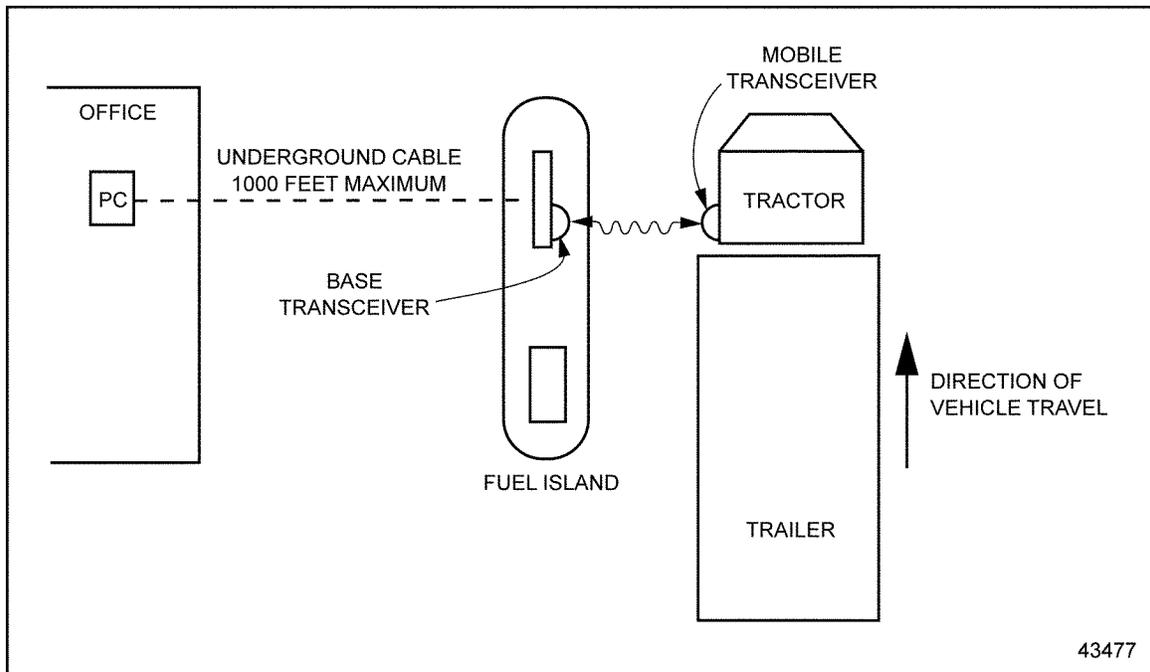


Figure 3 One Base Transceiver – Example 1

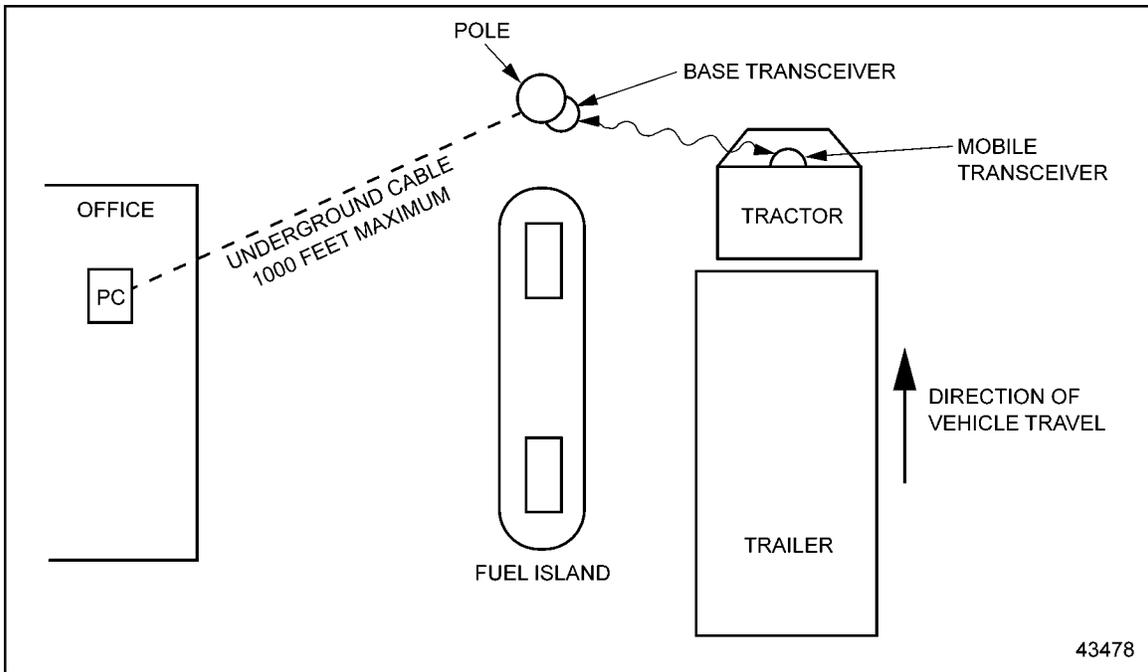


Figure 4 One Base Transceiver – Example 2

If installing IRIS in a facility where there are multiple lanes, you can choose any of the following options:

- ❑ One Base Transceiver covering multiple lanes; only one vehicle is serviced at a time. See Figure 5 and Figure 6.
- ❑ Multiple Transceivers covering multiple lanes for simultaneous servicing of multiple vehicles. See Figure 7.

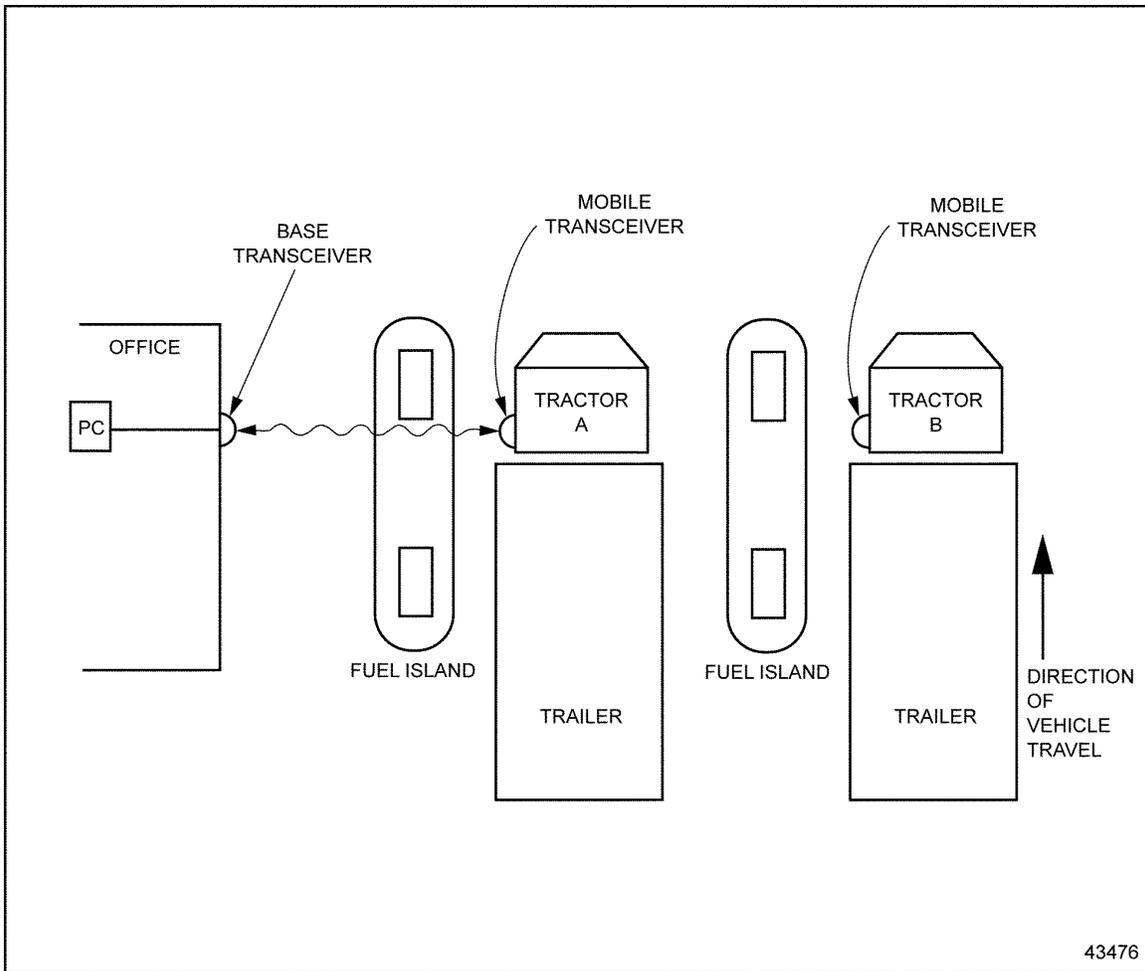


Figure 5 One Base Transceiver, Multiple Lanes – Example 1

NOTE:

Only one vehicle is serviced at a time. The communication link must break with Tractor A before Tractor B is located. See Figure 5.

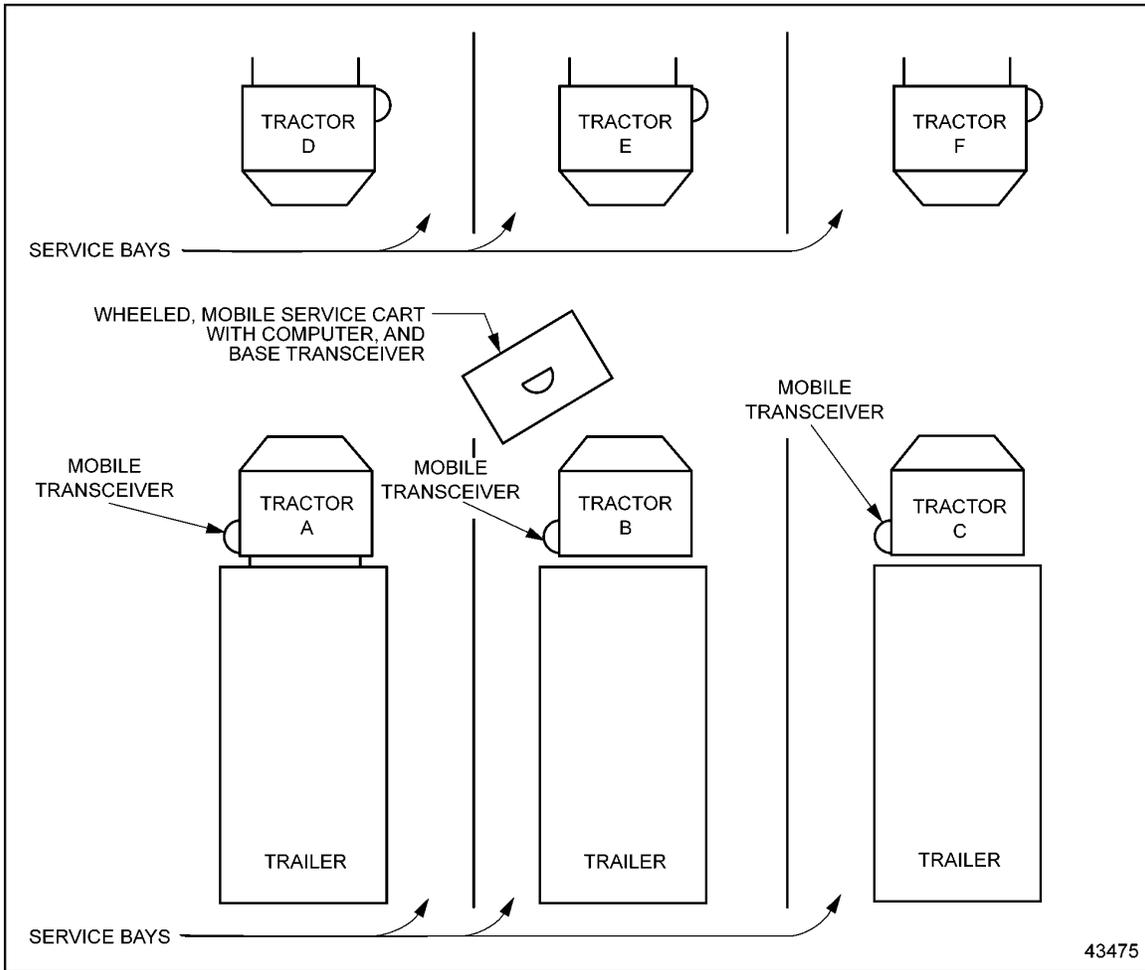


Figure 6 One Base Transceiver, Multiple Lanes – Example 2

NOTE:

Only one vehicle is serviced at a time. The communication link must break with Tractor B before Tractor A or C is located. Multiple mobile service carts would provide simultaneous servicing of multiple lanes. See Figure 6.

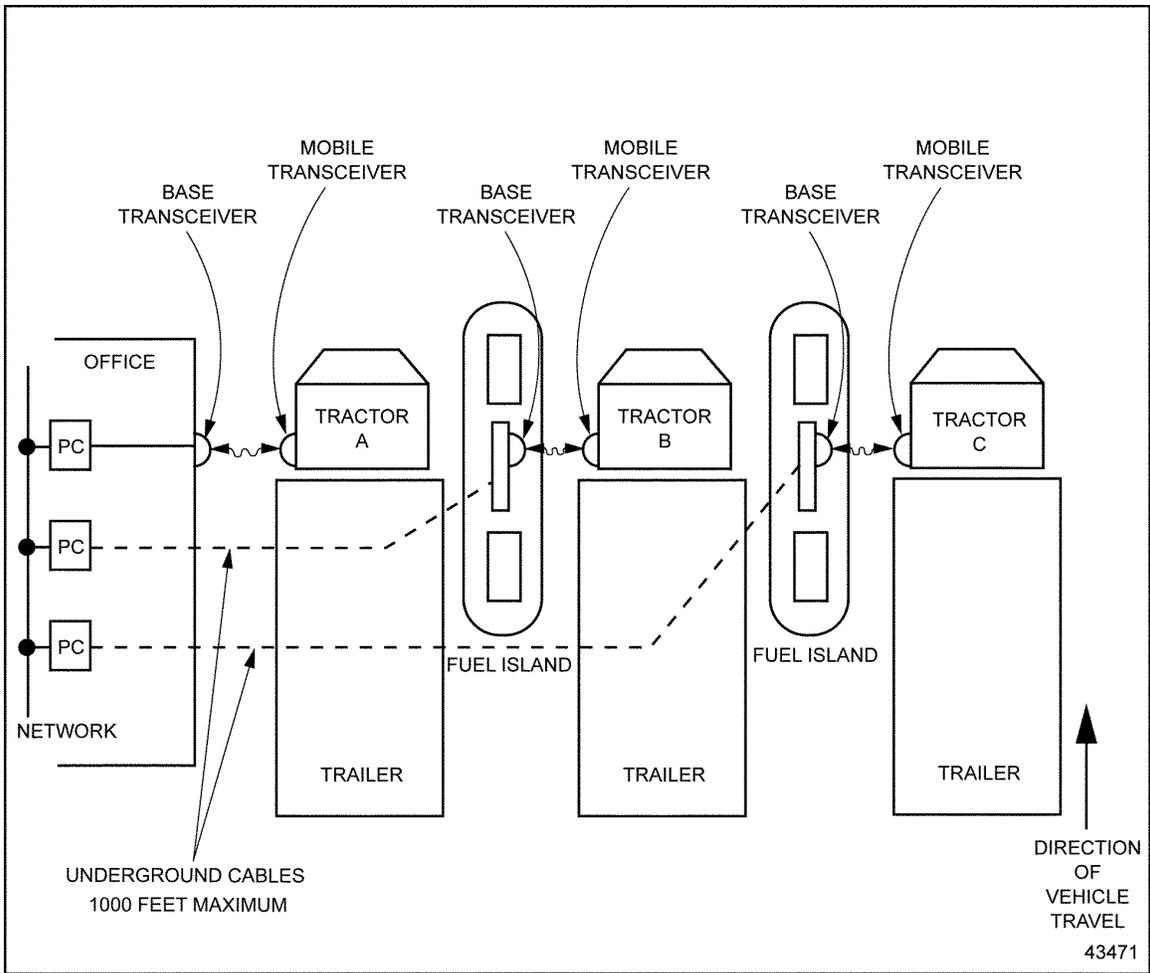


Figure 7 Multiple Transceivers, Multiple Lanes Providing Simultaneous Servicing

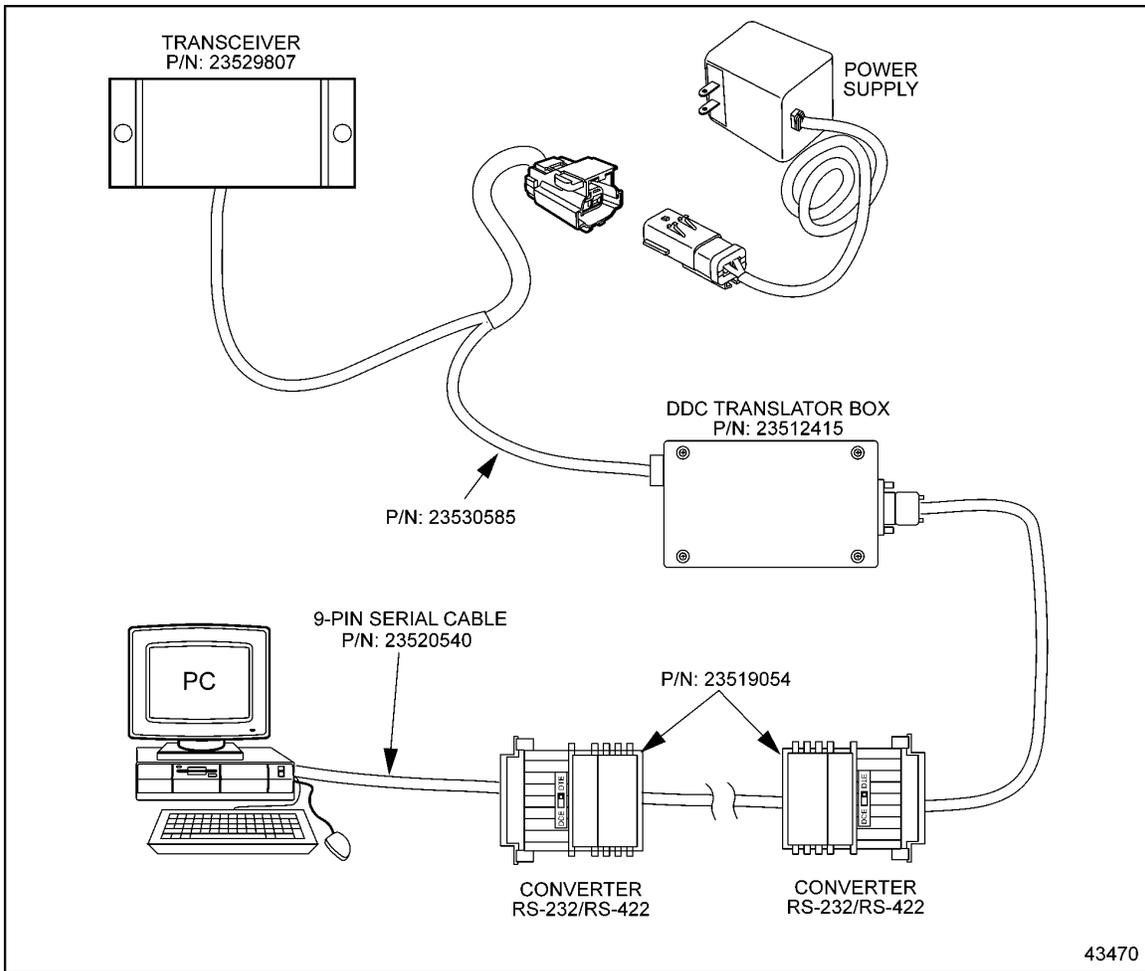


Figure 8 RS-232 to RS-422 Converters

Base Unit

The distance from the PC to the Base Transceiver can vary depending upon certain conditions. The RS 232 cable, which runs between the PC and the translator box, should be no longer than 25 ft. (7.62 m). This can be extended up to 1000 ft. (305 m) by adding two RS-232/RS-422 converters (P/N: 23519054). See Figure 8.

The cable recommended for the distance between the PC and the translator box is listed in Table 1.

Distance	Cable Type
Up to 30 ft. (9 m)	Unshielded telephone wire would be suitable, although Belden 8723 is recommended.
Up to 200 ft. (61 m)	Up to 200 ft. (61 m) Belden 8723 D. Two twisted pairs with individual shields.
Up to 1000 ft. (305 m)	Individually shielded pairs, such as Belden 8760.

Table 1 Recommended Cable

The standard connection length between the DDEC Translator and the Base Control Module is 6 ft. (1.8 m). This can be extended up to 100 ft. (30.5 m) using a cable (P/N: 23530586).

The power supply for the Base Transceiver has a length of 8 ft. (2.4 m). See Figure 9.

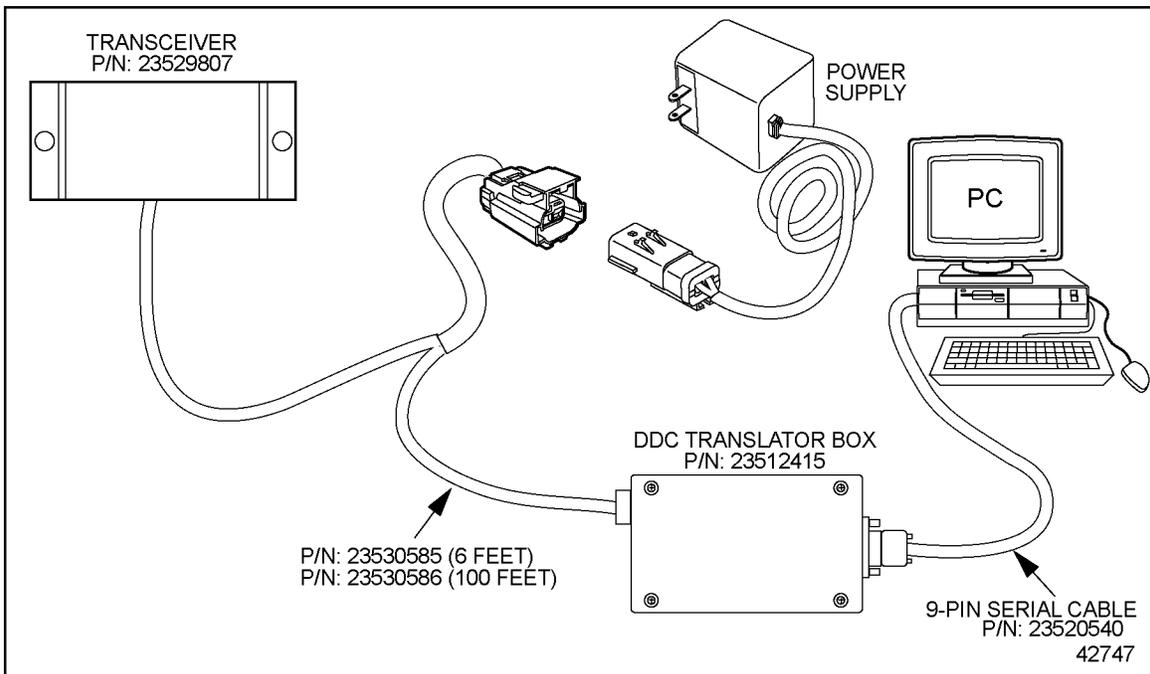


Figure 9 Base Unit Installation

The computer can be located in any convenient place, such as an office, shop, or on a mobile service cart. Once the installation is planned, ensure that PC and cables are in a safe and out-of-the-way place.

Mobile Transceiver

Once the location of the base transceiver is decided, and traffic route is established, determine the optimum location of the Mobile Transceiver, which will be permanently installed on the vehicle. In doing so, keep both transceivers at least 7 ft. (2.1 m) above ground. This will minimize connection problems.

The standard length of the wiring harness is 8 ft. (2.4 m). The suggested location of the transceiver is on the driver's side of the cab at least 7 ft. (2.1 m) above ground. The diagnostic connector contains the data link and power wiring that is required for the mobile transceiver.

Also ensure that the IR beam path between the mobile and base transceivers is unobstructed.

Software Application

Once IRIS has been correctly installed on the vehicle and base locations, it is time to begin using IRIS. IRIS is compatible with all Detroit Diesel extraction and diagnostic software that communicates using the SAE J1708 / J1587 data link. When using IRIS, ensure that the software is correctly installed and that the DDC Translator Box and RS 232 cables are also correctly connected.

Once connected, consult the software manual or *Help* function to ensure communications and extractions are being executed correctly. IRIS will not change any of the necessary software functions required to initiate or perform tasks.

IRIS and DDComm (Automatic Extractions)

IRIS adds a significant feature to the function of DDComm. It allows extractions to take place without manual prompting or any command action by the user. This feature will allow users to set up DDComm and make it a "hands-free" extraction process, regardless of the number of vehicles that are connecting with IRIS. Once extracted, this data can be used in such programs as DDEC Reports, ProDriver[®] Reports or Detroit Diesel Data Summaries.

DDComm can be acquired individually, or it can be found residing in Detroit Diesel Diagnostic Link (DDDL) or Detroit Diesel Data Summaries software.

For automatic launch of DDComm, place a shortcut to C:\Program Files\Detroit Diesel\Communications\dhcm.exe into the C:\Windows\Start Menu\Programs\Start Up folder. The Communications Manager will be launched upon PC reboot and will enable automatic extractions. Whenever the PC is rebooted, the Extraction Log Viewer will be displayed and extractions will occur as IRIS-equipped vehicles come into range. See Figure 10.

Date & Time	Vehicle ID	Driver ID	Devices	Filename	Status
10/18/2000 9:45 AM	TMC1		D	10180AAC	Success
10/18/2000 9:47 AM	TMC1		D	10180AAF	Success
10/18/2000 9:58 AM	TMC1		D	10180AAJ	Success
10/18/2000 10:26 AM	TMC1		D	10180AAN	Success
10/18/2000 10:36 AM	TMC1		D	10180AAR	Success
10/18/2000 10:48 AM	TMC1		D	10180AAV	Timeout
10/18/2000 10:49 AM	TMC1		D		Success
10/18/2000 10:58 AM	TMC1		D	10180AA0	Success
10/18/2000 12:39 PM	TMC1		D	10180AA2	Success
10/18/2000 12:49 PM	TMC1		D	10180AA6	Success
10/18/2000 1:00 PM	TMC1		D		Success
10/18/2000 1:10 PM	TMC1		D	10180ABE	Success
10/18/2000 1:25 PM	TMC1		D	10180ABI	Success
10/18/2000 2:35 PM	TMC1		D	10180AB0	Success
10/18/2000 2:46 PM	TMC1		D	10180ABS	Success
10/18/2000 2:54 PM	TMC1		D	10180ABW	Success
10/18/2000 3:03 PM	TMC1		D	10180AB0	Success
11/6/2000 10:16 AM	VENUS		D		Incomplete
11/6/2000 10:19 AM	VENUS		D	11060AAC	Success
11/6/2000 10:32 AM	VENUS		D	11060AAE	Success

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Figure 10 Extraction Log Viewer

For manual launch of DDComm, run the DDComm program/software by selecting the dhcm.exe file on the drive where it was installed. If you are running DDComm from another software application such as DDEC Reports or Data Summaries, ensure that all programs/applications are shut down.

Begin using DDComm as follows:

1. Select the *Start* button in the lower left corner.
2. Go up to the *Programs* menu.
3. Scroll down to the *Detroit Diesel* menu.
4. Select *Communications*. See Figure 11.
5. At this time the extraction log viewer will be displayed.
6. Select the *Tools* pull down menu.
7. Select *Communications Manager* or select the Stop Light Icon located along the top row of icons. See Figure 10.

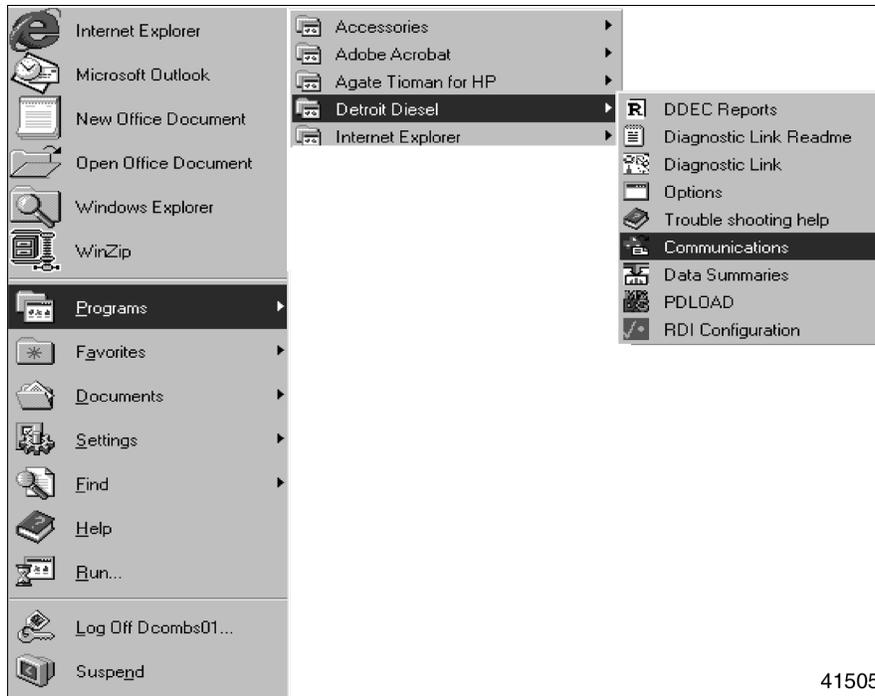


Figure 11 Select *Communications* from *Detroit Diesel* Menu

Either selection will initiate DDComm. A Stop Light will appear on the screen and the extraction sequence will begin. See Figure 12.

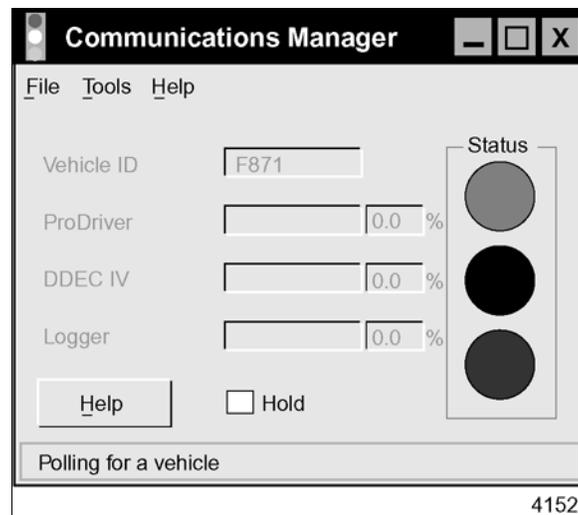


Figure 12 Communications Manager Stop Light

If your computer does not have *Detroit Diesel* in the program files menu, DDComm can typically be accessed directly through Windows explorer. It will also be represented by a Stop Light Icon.

To minimize difficulty with automation, ensure that all vehicles are entered into the *Vehicle Registry* prior to attempting automatic extraction. This ensures that the information from all vehicles is extracted. This also allows DDComm to recognize the vehicle without disrupting to prompt for entry of information on an unknown vehicle. For more details, consult the DDComm software *Help* or Detroit Diesel Technical Support (phone (313-592-5959)).

With DDDS and DDComm 2.07, the engine serial number can be entered for the first-time extraction from the vehicle. Older DDComm versions (before 2.07) require operator input for the first extraction. Once DDComm runs through the extraction sequence, the Stop Light will switch to green, indicating the extraction is complete.

Once complete, IRIS will stay connected until the connection is broken by blocking the signal, turning the vehicle off, or moving the vehicle out of range of the IRIS base transceiver.

Once the connection is broken, DDComm will automatically return to the Red Light, which indicates it is polling for another vehicle. When another vehicle with an IRIS transceiver pulls into range, the extraction process will be repeated.

For additional help or information contact Detroit Diesel at 313-592-5959.

DETROIT DIESEL



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