

# MLT Advance Optical-Electrical conversion tool

## 【Configuration of MLT Advance system with optical-electrical conversion】

### — Overview —

- Convert CXPI/CAN/LIN communication between MLT Advance (hereinafter called “MLT”) and test item (e.g. ECU) to optical signal via SPDIF optical cable.

Develop a MLT Advance system supporting optical-electrical conversion that can be electrically isolated MLT and its communication.

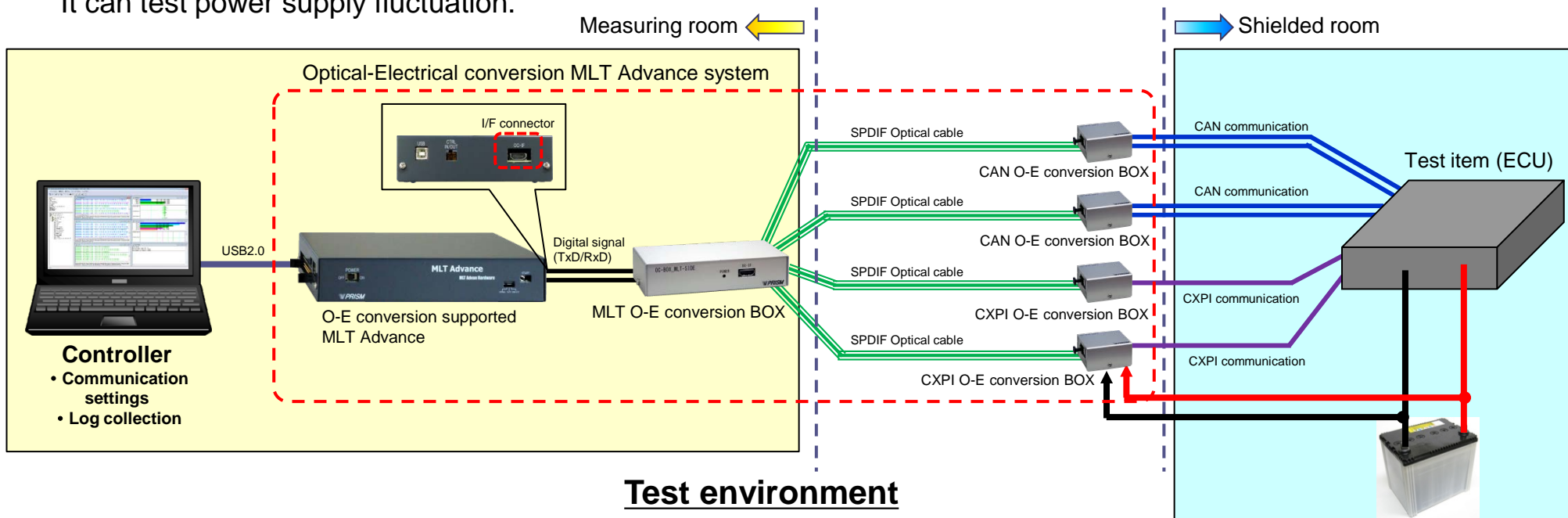
### — Feature —

- Improve EMI resistance by electrically isolating the communication <sup>(1)</sup>
- By using optical signal communication, it can reduce wave distortion and noise interference caused by cable handling. It can provide remotely operating test environment such as testing in shielded room <sup>(2)</sup>

Note1: Noise resistance of the system has not been evaluated (e.g. ESD, BCI).

Note2: Noise emitted from the system (R/N) has not been evaluated.

- Power supply for Optical-Electrical conversion box for each communication is supplied from test item side. It can test power supply fluctuation.



# MLT Advance Optical-Electrical conversion tool

## MLT Optical-Electrical conversion BOX (OC-BOX\_MLT)

Outline



Appearance



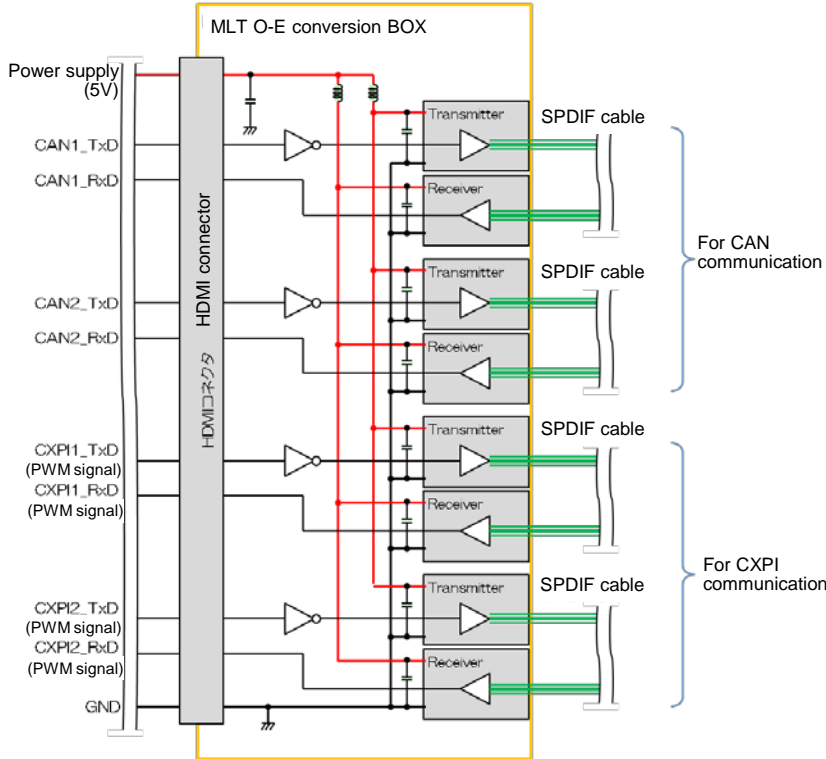
Front view (MLT connector side)



Rear view (O-E conversion connection side)

Dimension: W=140.2mm x D=55.5mm x H=30.1mm (case dimension)

Block chart



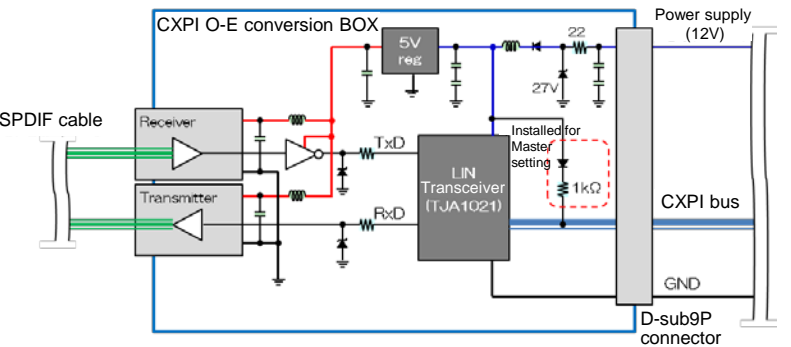
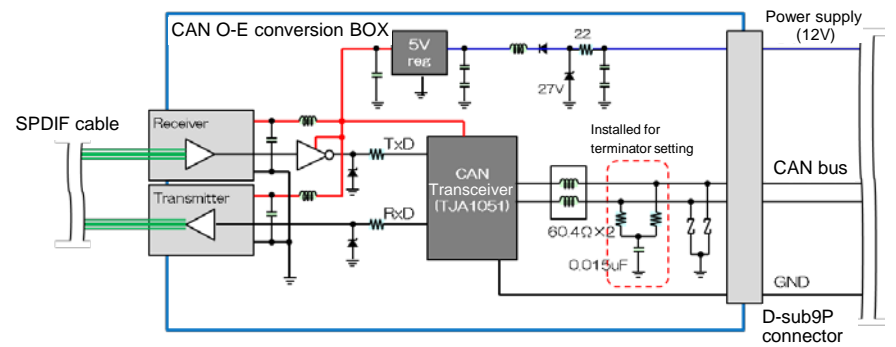





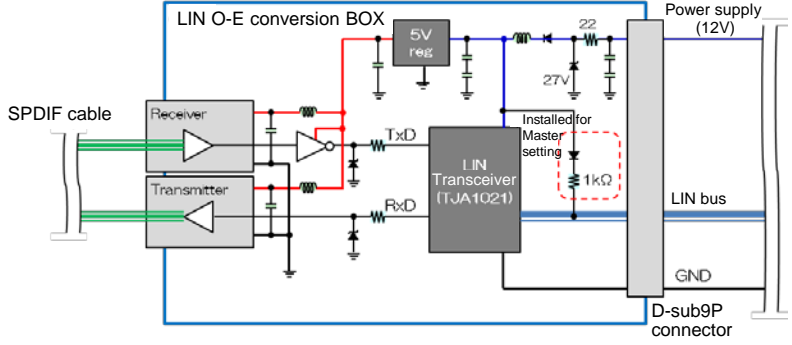
Configuration

- CAN communication (2ch) / CXPI communication (2ch) or CAN communication (2ch) / LIN communication (2ch)  
 ※Note: Output connector is exclusive
- Power to O-E conversion box is supplied from MLT side (5V power source)
- Use HDMI connector to connect with MLT  
 Improve noise resistance by shielding with GND上
- It has an invert circuit in the sending data to prevent outputting dominant level to CAN/CXPI/LINE communication bus when MLT and test item are powered on in certain order

Note: The block chart and outline are indicating CXPI/CAN model. The configuration of LIN/CXPI model is same as the above.

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	CXPI O-E conversion BOX (OC-BOX_CXPI)	CAN O-E conversion BOX (OC-BOX_CAN)
Outline	 <p><u>Appearance</u>      <u>Left view</u> (O-E conversion side)      <u>Right view</u> (CXPI side)</p> <p>Dimension: W=55.2mm x D=65.0mm x H=30.1mm (case dimension)</p>	 <p><u>Appearance</u>      <u>Left view</u> (O-E conversion side)      <u>Right view</u> (CAN side)</p> <p>Dimension: W=55.2mm x D=65.0mm x H=30.1mm (case dimension)</p>
Block chart		
Configuration	<ul style="list-style-type: none"> <li>• Required operation voltage: DC7.0V to 20.0V Note: It can actually perform with as low as 6V at Ta=RT</li> <li>• 1 BOX for 1 channel of CXPI communication</li> <li>• D-sub 9pin connector is used for I/F connector to connect with test item Note: Same pin assignment as the MLT side CXPI connector</li> <li>• Both power supply and GND to the BOX are supplied from test item side Its operation is synchronized with the power voltage of the test item</li> <li>• Utilizing LIN transceiver (TJA1201) for CXPI communication transceiver</li> <li>• Switching between master and slave by installing or not installing a component</li> <li>• It has an invert circuit in the sending data to prevent outputting dominant level to CXPI communication bus when MLT and test item are powered on in certain order</li> </ul>	<ul style="list-style-type: none"> <li>• Required operation voltage: DC7.0V to 20.0V Note: It can actually perform with as low as 6V at Ta=RT</li> <li>• 1 BOX for 1 channel of CAN communication</li> <li>• D-sub 9pin connector is used for I/F connector to connect with test item Note: Same pin assignment as the MLT side CAN connector</li> <li>• Both power supply and GND to the BOX are supplied from test item side Its operation is synchronized with the power voltage of the test item</li> <li>• Utilizing TJA1051 for CAN communication transceiver</li> <li>• Switching CAN terminator On and OFF by installing or not installing a component</li> <li>• It has an invert circuit in the sending data to prevent outputting dominant level to CAN communication bus when MLT and test item are powered on in certain order</li> </ul>

<h2 style="text-align: center;">LIN O-E conversion BOX(OC-BOX_LIN)</h2>	
<p>Outline</p>	<div style="display: flex; justify-content: space-around; align-items: center;">    </div> <p style="text-align: center;"> <u>Appearance</u>                      <u>Left view</u>                      <u>Right view</u>              (O-E conversion side)                      (LIN side)         </p> <p>Dimension: W=55.2mm x D=65.0mm x H=30.1mm (case dimension)</p>
<p>Block chart</p>	
<p>Configuration</p>	<ul style="list-style-type: none"> <li>• Required operation voltage: DC7.0V to 20.0V              Note: It can actually perform with as low as 6V at Ta=RT</li> <li>• 1 BOX for 1 channel of LIN communication</li> <li>• D-sub 9pin connector is used for I/F connector to connect with test item              Note: Same pin assignment as the MLT side LIN connector</li> <li>• Both power supply and GND to the BOX are supplied from test item side              Its operation is synchronized with the power voltage of the test item</li> <li>• Utilizing LIN transceiver (TJA1201)</li> <li>• Switching between master and slave by installing or not installing a component</li> <li>• It has an invert circuit in the sending data to prevent outputting dominant level to LIN communication bus when MLT and test item are powered on in certain order</li> </ul>

# MLT Advance Optical-Electrical conversion tool Price table

Product	Number of channels	Price(JPY) <sup>(4)</sup>	Remarks
OC-BOX_MLT	CAN communication(2ch) CXPI communication (2ch)	¥195,000	HDMI cable (1.0m): 1 cable 12V power cable for Advance (2m): 1 cable
	CAN communication (2ch) LIN communication (2ch)	¥195,000	HDMI cable (1.0m): 1 cable 12V power cable for Advance (2m): 1 cable
OC-BOX_CAN <sup>(1)</sup>	CAN communication (1ch)	¥125,000	Optical cable (10m or 15m): 2 cables Can't be selected. Power and communication cable (2m): 1 cable
OC-BOX_CXPI <sup>(1) (2)</sup>	CXPI communication (1ch)	¥125,000	Optical cable (10m or 15m): 2 cables Can't be selected. Power and communication cable (2m): 1 cable
OC-BOX_LIN <sup>(1) (2)</sup>	LIN communication (1ch)	¥125,000	Optical cable (10m or 15m): 2 cables Can't be selected. Power and communication cable (2m): 1 cable
OC-FRM_Type-C	CAN communication (2ch) CXPI communication (2ch)	¥100,000	Firmware supporting Optical-Electrical conversion.
OC-FRM_Type-D	CAN communication (2ch) LIN communication (2ch)	¥100,000	Firmware supporting Optical-Electrical conversion.
MLT Advance	<sup>(3)</sup>	from ¥298,000	O-E conversion supported MLT Advance (MLT Advan model *****-P)

The list price is the price when purchased in Japan.

When purchasing from overseas, please contact a trading company.

Note1: 1 OC-BOX is required for every 1 channel

Note2: Please choose either Master or Slave (we will set it and deliver it)

Note3: Please refer to MLT Advance Catalog for details

Note4: The list price is the price when purchased in Japan.

Please contact us if you are purchasing from overseas.

## ■ About Our Company

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