

MOST Network

This network uses a fibre optic cable to transport data and audio around the entertainment and information system. The fibre optic cable is arranged in a ring, with each unit having a MOST in and a MOST out connection.

MOST is a synchronous network. A timing master supplies the clock and all other devices synchronize their operation to this clock. The timing master for the MOST network on this vehicle is the Information and Entertainment Control Module.

Key features of the MOST network are:

- High data transfer rate
- Support for up to 64 devices

Support for asynchronous and synchronous data transfer

- Reduced cabling
- Simple connectors

Freelander 2 / LR2 uses generation 2 MOST (Media Orientated System Transport) network. It operates similar to the MOST network used in previous models except the network is now woken up by a light signal.

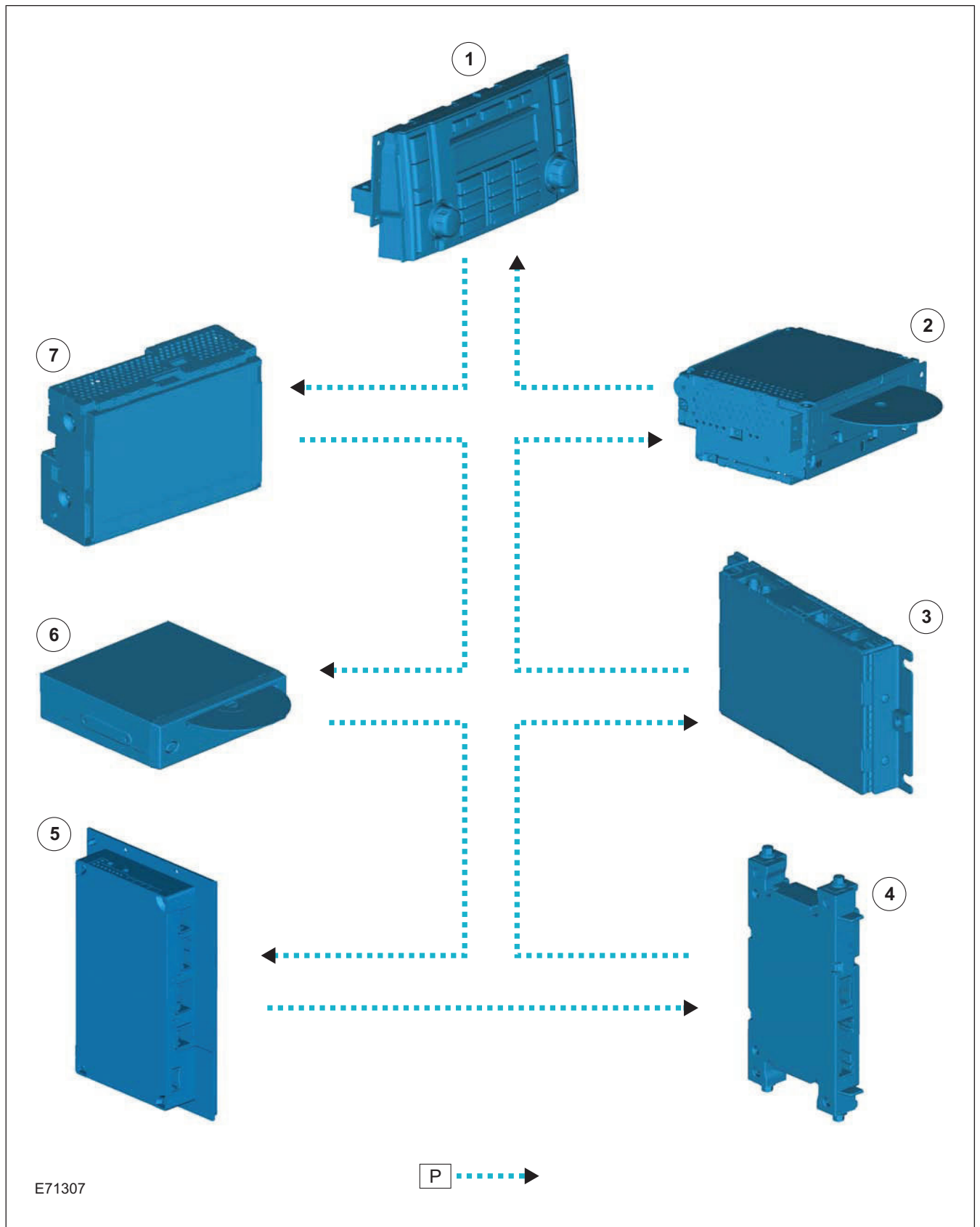
When handling the MOST fibre optic cables the following safety precautions should be observed:

MOST safety precautions

- The cable has a minimum bend radius of 25 mm
- It is advisable not to look directly in to the connector of a live cable
- The MOST cable cannot be repaired, replacement overlay harnesses are available to replace damaged cables

Diagnosis of the system will be achieved using IDS in conjunction with the MOST tester.

Control Diagram-MOST Ring



- | | |
|--|---------------------------------|
| 1 Integrated control module | 5 Amplifier |
| 2 Integrated head unit | 6 Satellite navigation computer |
| 3 Digital Audio Broadcast (DAB) receiver | 7 Touch Screen Display (TSD) |
| 4 Bluetooth telephone module | P MOST |

MOST Ring Break Diagnostics (RBD)

If a fault occurs with the MOST network, all MOST functions will be lost.

Example: No operation of the navigation, audio system etc.

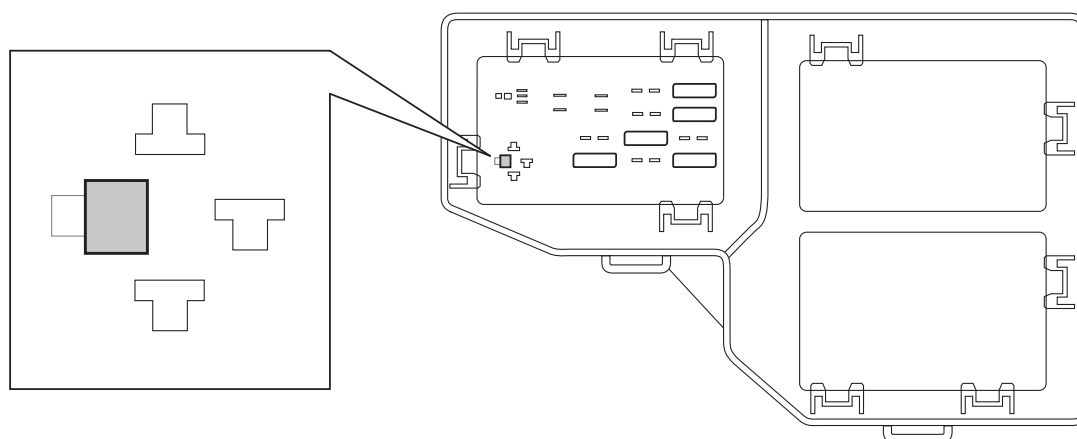
If a fault occurs which prevents one of the modules on the MOST network from functioning, the operation of the network will be affected and all MOST functions will be lost. If a Touch Screen Display (TSD) is fitted, a MOST fault may be recognized by the Land Rover Logo screen being intermittently displayed. The module

which developed the fault may have a DTC logged providing fault details. However, DTCs can only be read from the MOST master module, which is the ICM.

In order for the fault to be seen by the ICM, the system must enter Ring Break Diagnostics (RBD). The only time that the MOST network enters RBD is after all of the MOST modules are simultaneously powered up. On Freelander 2, all MOST modules are supplied with a permanent power supply, and so will need forcing into RBD by removing and re-instating the power supply.

This is done by removing and reinstalling the MOST power supply link in the Auxiliary Junction Box (AJB).

MOST RBD link Location



E91871

This link provides power to the entire MOST system; disruption and restoration of the power supply will initiate RBD in all nodes for up to 30 seconds after power restoration.

The procedure is outline below:

- Remove MOST power supply link from AJB
- Wait 30 seconds to make sure that all modules have powered down
- Install MOST power supply link into AJB
- Connect IDS to vehicle and carry out DTC read

When the MOST modules are powered up, they enter bi-pass mode. The master module (ICM) transmits a light signal around the network. The light signal is transmitted around the network until it is received by the ICM. The ICM then transmits a time frame, so that all modules can be synchronized. The system initializes and is ready for use. This sequence occurs in a very short time.

Once all modules are powered up, they automatically enter bi-pass mode, allowing light from the master module to be transmitted around the network. If after being powered up no light is received from the master module, after a short period of time, the module will enter temporary master mode and will transmit light onto the network. (It assumes it is the master module). This light is received by the master module. The master module compares the data received with the data stored in its memory. Using this data, the master module can determine which modules are operating on the network. If one or modules are not responding, it records a DTC relating to a network fault. The master module is able to determine which modules are not transmitting by comparing the identity of the transmitting modules with that of the module identities stored within its memory.

The system only enters RBD for a period of 30 seconds after all of the modules are simultaneously being powered up. After this period, all modules enter

operating mode. Thus, a network fault which occurs when the system is operating, will not be flagged by the ICM until the system is forced into RBD.

When a module enters temporary master mode, it transmits two messages to the ICM (master module):

- Its ring position (Node #)
- Its diagnostic address

This information is logged as DTC DA1587, along with information found on the datalogger for PID8334 and PID833E; this information can be retrieved using IDS. The following table explains the values logged.

8334	833E	Diagnosis
0	97	Break between Node 1 and ICM
5	110	? Nodes still visible on ring; break between ?th and ?th Node
0xFC	0xFF	Fatal error; ring break position not available

NOTE: Modules are numbered consecutively in the reverse order of data transfer: the last module in the ring is Node 1. Node numbers will vary depending on the vehicle specification / option set. The Bluetooth Phone Module contains two MOST drivers and therefore counts as two nodes.

Once the node position of the break is determined, fibre break diagnosis can be performed manually.

The MOST tester should be used to locate fault.