HANDBOOK

SignalLED

Studio Illuminated Signs

SONIFEX

Audio Solutions for
AV & Broadcast Media

This handbook is for use with all SignalLED signs which use the LD-RPC remote control for programming, purchased seperately.

Revision 2.14, May 2026

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Website: http://www.sonifex.co.uk

Made in the UK by SONIFEX

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SONIFEX

Register Online for an Extended 2 Year Warranty

As standard, Sonifex products are supplied with a 1 year back to base warranty.

If you register the product online, you can increase your product warranty to 2 years and we can also keep you informed of any product design improvements or modifications.

Product: _____

Serial No: _____

To register your product, please go online to www.sonifex.co.uk/register

SONIFEX Sonifex Limited • 61 Station Road • Irthlingborough • Northamptonshire • NN9 5QE • United Kingdom
Tel: +44 (0)1933 650 700 • Fax: +44 (0)1933 650 726 • Email: technical.support@sonifex.co.uk • Internet: www.sonifex.co.uk

Product Warranty - 2 Year Extended

As standard, Sonifex products are supplied with a 1 year back to base warranty. In order to register the date of purchase and so that we can keep you informed of any product design improvements or modifications, it is important to complete the warranty registration online. Additionally, if you register the product on the Sonifex website, you can increase your product warranty to 2 years. Go to the Sonifex website at: http://www.sonifex.co.uk/technical/register/index.asp to apply for your 2 year warranty.

Note: For your own records the product serial number is recorded on the CE certification page of this handbook.

Sonifex Warranty & Liability Terms & Conditions

1. Definitions

'the Company' means Sonifex Ltd and where relevant includes companies within the same group of companies as Sonifex Limited.

'the Goods' means the goods or any part thereof supplied by the Company and where relevant includes: work carried out by the Company on items supplied by the Purchaser; services supplied by the Company; and software supplied by the Company.

'the Purchaser' means the person or organisation who buys or has agreed to buy the Goods.

'the Price' means the Price of the Goods and any other charges incurred by the Company in the supply of the Goods.

'the Warranty Term' is the length of the product warranty which is usually 12 months from the date of despatch; except when the product has been registered at the Sonifex website when the Warranty Term is 24 months from the date of despatch.

'the Contract' means the quotation, these Conditions of Sale and any other document incorporated in a contract between the Company and the Purchaser.

This is the entire Contract between the parties relating to the subject matter hereof and may not be changed or terminated except in writing in accordance with the provisions of this Contract. A reference to the consent, acknowledgement, authority or agreement of the Company means in writing and only by a director of the Company.

2. Warranty

a. The Company agrees to repair or (at its discretion) replace Goods which are found to be defective (fair wear and tear excepted) and which are returned to the Company within the Warranty Term provided that each of the following are satisfied:

   i. notification of any defect is given to the Company immediately upon its becoming apparent to the Purchaser;

   ii. the Goods have only been operated under normal operating conditions and have only been subject to normal use (and in particular the Goods must have been correctly connected and must not have been subject to high voltage or to ionising radiation and must not have been used contrary to the Company's technical recommendations);

   iii. the Goods are returned to the Company's premises at the Purchaser's expense;

   iv. any Goods or parts of Goods replaced shall become the property of the Company;

   v. no work whatsoever (other than normal and proper maintenance) has been carried out to the Goods or any part of the Goods without the Company's prior written consent;

vi. the defect has not arisen from a design made, furnished or specified by the Purchaser;

vii. the Goods have been assembled or incorporated into other goods only in accordance with any instructions issued by the Company;

viii. the defect has not arisen from a design modified by the Purchaser;

ix. the defect has not arisen from an item manufactured by a person other than the Company. In respect of any item manufactured by a person other than the Company, the Purchaser shall only be entitled to the benefit of any warranty or guarantee provided by such manufacturer to the Company.

b. In respect of computer software supplied by the Company the Company does not warrant that the use of the software will be uninterrupted or error free.

c. The Company accepts liability:

(i) for death or personal injury to the extent that it results from the negligence of the Company, its employees (whilst in the course of their employment) or its agents (in the course of the agency);

(ii) for any breach by the Company of any statutory undertaking as to title, quiet possession and freedom from encumbrance.

d. Subject to conditions (a) and (c) from the time of despatch of the Goods from the Company's premises the Purchaser shall be responsible for any defect in the Goods or loss, damage, nuisance or interference whatsoever consequential economic or otherwise or wastage of material resulting from or caused by or to the Goods. In particular the Company shall not be liable for any loss of profits or other economic losses. The Company accordingly excludes all liability for the same.

e. At the request and expense of the Purchaser the Company will test the Goods to ascertain performance levels and provide a report of the results of that test. The report will be accurate at the time of the test, to the best of the belief and knowledge of the Company, and the Company accepts no liability in respect of its accuracy beyond that set out in Condition (a).

f. Subject to Condition (e) no representation, condition, warranty or other term, express or implied (by statute or otherwise) is given by the Company that the Goods are of any particular quality or standard or will enable the Purchaser to attain any particular performance or result, or will be suitable for any particular purpose or use under specific conditions or will provide any particular capacity, notwithstanding that the requirement for such performance, result or capacity or that such particular purpose or conditions may have been known (or ought to have been known) to the Company, its employees or agents.

g. (i) To the extent that the Company is held legally liable to the Purchaser for any single breach of contract, tort, representation or other act or default, the Company's liability for the same shall not exceed the price of the Goods.

(ii) The restriction of liability in Condition (g)(i) shall not apply to any liability accepted by the Seller in Condition (c).

h. Where the Goods are sold under a consumer transaction (as defined by the Consumer Transactions (Restrictions on Statements) Order 1976) the statutory rights of the Purchaser are not affected by these Conditions of Sale.

Unpacking Your Product

Each product is shipped in protective packaging and should be inspected for damage before use. If there is any transit damage take pictures of the product packaging and notify the carrier immediately with all the relevant details of the shipment. Packing materials should be kept for inspection and also for if the product needs to be returned.

The product is shipped with the following equipment so please check to ensure that you have all of the items below. If anything is missing, please contact the supplier of your equipment immediately.

Item	Quantity
Product unit	1
AC/DC Power Supply	1
QR to Handbook and warranty card	1

Repairs & Returns

Please contact Sonifex or your supplier if you have any problems with your Sonifex product. Email technical.support@sonifex.co.uk for the repair/upgrade/returns procedure, or for support & questions regarding the product operation.

CE Conformity

The products in this manual comply with the essential requirements of the relevant European health, safety and environmental protection legislation.

The technical justification file for this product is available at Sonifex Ltd.

The declaration of conformity can be found at:
http://www.sonifex.co.uk/declarations

Safety & Installation of Mains Operated Equipment

There are no user serviceable parts inside the equipment. If you should ever need to look inside the unit, always disconnect the mains supply before removing the equipment covers. For most products the cover is connected to earth by means of the fixing screws. It is essential to maintain this earth/ground connection to ensure a safe operating environment and provide electromagnetic shielding.

CE and UKCA conformity

The products in this manual comply with the essential requirements of the relevant UK and European health, safety and environmental protection legislation. The technical justification file for this product is held at Sonifex Ltd. Relevant declarations of conformity can be found at:
https://www.sonifex.co.uk/declarations

WEEE Directive

Directive 2012/19/EU of the European Parliament and of the Council of 4th July 2012 lays down measures to protect the environment and human health by preventing or reducing the adverse impacts of the generation and management of waste from electrical and electronic equipment (WEEE).

The policy of Sonifex Ltd is to comply with all applicable laws of all jurisdictions having authority over Sonifex's business, including the WEEE directive. Accordingly, Sonifex has implemented a rigorous program designed to ensure compliance of its products with the WEEE directive. The latest statements can be found at:
https://www.sonifex.co.uk/company/recycling

Atmosphere/Environment

This apparatus should be installed in an area that is not subject to excessive temperature variation (<0°C, >50°C), moisture, dust or vibration.
This apparatus shall not be exposed to dripping or splashing, and no objects filled with water, such as vases shall be placed on the apparatus.

Power Supply Approval Documents

The power supply used with the SignalLEDs is UL, EC and CC approved.

For a more detailed view of the certificates, please check online at:

http://www.sonifex.co.uk/signalled/index.shtml

Queensland Government

19 December 2005

Mr April Qiu
ENG Electric Co., Ltd.
c/- Ms Selina Zeng – ITS (Guangzhou)
3/F., Hongyun Building, 728 Kaifa Ave,
Guangzhou Economic & Technological Development District,
Guangzhou 510730 – CHINA

Dear Mr Qiu

CERTIFICATE OF APPROVAL OF PRESCRIBED ELECTRICAL EQUIPMENT
EXTRA LOW VOLTAGE POWER SUPPLY UNIT
POWER ADAPTOR
MODEL NO. 3A-602WFXA

I am pleased to advise that your application for approval of the above mentioned electrical equipment has been approved.

The registration number allocated to the electrical equipment is Q003065. This registration number must be marked on all electrical equipment covered by the enclosed. Alternatively you may use the Regulatory Compliance Mark (RCM) in lieu of the registration number. Please advise this office if you intend to use the RCM in lieu of the registration number.

Please note that it is a requirement of the Electrical Safety Act and Regulations 2002 that if you notify the Certified equipment in any way you are required to notify this office of the details of the modifications for approval. An application for modification form is available from this office.

If you have supplied a sample of the product for examination, please arrange to collect the sample within forty days of the date of this letter. If the sample has not been collected by this date it will be disposed of in accordance with section 118 of the Electrical Safety Regulation 2002.

You are reminded that it is mandatory for all plugs manufactured or imported to incorporate insulated live pins from 1 April 2005. It is required that all electrical equipment with not insulated pin plugs, be sold from all points of sale, by 1 April 2006.

Yours sincerely

D EDE
Director – Equipment Safety
Electrical Safety Office

Fig 1-1: Australia Certificate of Approval

IEC | TECEE CB SCHEMES

Ref. Conf. No.
DE 3 - 53553

IEC SYSTEM FOR MUTUAL RECOGNITION OF TEST CERTIFICATES FOR ELECTRICAL EQUIPMENT (IECEE CB SCHEME)

SYSTEME CEI D'ACCEPTATION MUTUELLE DE CERTIFICATS D'ESSAIS DES EQUIPEMENTS ELECTRIQUES (IECEE CB SCHEME)

CB TEST CERTIFICATE
CERTIFICAT D'ESSAI OC

Product / Produit: Adaptors (Power Adaptor)

Name and address of the applicant / Nom et adresse du demandeur: ENG Electric Co., Ltd. 6F No.535 Sec.1,Mingsheng N.Rd Kueishan Hsiang, Taoyuan Hsien, TAIWAN

Name and address of the manufacturer / Nom et adresse du fabricant: ENG Electric Co., Ltd., 6F No.535,Sec.1,Mingsheng N.Rd, Kueishan Hsiang, Taoyuan Hsien, TAIWAN

Name and address of the factory / Nom et adresse de l'usine: Shenzhen Eng Electronics Co., Ltd. China Nuclear Group Ind. East Block, Bakehole, Fuyong, Baoan , Shenzhen, PEOPLES REPUBLIC OF CHINA

Rating and principal characteristics / Valeurs nominales et caractéristiques principales: Rated input voltage 100-240 Vac; Rated input current 1.0 A; Rated frequency 50-60 Hz; Rated output See appendix 4; Protection class II

Trade mark (if any) / Marque de fabrique ou de commerce: ENG

Model/type Ref. / Mod. ou type: 3A-E6157F007 ("X0" can be 00, 05, 12, 15 or 24; "Y" can be A, C, E, U or blank)

Additional information (if necessary) / Renseignements complémentaires (si nécessaire): IEC 60950-1:2001

A sample of the product was tested and found to be in conformity with / Un échantillon du produit a été soumis et a été reconnu conforme à la:

As shown in the Test Report Ref. No. / Comme indiqué dans le Rapport d'essai No.: TÜV Product Service 05-5006-003

Valid until / Valable jusqu'au:

This CB Test Certificate is issued by the National Certification Body. / Ce Certificat d'essai CEI est établi par l'Organisme National de Certification:

Date: 2005-09-28

"TÜV Product Service GmbH - Certification Body - Ridlerstrasse 65 - D-80339 München"

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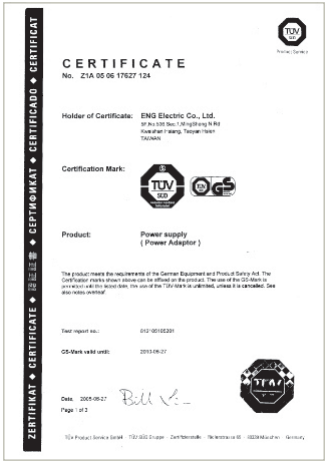
Fig 1-2: CB Certificate of Approval



ZERTIFIKAT ◆ CERTIFICATE ◆ 認証書 ◆ СЕРТИФИКАТ ◆ CERTIFICADO ◆ CERTIFICAT

CERTIFICATE
No. Z1A 05 06 17627 124

Holder of Certificate: ENG Electric Co., Ltd.

Certification Mark:

Product: Power supply (Power Adaptor)

Test report no.: 012-051105201

GS-Mark valid until: 2013-08-27

Date: 2005-08-27

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Fig 1-3: CE Certificate of Approval

UL International, L.L.C., Taiwan Branch

NOTICE OF AUTHORIZATION TO APPLY THE UL MARK

August 22, 2005

ENG Electric Co., Ltd.
No.35 535 Sec.1 Mingsheng N Rd Sec 1 Kueishan Hsiang
Taoyuan (Taiwan) 333
Fax number: +88-755-27300849
Reference: File E165743 Project 05NK10587

Product: For UL & C-UL, Investigation, Direct Plug-In Switching Adapter, Model 3A-0619WFXX (XX=01, 05, 12, 15, 24)

Dear Mr. Qiu

Any information and documentation provided to you involving UL Mark services are provided on behalf of Underwriters Laboratories Inc.

UL's Investigation of your products has been completed under the above project number and the subject products were determined to comply with the applicable requirements.

This letter temporarily supplements the UL Follow-Up Services Procedures and forms as authorized on to apply the UL Listing Mark only at the factory under UL's Follow-Up Services Program to the subject products which were constructed as described below:

Identical to Dated Plug-In Switching Adapter, Models 3A-0619WFXX and 3A-0619WFXXU, where XX can be 01, 05, 12, 15, 24 and U can be blank or any letter from A to Z. Refer to the UL Publication Category Code DEIT2 for the Follow-Up Service Procedure, File E165743, Volume XI - Report Reference No.: E165743-A24 DE-1.

To provide the manufacturer with the intended authorization to use the UL Mark, the addressee must send a copy of this Notice and all attached material to each manufacturing location as currently authorized in File E165743, Volume XI.

This authorization is effective from the date of it's Notice and only for products at the indicated manufacturing locations. Records in the Follow-Up Services Project are covering the product are now being prepared and will be sent to the authorized manufacturing locations in the near future. Please note that Follow-Up Service Procedures are sent to the manufacturer's only unless the Applicant specifically requests this document.

Products that bear the UL Mark of all but identical to those that were evaluated by UL and found to comply with UL's requirements. If changes in construction are discovered, appropriate action will be taken for production of its conformance with UL's requirements and continued use of the UL Mark may be withdrawn.

Sincerely,

Reviewed by:

Brian Hsu
Project Handler
UL International, L.L.C., Taiwan Branch
Tel: (02)2396-7799 Ext. 62402
Fax: (02)2396-7643
E-mail: brian.hsu@ul.com

Frank Lin
Project Engineer
Department: 35NK10
E-mail: frank.lin@ul.com

CC: Base Testing Lab Fax: (0)27994-6208 Attn: Mr. Jackie Chiu

Fig 1-4: UL Certificate of Approval

Introduction

The SignalLED sign is an elegant approach to illuminated displays and signage. Using the latest technology and components, the SignalLED sign can be simply configured onsite for colour, brightness and mode using the LD-RPC remote control.

- Choose from white, orange, light orange, cyan, red, magenta, blue, yellow or green.
- Choose from a large range of different sign text.
- Illumination modes: constant, flashing, pulsing, fading and off.
- Two control pull-low inputs.
- Single or twin signs with separate controls.
- DC input power supply provided.
- Flush mounted to the wall or end mounted.
- Simple to install.
- Custom signs can be made to order.

Installation

Mounting The Sign

Route the signal and power supply cables before finalising the mounting of the sign. These cables can be routed either through the aperture, or through the cable cut-outs in the back of the wall mount moulding.

The LED sign should be mounted on a firm solid surface. The sign is supplied with a mounting kit comprising 2 x wall plugs and 2 x large flange screws.

Note: You'll need the following tools to mount the sign: an electric drill fitted with a 6mm diameter masonry drill bit, a No.1 Pozi-drive screwdriver and a spirit level.

- Drill 2 holes, approximately 34mm deep, using a 6mm diameter masonry drill at the pitch shown on the drawings.
- Insert the wall plugs flush with the surface.
- Use a spirit level on the aluminium tube section to set the sign level before fully tightening.

The screws can also be used for fixing into wood. For correct fitting drill a small pilot hole into the wood before fitting the screw.

Opening The End Covers

To get access to the sign mounting points, the side covers need to be opened. Use a No.1 Pozi-drive screwdriver to unscrew the side cover and gently slide the cover forward approximately 8mm until it reaches the stops. Pivot open the cover. **Please note:** do not to use excessive force when opening the cover.

LD-20F1 & LD-40F1 Flush Sign Mounting Requirements

This sign is to be mounted flush to a wall. Minimum clearances from the sign to an adjacent wall or ceiling are shown below.

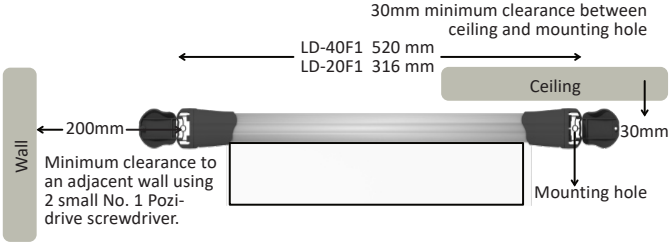


Fig 2-1: LD-20F1 & LD-40F1 Flush Sign Mounting Requirements

An absolute minimum of 60mm is required for the opened end cap, a right angled screwdriver would be needed to screw (unscrew) the end cap retaining screw.

End Mounting Requirements

To create an attractive invisible-fixing finish, the SignalLED assembly is clipped into a wall mount plate. The wall mount plate must be securely fitted to a smooth, solid surface before attempting to fit the SignalLED assembly. Drill 2 holes, approximately 34mm deep, using a 6mm diameter masonry drill, and attach the wall mount plate (coloured red in the illustration above) to the wall. At this point, the LD-IT, end-mount installation tool can be used to hold the sign in place while you connect the power and signal cables. The cable retention clips can be used to hold the cables in the sign. See information on connecting the Power and Signal cables.

The sign is fitted by locating the four internal hanger plate hooks into the four slots in the wall mount plate. Once located, hold the sign around the end moulding of the SignalLED assembly (where the door is fitted) and press down into its final position.

The sign retaining pins will clip into the indentations on the side of the wall mount plate and this should result in a click as the plastic pins move into their final position.

Note: a reasonable amount of force is needed to fully connect the LED sign assembly to the wall plate.

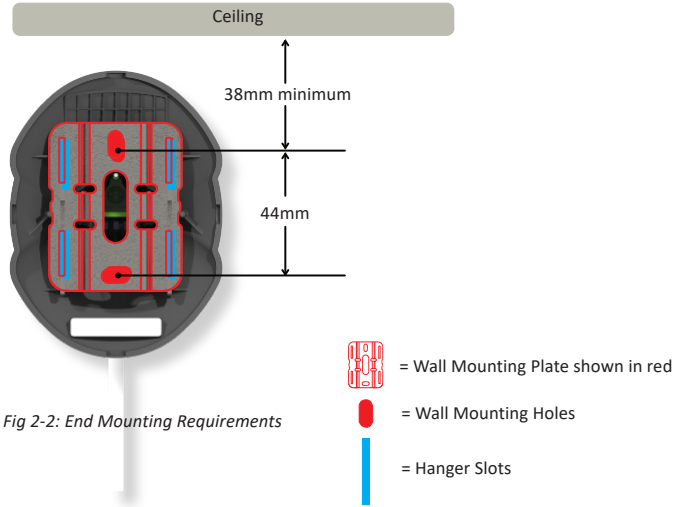


Fig 2-2: End Mounting Requirements

LD-KC1 Ceiling Mounting Kit

Open the end covers of the sign. Take the 5mm screw out of each of the LD-KC1 brackets and use the screws to attach the sign covers to them, where indicated on the drawing below. Ensure that the sign cover sits comfortably against the metal plates on each of the bracket.

The LD-KC1 ceiling mounting kit can be used for mounting a 40cm or 20cm flush mounting sign either down from the ceiling or up from a surface, e.g. table-top or top of a rack.

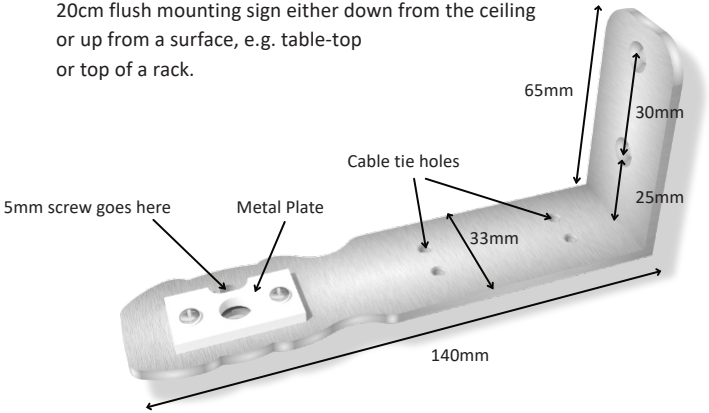


Fig 2-3: LD-KC1 Ceiling Mounting Kit

Connecting The Power and Signal Connections For Flush Mounted Signs (5 Terminal Version)

To get access to the cable connection block and the mode switches which are on the PCB inside the sign, the door on the underside of the end plastic moulding must be opened.

To open the door push the clip towards the sign and pull down on the small lip, see Fig 2-5. Do not attempt to remove the door from the end moulding. Access to the connection block and the mode switches is possible with the door fully open.

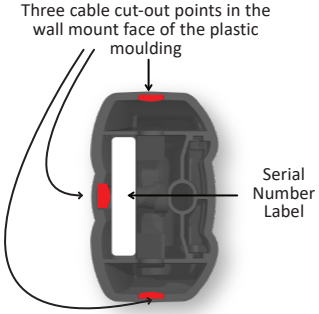


Fig 2-4: Cable Routing Cut-Outs

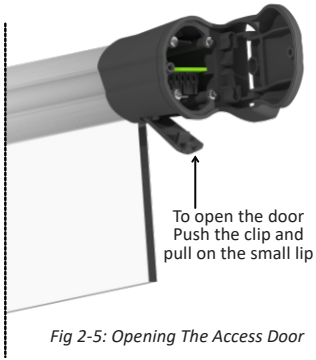
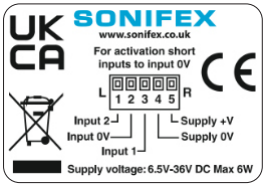


Fig 2-5: Opening The Access Door



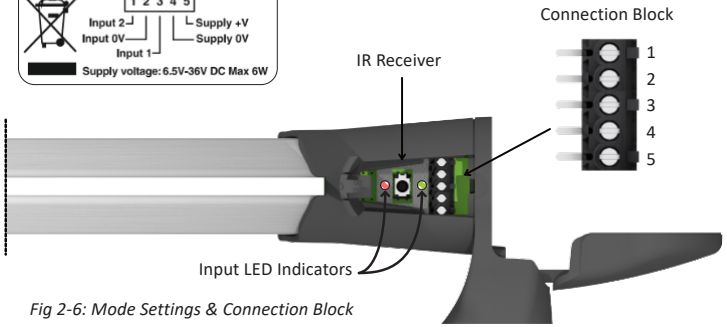


Fig 2-6: Mode Settings & Connection Block

Connecting The Power & Signal Connections For End Mounted Signs

It is recommended that the LD-IT SignalLED end mount sign installation tool is used to assist the termination of the power and signal connections. The

tool is designed to hold the sign on the pre-fitted wall mount plate leaving both hands free to make the connections, as shown in Fig. 2-7.

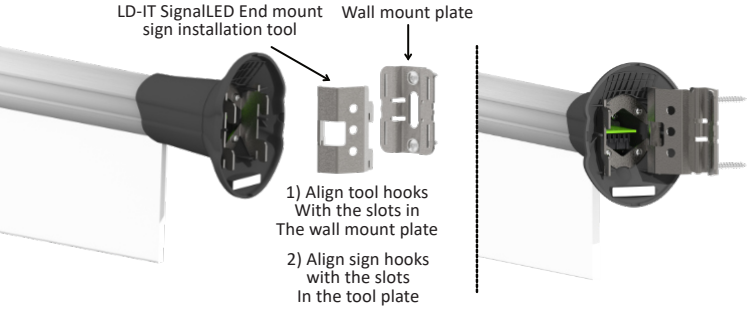


Fig 2-7: LD-IT End Mount Sign Installation Tool

To get access to the cable connection block and the mode switches, which are on the PCB inside the sign, the door on the underside of the end plastic moulding must be opened.

To open the door push the clip towards the sign and pull down on the small lip. See Fig 2-8. Do not attempt to remove the door from the end moulding. Access to the connection block and the mode switches is possible with the door fully open.

Fig 2-8: Opening The Access Door

Power Supply

The sign can be connected and powered either with the supplied DC power supply, or with a regulated DC supply rated 5V to 7V DC, 0.5A minimum. Please note that the current that a power supply can supply, will be affected by the type of wiring used and its length, i.e. it's total impedance. For example, using bell-wire presents too high an impedance and should not be used. See the website FAQs for more details. Please check the supplied DC power supply to confirm which lead is +6V and which is 0V.

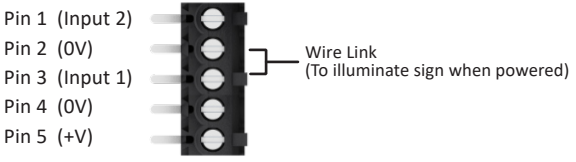


Fig 2-9: Wire link To Illuminate Sign When Powered

Please note it is essential that the ground pin (0V, pin 2/pin 4) is connected properly before powering up the sign, or firmware corruption may occur. The signalling inputs are used to control the sign and are pulled low (to 0V, pin 2) to activate.

Please note pins 2 (0V) and 3 (input 1) are linked by default so that the sign will illuminate in its default mode when first powered up.

Use a small flat blade screwdriver to undo the connection block screw terminals. Do not fully remove the screws from the terminals - they only need 2 or 3 full turns to accept the wire ends.

Step 1: Connect the power supply 0V lead to Pin 4 (Ground/0V), along with the link, on the connector block.

Step 2: Connect the power supply +6V lead (normally marked by a white stripe, or white text on the wire - test this with a voltmeter if you are unsure) into pin 5 on the connector block. Configured like this, the sign will illuminate when powered.

Step 3: If using Signalling input 1 to control the sign, remove the link completely and connect a switch or other contact closure between Pins 3 & 2 (0V) of the connector block. If using Signalling input 2 to control the sign, remove the link completely and connect a switch or other contact closure between Pins 1 & 2 (0V) of the connector block.

When the power and signalling connections have been made, close the access door by pressing the clip back to its original position. It will click into place when it is fully home.

After all of the terminations have been checked and the cables have been routed through the cable clamps*, close the end cover by reversing the opening procedure, taking care not to overtighten the retaining screw.

***Please note** cable clamps to be moved to appropriate side, when re-routing cable other than as supplied.

7V-36V Extended DC Voltage Option

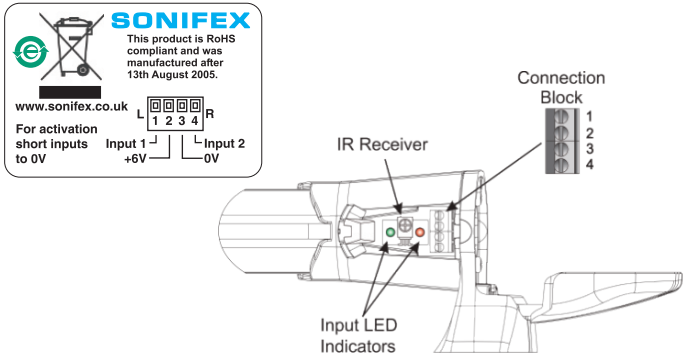
The LD-DC option, or LDD version, of a sign allows a SignalLED main circuit board to accept a DC input in the range 7V-36V, for example, if you have a 12V or 24V distributed DC power network.

It has the same signal and power pins as the standard sign where Pin 4 = 0V and Pin 5 = +Volts.

Where a longer cable run is required or the cable itself has a relatively high resistance, (CAT5 network cable for example), the DC/DC PCB may be preferable. In such cases the higher voltage will reduce the amount of current required by the sign. For example, the LED sign draws 500mA at 6V, giving a total power of VA = 6 x 0.5 (3VA). Therefore, for 24V, the current required would be 3VA /24V = 0.125Amps.

Please note: The DC power supply is not provided for this option.

Four Terminal version



Connecting The Power and Signal Connections For Flush Mounted Signs

To get access to the cable connection block and the mode switches which are on the PCB inside the sign, the door on the underside of the end plastic moulding must be opened.

To open the door push the clip towards the sign and pull down on the small lip, see Fig 2-5. Do not attempt to remove the door from the end moulding. Access to the connection block and the mode switches is possible with the door fully open.

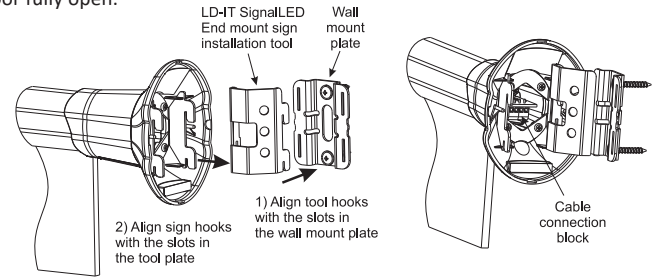
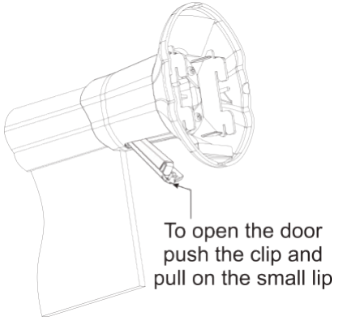


Fig 2-7: LD-IT End Mount Sign Installation Tool

tool is designed to hold the sign on the pre-fitted wall mount plate leaving both hands free to make the connections, as shown in Fig. 2-7.

To get access to the cable connection block and the mode switches, which are on the PCB inside the sign, the door on the underside of the end plastic moulding must be opened.

To open the door push the clip towards the sign and pull down on the small lip. See Fig 2-8. Do not attempt to remove the door from the end moulding. Access to the connection block and the mode switches is possible with the door fully open.



Power Supply

The sign can be connected and powered either with the supplied DC power supply, or with a regulated DC supply rated 5V to 7V DC, 0.5A minimum. Please note that the current that a power supply can supply, will be affected by the type of wiring used and its length, i.e. it's total impedance. For example, using bell-wire presents too high an impedance and should not be used. See the website FAQs for more details. Please check the supplied DC power supply to confirm which lead is +6V and which is 0V.

Pin 1 (Signalling Input 1)

Pin 2 (+6V) @ 500mA

Pin 3 (0V)

Pin 4 (Signalling Input 2)

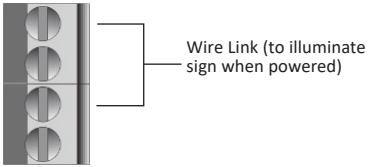
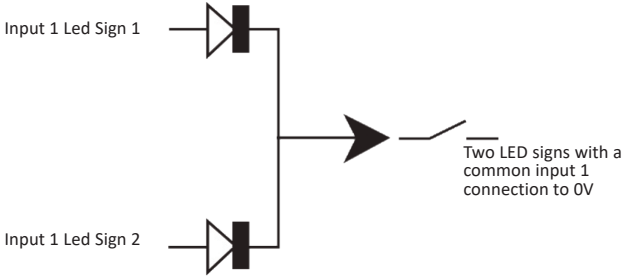


Fig 2-9: Wire link To Illuminate Sign When Powered

Please note it is essential that the ground pin (0V pin 3) is connected properly before powering up the sign, or firmware corruption may occur. The signalling inputs are used to control the sign and are pulled low (to 0V, pin 3) to activate. On signs manufactured before 14/10/2011 if driving more than one LED sign from the signalling inputs, or power supply, then the LED sign pins should be diode protected to prevent a reverse current condition.



Please note pins 3 (0V) and 1 (input 1) are linked by default so that the sign will illuminate in its default mode when first powered up.

Use a small flat blade screwdriver to undo the connection block screw terminals. Do not fully remove the screws from the terminals - they only need 2 or 3 full turns to accept the wire ends.

Step 1: Connect the power supply 0V lead to Pin 3 (Ground/0V), along with the link, on the connector block.

Step 2: Connect the power supply +6V lead (normally marked by a white stripe, or white text on the wire - test this with a voltmeter if you are unsure) into pin 2 on the connector block. Configured like this, the sign will illuminate when powered.

Step 3: If using Signalling input 1 to control the sign, remove the link completely and connect a switch or other contact closure between Pins 1 & 3 (0V) of the connector block. If using Signalling input 2 to control the sign, remove the link completely and connect a switch or other contact closure between Pins 4 & 3 (0V) of the connector block.

When the power and signalling connections have been made, close the access door by pressing the clip back to its original position. It will click into place when it is fully home.

After all of the terminations have been checked and the cables have been routed through the cable clamps, close the end cover by reversing the opening procedure, taking care not to overtighten the retaining screw.

7V-36V Extended DC Voltage Option

The LD-DC option, or LDD version, of a sign allows a SignalLED main circuit board to accept a DC input in the range 7V-36V, for example, if you have a 12V or 24V distributed DC power network.

It has the same signal and power pins as the standard sign where Pin 3 = 0V and Pin 2 = +Volts.

Where a longer cable run is required or the cable itself has a relatively high resistance, (CAT5 network cable for example), the DC/DC PCB may be preferable. In such cases the higher voltage will reduce the amount of current required by the sign. For example, the LED sign draws 500mA at 6V, giving a total power of VA = 6 x 0.5 (3VA). Therefore, for 24V, the current required would be 3VA /24V = 0.125Amps.

Please note: The DC power supply is not provided for this option.

Programming Colour & Illumination Modes

SignalLED signs bought after 1st December 2010 are programmed using a separate handheld remote control, instead of being programmed using DIPSwitches on the sign.

Please note that the remote control must be ordered separately, LD-RPC. Please contact your Sonifex distributor for ordering information.

Although the SignalLED is delivered as standard to indicate a certain colour when a pull-low (to 0V) input signal is applied, the sign is programmable to allow a number of different display modes and uses. For example, the sign can be made to switch between 4 colours, one for each of the input conditions below. The sign can also illuminate a certain colour when no input signal is connected, i.e. it can be permanently illuminating, or it can be made to switch from one colour to another on application of an input signal.

Setting The Colour & Display Mode(s) of The Sign

The sign can be set to illuminate in 4 different states according to the combination of the 2 x pull-low signalling inputs present at the input connector block:

- Connect pin 1 to 0V to select input 1.
- Connect pin 4 to 0V to select input 2.

For each of the 4 states, the following features can be adjusted and set:

- Divide Point – This allows you divide the sign into two separate sections, to set the size of each section and to set the size of a 'dead area' in between the two sections, if required.
- Colour of each section.
- Brightness of overall sign illumination.
- Mode of sign operation, selectable from on, off, flash, pulse and fade.

Enter Programming Mode

To enter programming mode, open the Access Door (See Fig 2-5) which exposes the infra-red receiver. Then point the remote control unit at the opening and press & hold the PROGRAM (7) button for 3 seconds until the LEDs in the main sign quickly cascade away & to the opening. This indicates that the unit is in the Programming Mode.

To exit the Programming Mode, press & hold the PROGRAM (7) button until the LEDs cascade away & to the receiver again.

During programming the input state being programmed is reflected in the 2 LEDs positioned in the opening:

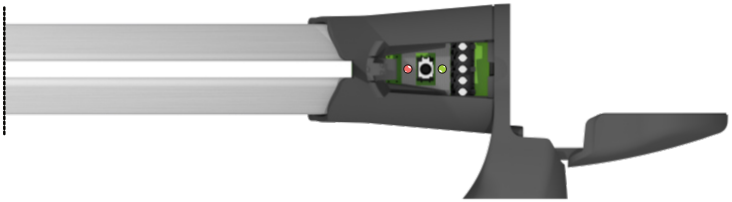


Fig 3-1: IR Opening & Input LEDs

Input State	Input 1	Input 2	Green LED (Input 1)	Red LED (Input 2)
1	Unconnected	Unconnected	Off	Off
2	Connected to 0V	Unconnected	On	Off
3	Unconnected	Connected to 0V	Off	On
4	Connected to 0V	Connected to 0V	On	On

Fig 3-2: Input States

Once in programming mode the sign will default to input state 1, press the INPUT (8) button to step through the input states 2 – 4 *, until you have selected the one you wish to change.

(* noting that the green LED indicates Input 1 and the red LED
input 2.)

Setting The LED Sections of The Sign

The sign can be treated as a single sign or can be split into two separate sets of LEDs anywhere along the sign's length, referred to as Sections 1 and 2 below, with a non-displaying centre section, the 'dead zone'.

Press the DIVIDE (6) button to set the divide position for Section 1. Pressing the DIVIDE (6) button again alternates the currently selected section between Sections 1 and 2.

Section 1 initially consists of the 9 LEDS closest to the opening, with Section 2 being the 9 LEDs furthest away (on a 40cm sign).

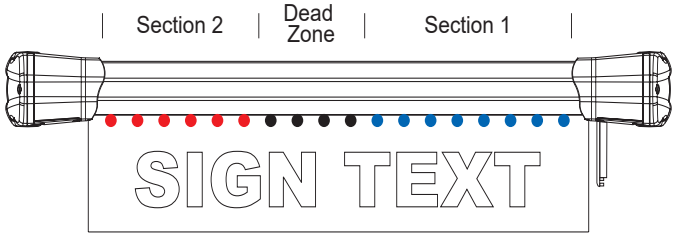


Fig 3-3: Operation of DIVIDE

Pressing the + (2) button advances the Section 1 divide position one LED for each time you press the button. If Section 1 reaches Section 2 then Section 2 is pushed back (i.e. its divide position retreats).

Pressing the – (1) button causes the Section 1 divide point to retreat. But this time Section 2's divide position remains unchanged and a dead zone (i.e. no LEDS illuminate here) is created. Similarly when Section 2 is being set the – (1) button will advance Section 2 into Section 1 causing the Section 1 divide position to retreat, but pressing the + (2) button will cause the divide position of Section 1 to remain unchanged again introducing a dead zone. This is complex to explain and it's probably better that you try it yourself to see how it works!

The divide point for Section 1 or Section 2 cannot be moved so that the Section 1 is not visible. To set the sign to all one colour we suggest moving the divide point of Section 1 to its maximum which will make Section 2 invisible, although the same result can be achieved by setting both sections to the same colour.

Setting The Colour of The Section/Sign

To set the colour of each Section, (or the whole sign if only one Section is defined), press the COLOUR (5) button to select Section 1. Pressing the colour button again alternates the currently selected section.

Press the + (2) and – (1) buttons to change the selected colour according to the colour table below. Normally the User colour setting is undefined and therefore not selectable. However, for special orders Sonifex can create distinct colour sets and these will use the User colour setting.

Colour Number	Set Colour
1	Off
2	White
3	Light Orange
4	Orange
5	Cyan
6	Red
7	Magenta
8	Blue
9	Yellow
10	Green
11	User

Fig 3-4: Colour Table

To set the sign to be off for a particular input, set the Colour above to 'Off'.

Setting The Sign Brightness

To set the brightness of the whole sign, press the BRIGHT (4) button and then the + (2) or – (1) buttons to increase or decrease the brightness of the sign. For fade modes (Illumination Modes 3 and 6, see below) this will set the peak brightness of the sign.

Setting The Illumination Mode

To set the Illumination Mode, press the MODE (3) button and use the + (2) and – (1) buttons to step through the modes according to the table below:

Illumination Mode Number	Operation
0	Whole sign on
1	Flash whole sign (½ second on, ½ second off)
2	Pulse whole sign (4 pulses in ½ second on, ½ second off)
3	Fade whole sign (fade up in 2 seconds, fade down in 2 seconds)
4	Flash alternate Sections
5	Pulse alternate Sections
6	Fade alternate Sections

Fig 3-5: Illumination Mode Table

Press the INPUT (8) button to configure another input state or press & hold the PROGRAM (7) button to exit the Programming Mode, until the LEDs cascade away & to the receiver again.

If The Sign Appears To Be Off

When starting to program the sign it may be unclear what the initial state of the sign is. For instance if the sign is off, it's hard to know whether the Section 1 colour is set to off, whether the Section 2 colour is set to off, whether an entire 'dead zone' has been configured, or whether there is a mix of all 3 of these states. To make sure that the display state is known, perform the following actions:

1. Go into Programming Mode by pressing and holding the PROGRAM (7) button.
2. Press the INPUT (8) button to select the required input.
3. Press the DIVIDE (6) button to enter divide programming. Press the + (2) button three times to ensure that Section 1 is visible.
4. Press the DIVIDE (6) button again and press the – (1) button to ensure that section 2 is visible
5. Press the DIVIDE (6) button again and press the – (1) button to ensure that the dead zone is visible.

If the display is still off then:

1. Press the COLOUR (5) button again and press the + (2) button to ensure that Section 1 is assigned a colour.
2. Press the COLOUR (5) button again and press the + (2) button enough times to ensure that Section 2 is assigned a different colour to that assigned to Section 1.

This should confirm that a colour can be programmed.

Resetting The Sign to Factory Defaults

The sign can be set back to the factory default colours and illumination mode as follows: Enter the Programming Mode and press and hold the MODE (3) button for 10 seconds. The sign will now show the original colour(s) and mode(s).

Technical Specifications

Physical Specification	
Power Supply:	Plug-top power supply providing 6V at 1A, with 4 international wall adapters (UK, EU, US and AUS) and 5m lead to bare ends.
Power Input:	5-7V DC
40cm Sign:	500mA max
Input Connector:	4 way screw terminal block
Control Inputs:	2 x pull-down to 0V
Perspex Dimensions:	Single: 40cm (W) x 8cm (H)

Overall Sign Dimensions:

LD-20F1	333mm x 129mm x 60mm
LD-40F1	527mm x 129mm x 60mm
LD-40F2	527mm x 129mm x 60mm

Equipment Type Single Flush Mounting Signs (20cm):	
LD-20F1REC	20cm 'RECORD' Sign
LD-20F1ONA	20cm 'ON AIR' Sign
LD-20F1MCL	20cm 'MIC LIVE' Sign
Single Flush Mounting Signs (40cm):	
LD-40F1REC	40cm 'RECORD' Sign
LD-40F1ONA	40cm 'ON AIR' Sign
LD-40F1MCL	40cm 'MIC LIVE' Sign
LD-40F1PHN	40cm 'PHONE' Sign
LD-40F1TRF	40cm 'TRAFFIC FLAG ON' Sign
LD-40F1ADB	40cm 'AD BREAK' Sign
LD-40F1REH	40cm 'REHEARSAL' Sign
LD-40F1DOR	40cm 'DOOR' Sign
LD-40F1OBT	40cm 'OBIT' Sign
LD-40F1NOE	40cm 'NO ENTRY' Sign
LD-40F1EXIT	40cm 'EXIT' Sign
LD-40F1SIL	40cm 'SILENCE PLEASE' Sign
LD-40F1MET	40cm 'MEETING IN PROGRESS' Sign
LD-40F1INT	40cm 'INTERVIEW IN PROGRESS' Sign
Twin Flush Mounting Signs (2 x 20cm):	
LD-40F2TX-REH	2 x 20cm 'TX' & ' REH' Sign
LD-40F2ONA-MCL	2 x 20cm 'ON AIR' & 'MIC LIVE' Sign
Mounting Kits:	
LD-KE1	End Mounting Kit For 40cm Or 20cm Flush Mounting Signs
LD-IT	LED Sign End Mounting Installation Tool
LD-KC1	SignalLED Ceiling or Desk Mount Bracket (Pair)

Weights & Boxed Dimensions:

Sign Type	Width (cm)	Depth (cm)	Height (cm)	Gross Weight (cm)	Net Weight (kg)
LD-20F1 style signs	39 20	11	1.0	0.65	
LD-40F1 style signs	60 20	11	1.1	0.75	
LD-40F2 style signs	60 20	11	1.1	0.75	

Note : Weights are approximate and based on a sign supplied with the PSU.

Appendix 1

LD-KE1 SignalLED Conversion Kit, Single Flush Mount to End Mount

To convert the LD-20F & LD-40F style flush mount single sided signs into single sided end mount signs you will need to fit the LD-KE1 conversion kit. Please follow these instructions carefully.

Note: You'll need the following tools to use the conversion kit:, a No. 0 and No.1 Pozi-drive screwdriver.

Take care not to damage the clear surface of the sign board. The surface will be marked by swarf or rough surfaces, so please use a clean cloth to hold the sign.

Because the sign is single sided the text will only be correctly viewable from one side. If the text must be viewed from one particular side this must be chosen initially as it will affect the disassembly and subsequent re-assembly of the sign

As standard the SignalLED PCB is fitted into the right hand end of the LD-20F & LD-40F (see Fig 5-1). If you would like the sign to be viewable with the right hand side of the sign mounted onto the wall please use the 'Right Hand Side' fitting instructions.

If you would like the sign to be viewable with the left hand side of the sign mounted onto the wall, please use the 'Left Hand Side' fitting instructions.

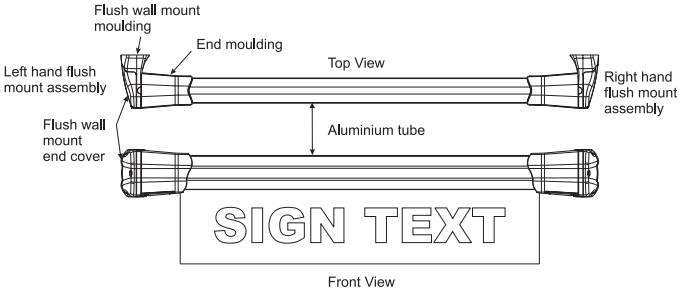


Fig 5-1: Sign Components to be Converted

Right Hand Side Fitting of the Conversion Kit

1) Open the end cover on the left hand flush mount assembly by removing the self tapping screw with a No.1 pozi-drive screwdriver.

2) Remove the left hand flush mount assembly by unscrewing the 4 screws that fix the end moulding to the aluminium tube. These are located inside at the bottom of the end moulding. See Fig 5-3.

3) Align the 4 pins of the extrusion end cover with the screw holes in the exposed end of the aluminium tube. Note the orientation of the cut-out with the clear sign board and press fit the end cover fully onto the aluminium tube.

4) Open the end cover on the right hand flush mount assembly by removing the self-tapping screw with a No.1 pozi-drive screwdriver.

5) Remove the flush wall mount moulding from the end moulding by unscrewing the 4 screws visible under the cover See Fig 5-4.

6) Fit the internal hanger plate into the end wall mount moulding. Align the semi-circular cut-out in the hanger plate with the raised section

above the serial number label, which indicates the bottom of the assembly. Also make sure that the hanger plate fits into the slots in the wall mount moulding.

7) This combination is then fixed to the right hand flush mount assembly end moulding with the 4 supplied No.4 x ¾ self tap screws. See Fig 5-5. Do not substitute any other screws in these positions and do not reuse the screws removed from these positions, because they will not support the sign correctly.

8) Please refer to the installation notes for the LD-40E style signs to complete the final fitting and colour/configuration set-up.

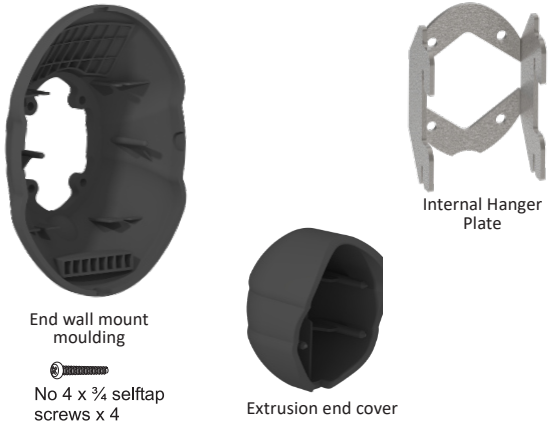


Fig 5-2: Kit Components Used for the Conversion

Fig 5-3: Removing the Left Hand Assembly

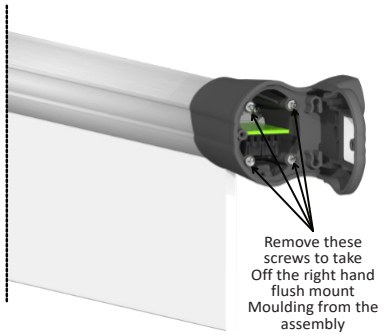


Fig 5-4: Removing the Right Hand Flush Wall Moulding

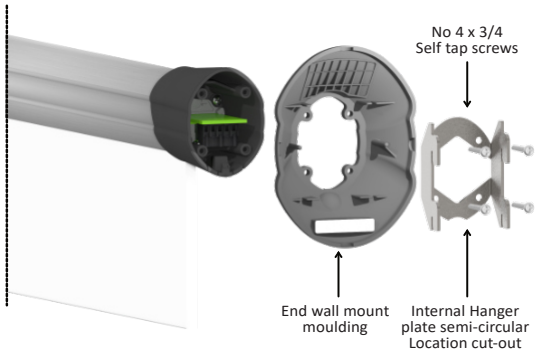


Fig 5-5: Right Hand Conversion Re-Assembly

Left Hand Side Fitting of the Conversion Kit

Note: With this conversion you will be removing the PCB from the sign so full anti-static precautions must be taken to protect the PCB from damage. Failure to do so may result in the sign not working and invalidating the warranty.

1) Open the end cover on the right hand flush mount assembly by removing the self-tapping screw with a No.1 pozi-drive screwdriver.

2) Remove the 2 small screws that hold the PCB into the right hand flush mount assembly and withdraw the PCB. Place the PCB on an antistatic surface.

3) Remove the right hand flush mount assembly by unscrewing the 4 screws that fix the end moulding to the aluminium tube. These are located inside at the bottom of the end moulding.

4) Align the 4 pins of the extrusion end cover with the screw holes in the exposed end of the aluminium tube. Note the orientation of the cut-out with the clear sign board and press fit the end cover fully onto the aluminium tube.

5) Open the end cover on the left hand flush mount assembly by removing the self-tapping screw with a No.1 pozi-drive screwdriver.

6) Remove the flush wall mount moulding from the end moulding by unscrewing the 4 screws visible under the cover.

7) Replace the PCB into the left hand end moulding aligning the PCB edge with the guide tracks in the aluminium extrusion. Refit the 2 small screws that hold the PCB, taking care not to over tighten and strip the plastic.

8) Fit the internal hanger plate into the end wall mount moulding. Align the semi-circular cut-out in the hanger plate with the raised section above the serial number label, which indicates the bottom of the assembly. Also make sure that the hanger plate fits into the slots in the wall mount moulding.

9) This combination is then fixed to the left hand flush mount assembly end moulding with the 4 supplied No.4 x ¾ self tap screws. Do not substitute any other screws in these positions and do not reuse the screws removed from these positions because they will not support the sign correctly.

10) Please refer to the installation notes for the LD-40E style signs to complete the final fitting and colour/configuration set-up.

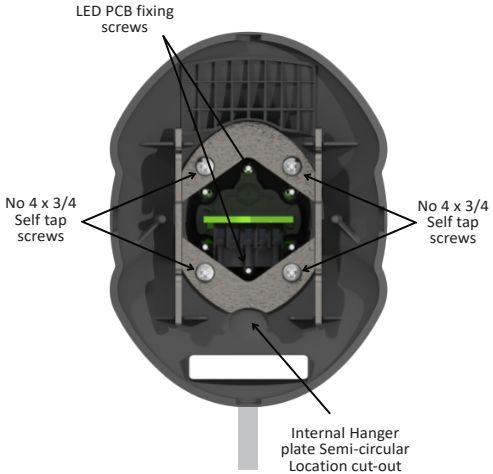


Fig 5-6: Left Hand Conversion Re-Assembly

Appendix 2

SignalLED Preconfigurations

Top Level Part Number	Slave	Master (Side with connections)	No Input	Input 1 (Default link between pins 1 and 3 on the power connector)
LD-20F1MCL		MIC LIVE	Turns the sign off	Turns the whole sign solid red when connected to 0V
LD-20F1ONA		ON AIR	Turns the sign off	Turns the whole sign solid green when connected to 0V
LD-20F1REC		RECORD	Turns the sign off	Turns the whole sign solid red when connected to 0V
LD-40F1ADB	AD BREAK		Turns the sign off	Turns the whole sign solid red when connected to 0V
LD-40F1DOR	DOOR		Turns the sign off	Turns the whole sign solid blue when connected to 0V
LD-40F1EXIT	EXIT		Turns the sign off	Turns the whole sign solid green when connected to 0V
LD-40F1INT	INTERVIEW IN PROGRESS		Turns the sign off	Turns the whole sign solid red when connected to 0V
LD-40F1MCL	MIC LIVE		Turns the sign off	Turns the whole sign solid red when connected to 0V
LD-40F1MET	MEETING IN PROGRESS		Turns the sign off	Turns the whole sign solid red when connected to 0V
LD-40F1NOE	NO ENTRY		Turns the sign off	Turns the whole sign solid red when connected to 0V
LD-40F1OBT	OBIT		Turns the sign off	Turns the whole sign solid magenta when connected to 0V
LD-40F1ONA	ON AIR		Turns the sign off	Turns the whole sign solid green when connected to 0V
LD-40F1PHN	PHONE		Turns the sign off	Turns the whole sign solid yellow when connected to 0V
LD-40F1REC	RECORD		Turns the sign off	Turns the whole sign solid red when connected to 0V
LD-40F1REH	REHEARSAL		Turns the sign off	Turns the whole sign solid blue when connected to 0V
LD-40F1SIL	SILENCE		Turns the sign off	Turns the whole sign solid red when connected to 0V
LD-40F1TRF	TRAFFIC FLAG		Turns the sign off	Turns the whole sign solid orange when connected to 0V
LD-40F2ONA-MCL	ON AIR	MIC LIVE	Turns the sign off	Turns the MIC LIVE segment solid red when connected to 0V
LD-40F2ONA-SIL	ON AIR	SILENCE	Turns the sign off	Turns the SILENCE segment solid orange when connected to 0V
LD-40F2TX-REH	TX	REH	Turns the sign off	Turns the REH segment solid blue when connected to 0V

Note: The sign can be set back to the factory default colours and illumination mode as follows: Enter the Programming Mode and press and hold the MODE (3) button for 10 seconds. The sign will now show the original colour(s) and mode(s).

Top Level Part Number	Input 2	Both Inputs
LD-20F1MCL	Turns the whole sign solid green when connected to 0V	Turns the sign off
LD-20F1ONA	Turns the whole sign solid red when connected to 0V	Turns the sign off
LD-20F1REC	Turns the whole sign solid green when connected to 0V	Turns the sign off
LD-40F1ADB	Turns the whole sign solid green when connected to 0V	Turns the sign off
LD-40F1DOR	Turns the whole sign solid red when connected to 0V	Turns the sign off
LD-40F1EXIT	Turns the whole sign solid red when connected to 0V	Turns the sign off
LD-40F1INT	Turns the whole sign solid green when connected to 0V	Turns the sign off
LD-40F1MCL	Turns the whole sign solid green when connected to 0V	Turns the sign off
LD-40F1MET	Turns the whole sign solid green when connected to 0V	Turns the sign off
LD-40F1NOE	Turns the whole sign solid green when connected to 0V	Turns the sign off
LD-40F1OBT	Turns the whole sign solid white when connected to 0V	Turns the sign off
LD-40F1ONA	Turns the whole sign solid red when connected to 0V	Turns the sign off
LD-40F1PHN	Turns the whole sign solid white when connected to 0V	Turns the sign off
LD-40F1REC	Turns the whole sign solid green when connected to 0V	Turns the sign off
LD-40F1REH	Turns the whole sign solid red when connected to 0V	Turns the sign off
LD-40F1SIL	Turns the whole sign solid orange when connected to 0V	Turns the sign off
LD-40F1TRF	Turns the whole sign solid green when connected to 0V	Turns the sign off
LD-40F2ONA-MCL	Turns the ON AIR segment solid green when connected to 0V	Turns the MIC LIVE segment solid red and the ON AIR segment solid green when connected to 0V
LD-40F2ONA-SIL	Turns the ON AIR segment solid red when connected to 0V	Turns the SILENCE segment solid orange and the ON AIR segment solid red when connected to 0V
LD-40F2TX-REH	Turns the TX segment solid red when connected to 0V	Alternates REH in solid blue, TX in solid red

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