



D-NET™ Generator

Network Hardware Installation Guide



Form Number 53076 Rev. B

Westerbeke Corporation

150 John Hancock Road, Taunton MA 02780 • Tel. 508-823-7677 • Fax. 508-884-9688

Website. www.westerbeke.com

Electronic Communications Primer

The electronic communications system on D-NET™ generators can be broken into two separate parts to make it easier to understand. The first part is called the NETWORK. This part includes hardware components that can be physically touched such as the digital display panel, wiring cables, tees, terminating resistors, etc., through which the electronic signals travel. The other part of the communications system is the PROTOCOL. The protocol is the electronic language that the generator's Electronic Control Unit (ECU), remote digital display(s) and other components use to communicate with each other over the network.

It is important to understand the difference between the network hardware and the protocol. Think of a telephone system. The telephone, the jacks and the wires are the network. The language of the people using the phone is the protocol. People of any language can use the phone, but only people who speak the same language can understand the messages spoken. "Westerlink™," and "NMEA-2000®," are the names for the two protocols available on Westerbeke D-NET generators. Westerlink is a proprietary protocol found only on D-NET generators; whereas, NMEA-2000 is a standardized protocol that allows 3rd party products such as depth finders, radar, communications equipment, and many other devices to share information over a common network. Westerlink and NMEA-2000 are different electronic languages and cannot communicate with each other even if connected on the same network. A Westerlink digital display panel, although it appears identical to a NMEA-2000 digital display panel, cannot communicate with a NMEA-2000 generator. *Important note: At least one digital display panel must be installed in the network for the generator to operate properly.*

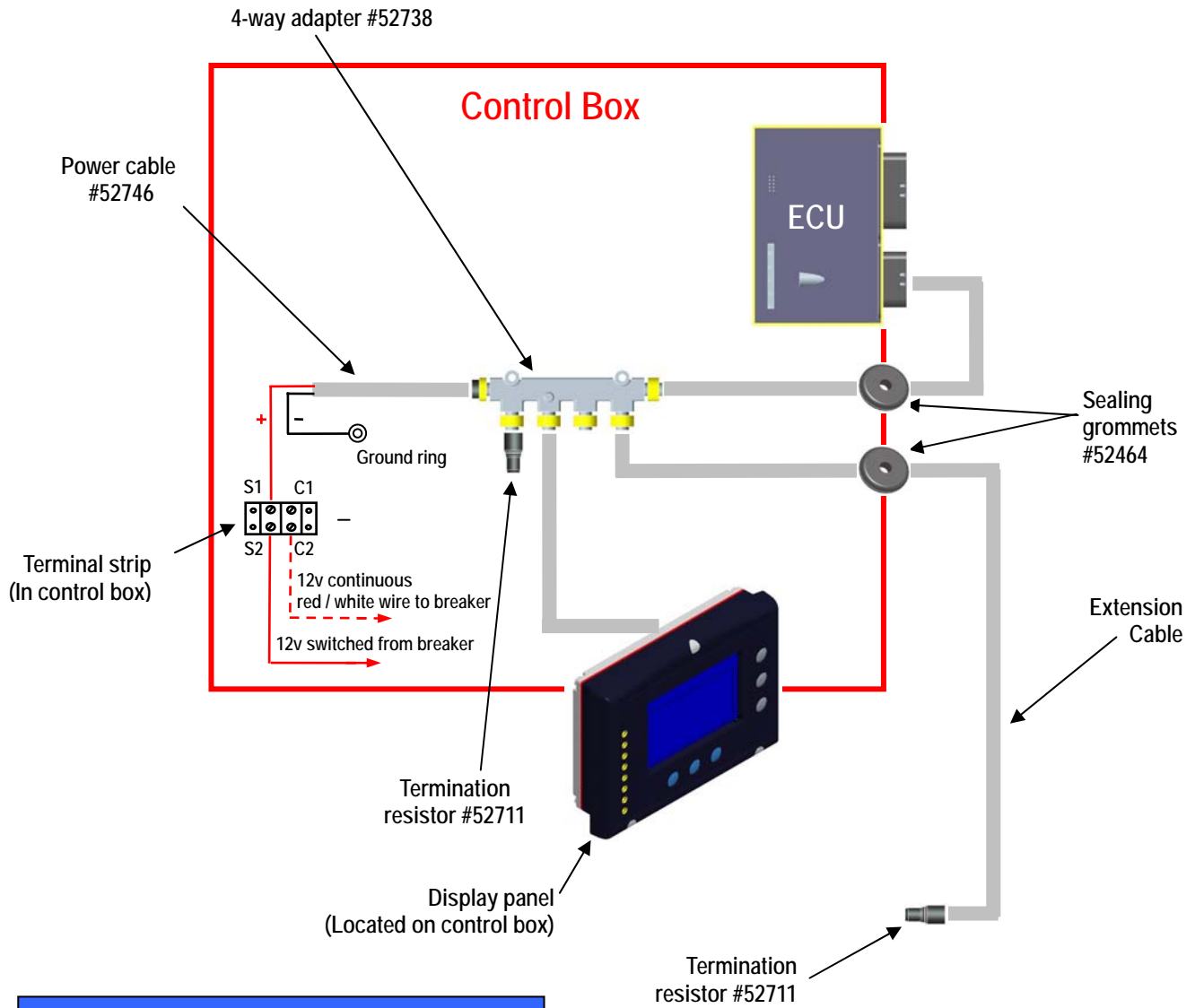
The network hardware is the same for both Westerlink and NMEA-2000 generators. Refer to figure 1 for the standard configuration for generators without a Sound Guard SST-E. Figures 2-4 are optional configurations that are available. Refer to figure 5 for the standard configuration for generators with a Sound Guard SST-E. Figures 6-8 are optional configurations that are available. Figure 9 shows the configuration for attaching a D-Net generator to an existing NMEA-2000 compliant network. *Important note: Before a standard Westerbeke D-Net generator can be attached to an existing NMEA-2000 network that has a backbone power source, the network power cable in the generator's control panel box MUST be disconnected. See figure 9 for more information.*

For all configurations a terminating resistor is required at each end of the network backbone. These resistors help insure robust network operation. The backbone is a term that refers to the main network line that runs between components on the network. Each point where a device attaches to network is called a drop. There are some rules that govern the maximum length of the backbone, the maximum length of a drop, the maximum number of drops, etc. The specific requirements for a NMEA-2000 certified network are available from the NMEA.

On Westerbeke D-Net generators, the control panel box is an integral part of the intake silencing system. If the digital display is relocated from the standard control panel box location, a cover plate must be installed to seal the control panel box. There are optional cover plates available with or without an analog start/stop switch. See Westerbeke publication form number 53342 for more information about analog start/stop switches and accessories.

When installing a D-Net generator into a Sound Guard SST-E enclosure, the digital display panel must be moved to the Sound Guard SST-E door or remotely located. When installed in a Sound Guard SST-E, the air intake system must also remain sealed to prevent drawing hot air into the intake system.

Display panel location: One standard display panel located on control box



**Figure 1
Standard D-Net Network
Without Sound Guard SST-E**

Display panel location: One standard display panel remotely located

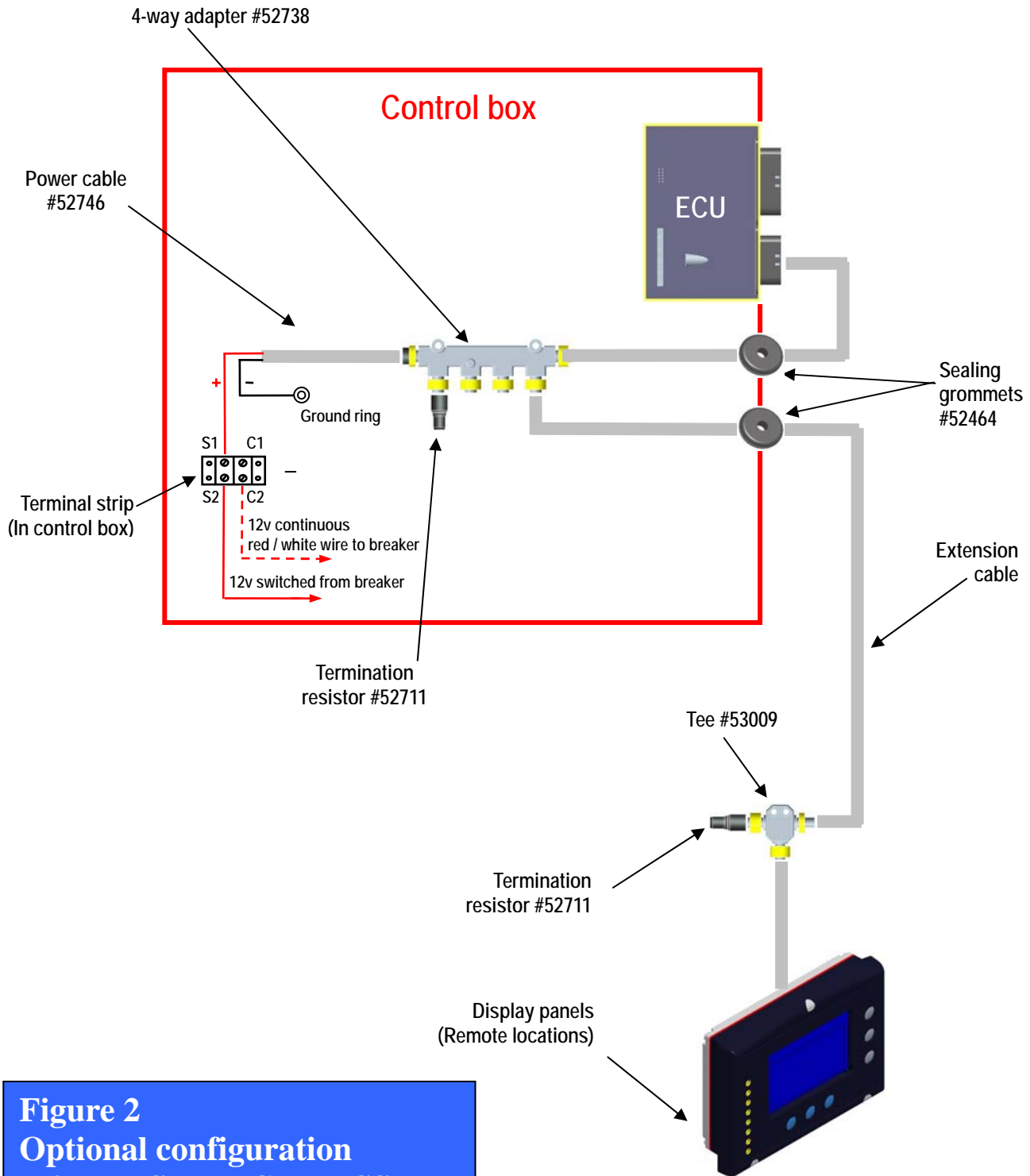


Figure 2
Optional configuration
Without Sound Guard SST-E

Display panel location: One standard display located on control box and one optional display panel remotely located.

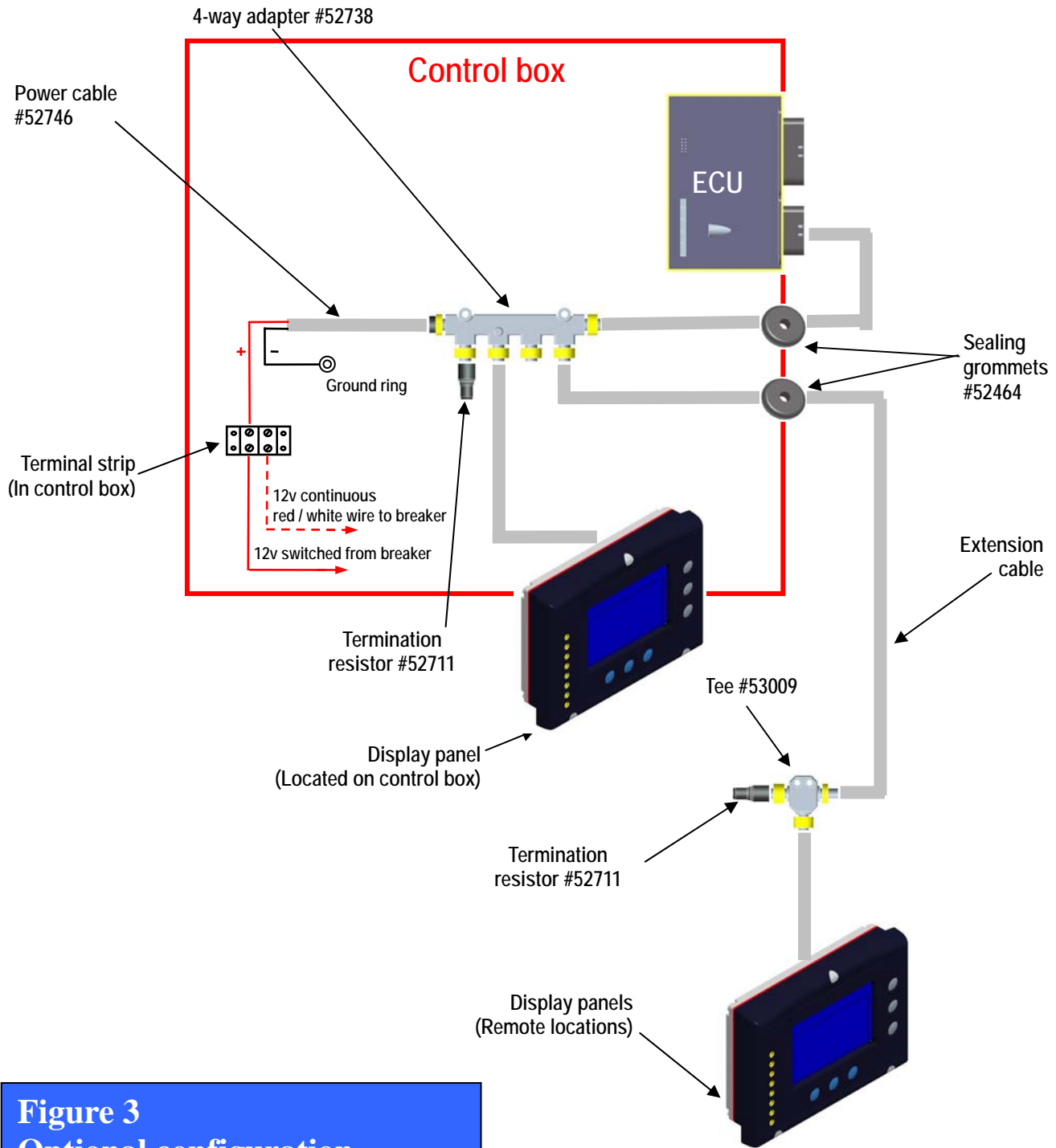


Figure 3
Optional configuration
Without Sound Guard SST-E

Display panel location: One standard display located on control box and one or more optional display panels remotely located

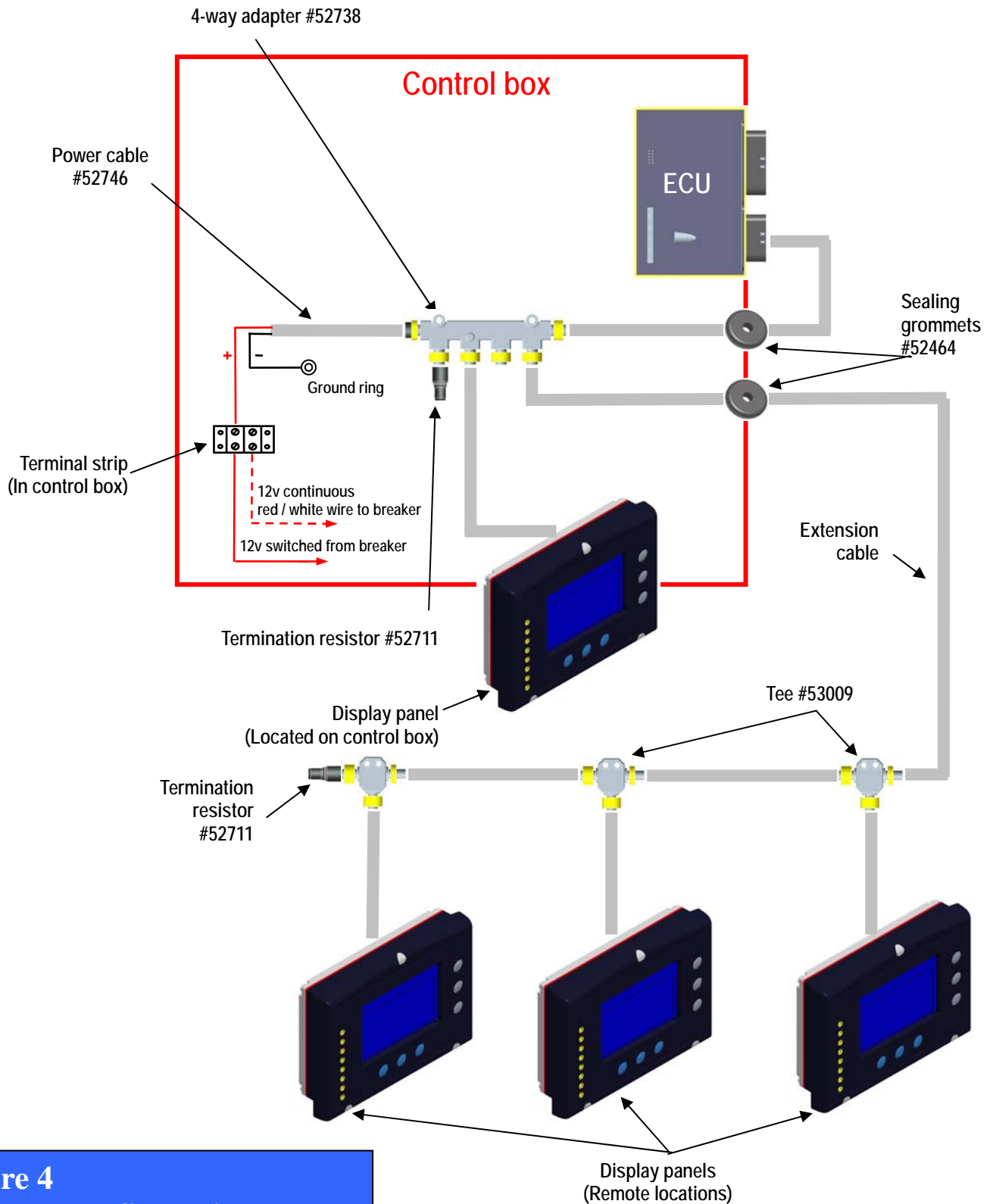
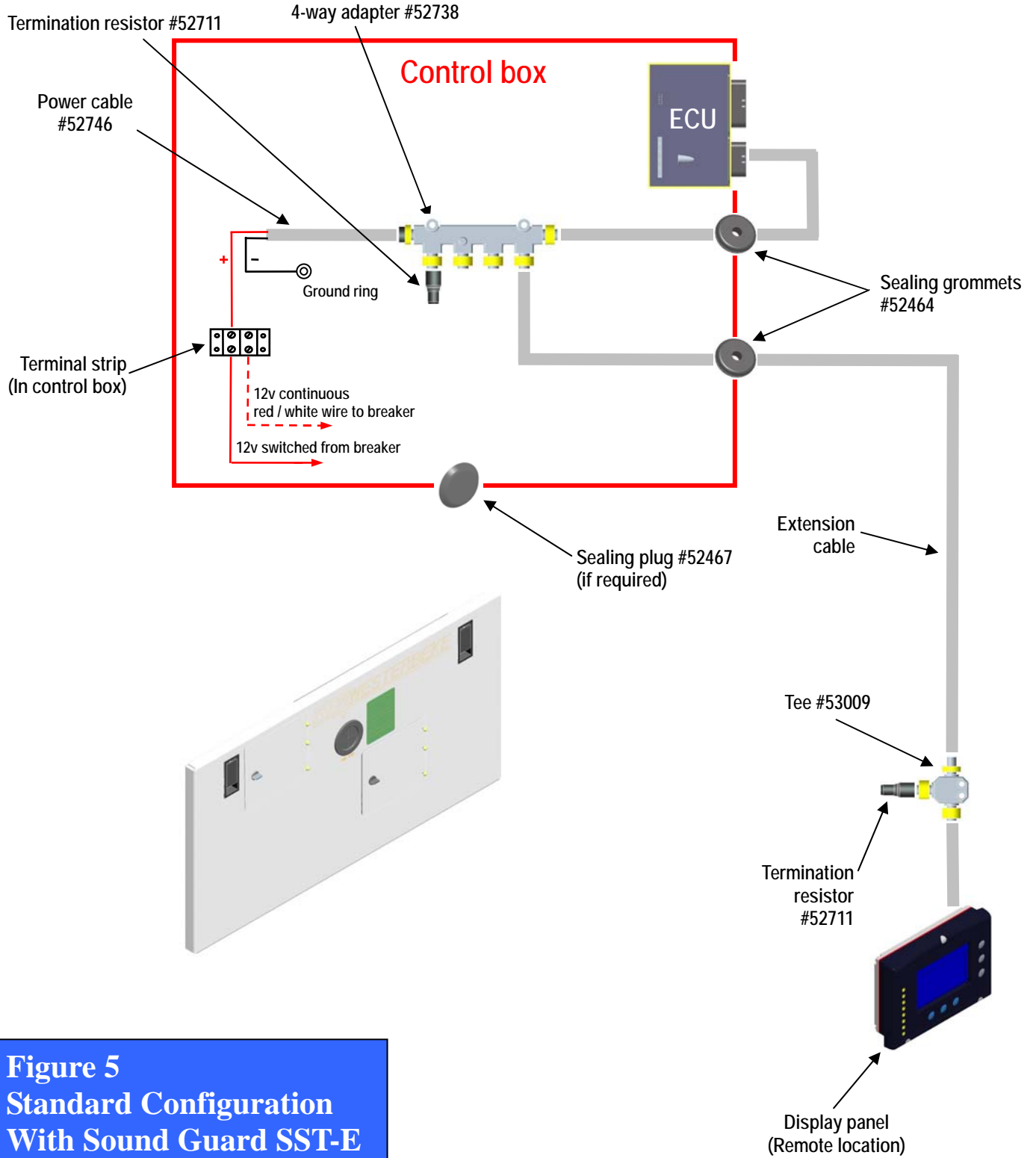


Figure 4
Optional configuration
Without Sound Guard SST-E

Display panel location: One standard display panel remotely located



**Figure 5
Standard Configuration
With Sound Guard SST-E**

Display panel location: Optional display location on Sound Guard SST-E

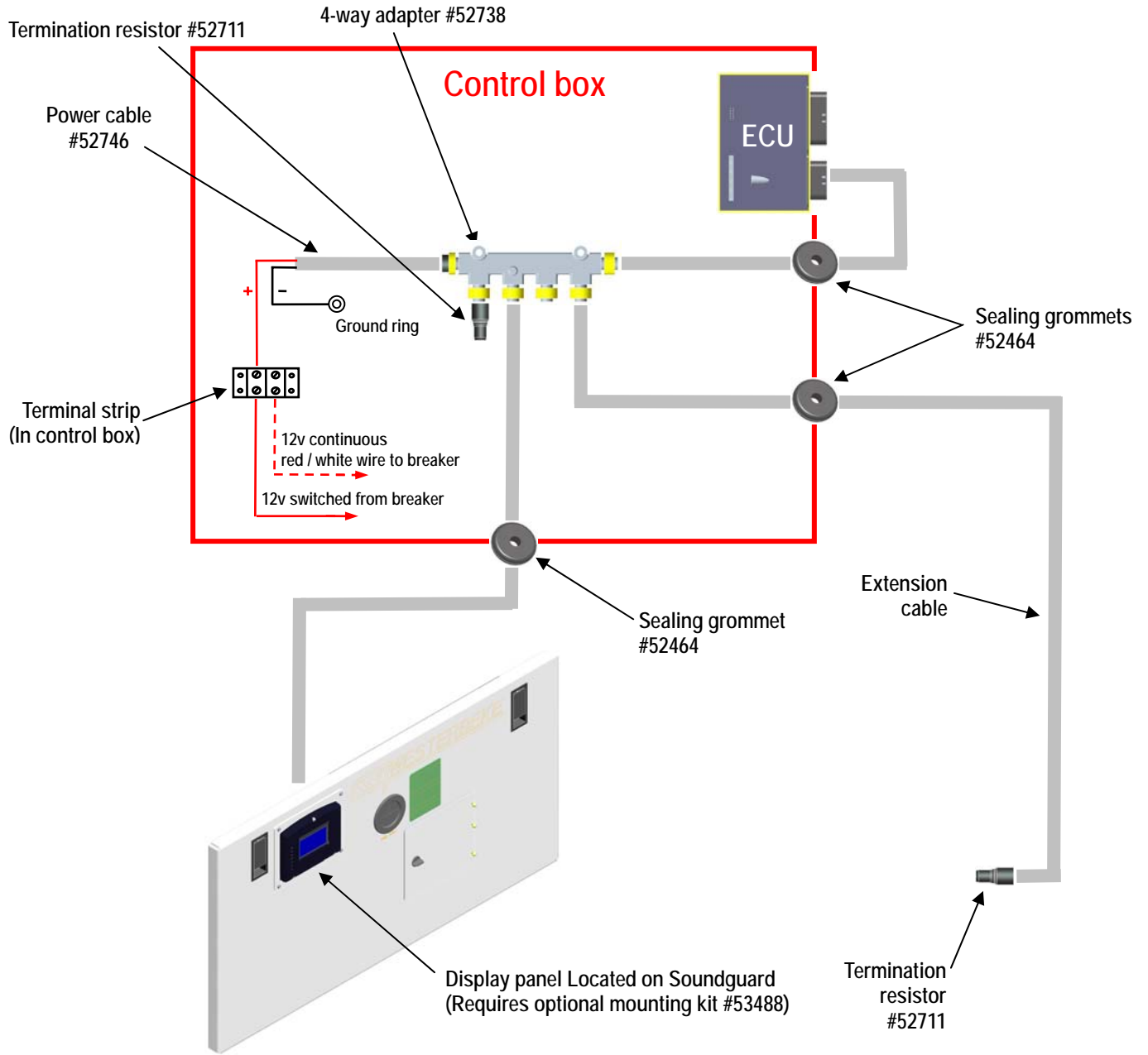


Figure 6
Optional configuration
With Sound Guard SST-E

Display panel location: One standard display located on Sound Guard SST-E and one optional display panel remotely located

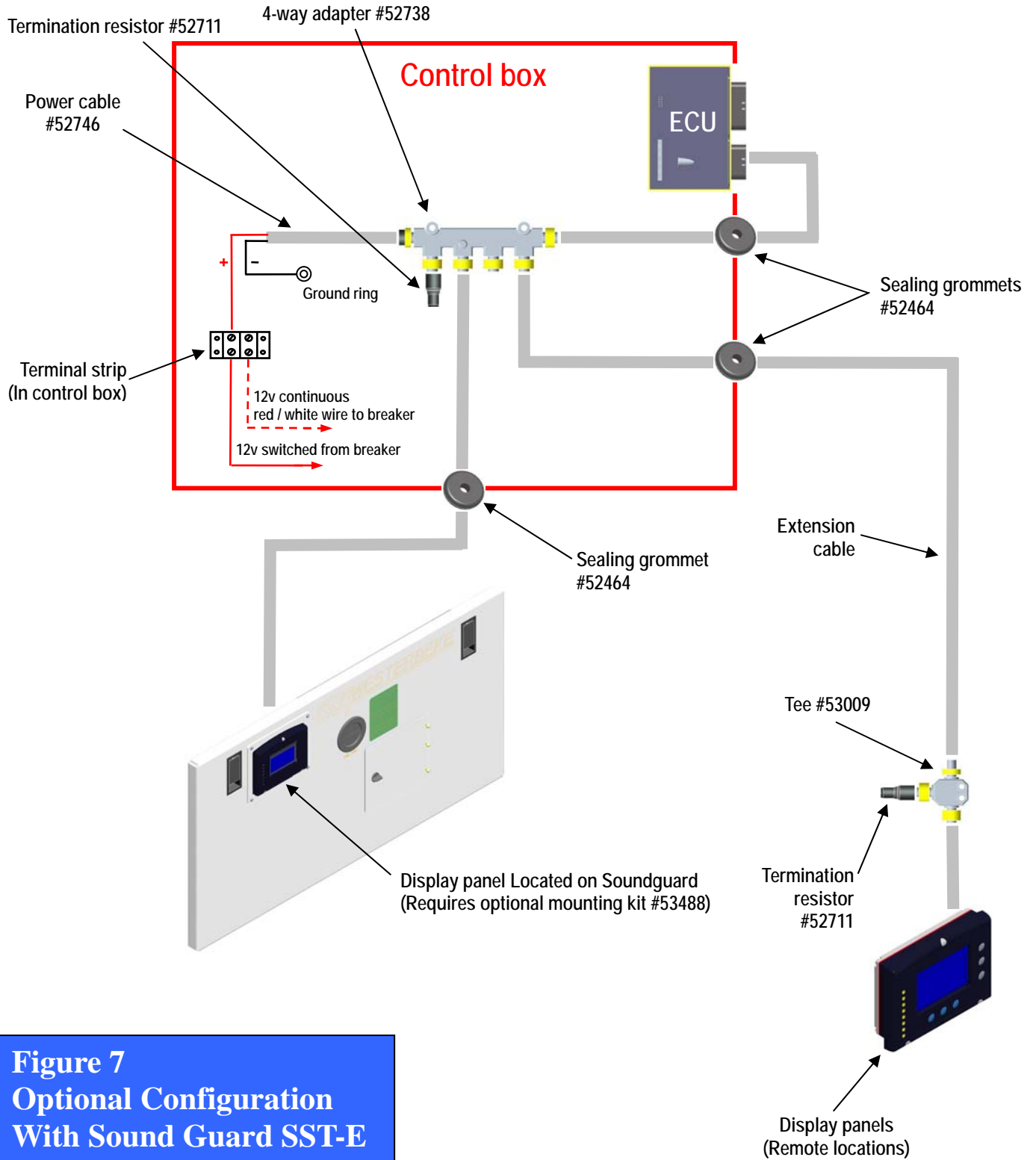


Figure 7
Optional Configuration
With Sound Guard SST-E

Display panel location: One standard display panel located on Sound Guard SST-E and one or more optional display panels remotely located

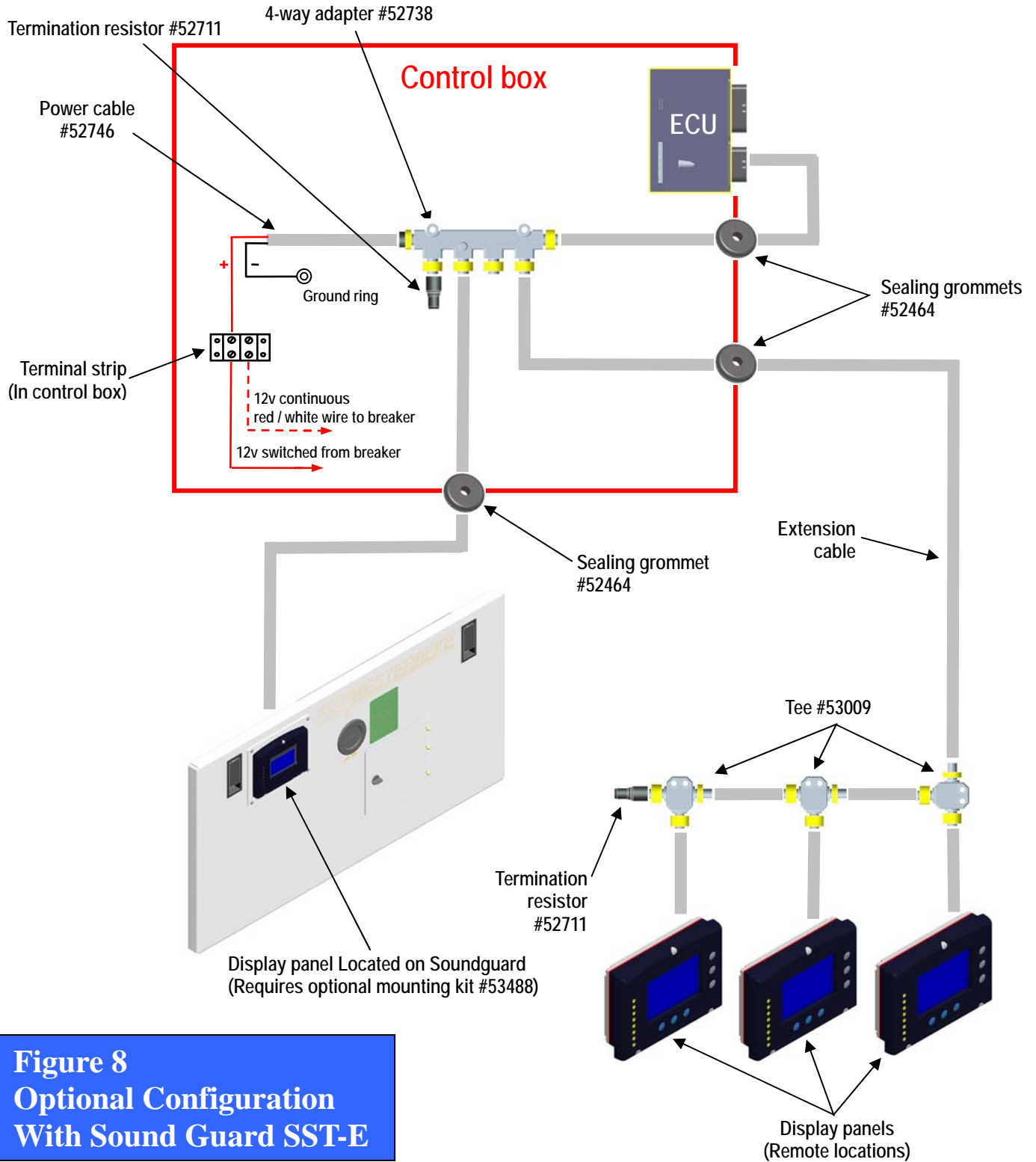


Figure 8
Optional Configuration
With Sound Guard SST-E

Display panel location: Any standard or optional display location on an NMEA-2000 certified network with backbone power source other than the generator

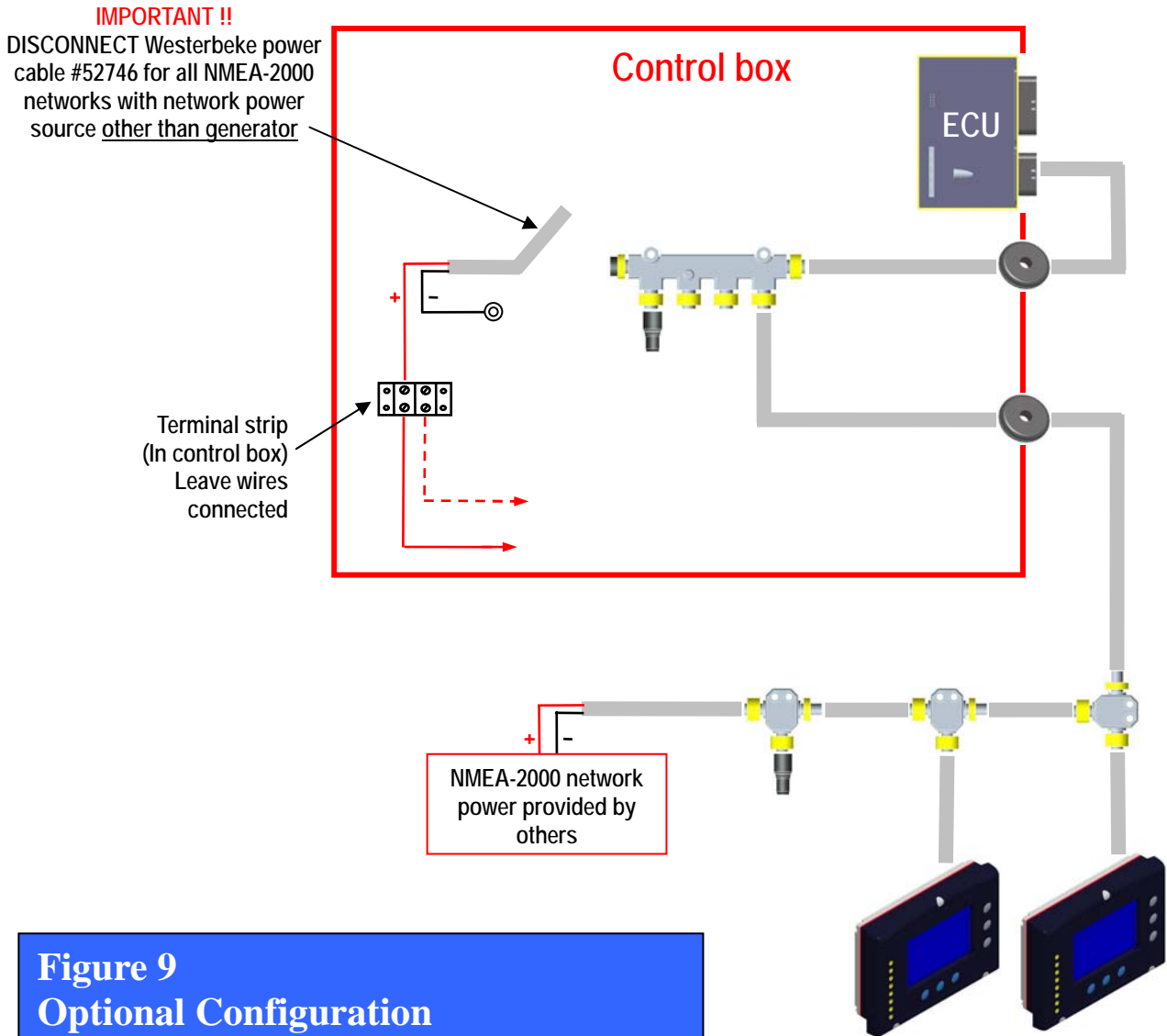


Figure 9
Optional Configuration
With or Without Sound Guard SST-E