External Radio Modules for SRH
ERM-2400 / ERM-900 SUP2.3

USER MANUAL

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Imprint

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Original version.

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Document revision history

<table>
<thead>
<tr>
<th>Version</th>
<th>Release</th>
<th>SUP</th>
<th>Date</th>
</tr>
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<tbody>
<tr>
<td>1.0</td>
<td>F07150</td>
<td>2.2</td>
<td>19.08.2019</td>
</tr>
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<td>1.1</td>
<td>F07150</td>
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Scope

This document describes the components and respective the setups of the
ERM-2400 Ext. Radio Module 2.4 GHz RXD-TXD, SRH Basic Set
ERM-900 Ext. Radio Module 900 MHz RXD-TXD, SRH Basic Set
by FoMa Systems.

Disclaimer

Before using the products described in this manual, be sure to read and understand all the
respective instructions.
Otherwise the customer must contact ARRI before using the product.
While ARRI endeavours to enhance the quality, reliability and safety of their products, customers
agree and acknowledge that the possibility of defects thereof cannot be eliminated entirely.
To minimize the risk of damage to property or injury (including death) to persons arising from defects
in the products, customers must incorporate sufficient safety measures in their work with the system
and heed the stated conditions of use.
ARRI or its subsidiaries do not assume any responsibility for losses incurred due to improper handling
or configuration of the product or other system components.
ARRI assumes no responsibility for any errors that may appear in this document.
The information is subject to change without NOTICE.

For product specification changes after this manual was published, refer to the latest published
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savings, lost revenues or economic loss of any kind or for any claim by a third party, downtime,
good-will, damage to or replacement of equipment or property, any cost or recovery of any material
or goods associated with the assembly or use of our products, or any other damages or injury of the
persons and so on or under any other legal theory. In the event that one or all of the foregoing clauses
are not allowed by applicable law, the fullest extent permissible clauses by applicable law are
validated.
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1 For your safety

⚠️ Warning

The ERM and SRH system and products should only be used by experienced and trained operators. This product is NOT intended for inexperienced users and should not be used without reading the manual or additional training. ARRI recommends that all users read the manual in its entirety prior to use.

1.1 How to use this manual

All directions are given from a camera operator’s point of view. For example, camera-right side refers to the right side of the camera when standing behind the camera and operating it in a normal fashion.

NOTICE

The product is solely and exclusively available for commercial customers and shall be used by skilled personnel only. Every user should be trained according to ARRI guidelines. Use the product only for the purpose described in this document. Always follow the valid instructions and system requirements for all equipment involved.

1.2 Strengthen your knowledge and get trained

The ARRI Academy courses provide unrivaled insights into the full possibilities of working with ARRI camera systems, camera stabilizer systems, lenses, lights and accessories. To learn more, please visit http://arri.com/academy.

1.1 Risk Levels and Alert Symbols

Safety warnings, safety alert symbols, and signal words in these instructions indicate different risk levels:

⚠️ DANGER

*DANGER* indicates an imminent hazardous situation which, if not avoided, *will result in* death or serious injury.

⚠️ Warning

*WARNING* indicates a potentially hazardous situation which, if not avoided, *may result in* death or serious injury.

⚠️ CAUTION

*CAUTION* indicates a potentially hazardous situation which, if not avoided, *may result in* minor or moderate injury.

NOTE

*NOTE* explains practices not related to physical injury. No safety alert symbol appears with this signal word.

NOTE

Provides additional information to clarify or simplify a procedure.
2 Functions

2.1 Functions front view

2.2 Functions back view
3 Introduction

### NOTICE

The external radio modules ERM-2400 and ERM-900 have been developed exclusively for use with the SRH-3 and SRH-360 remote heads. Any other use is not recommended and may damage the modules.

3.1 How It Works

### NOTICE

The ERM modules are already paired with each other. The modules can be used both as transmitters and receivers. Avoid mixing individual modules with other paired ERMs.

ERM-2400 for LCS and ERM-2400 for SRH are NOT compatible with one another.

4 Powering the remote control panel (RCP)

Ensure that the SRH remote control panel is powered with 12V.

### NOTICE

The SRH remote control panel must be externally supplied with 12 V in order to enable a wireless connection later.

Recommended power supplies:

- SRH-3 RCP ext. Power Supply Set Gold-Mount K0.0024195
- SRH-3 RCP ext. Power Supply Set V-Mount K0.0024196
- 12V Battery Power Cable, D-Tab, 4pin XLR K2.002142

5 Connecting the ERM

5.1 Connect the first ERM to the remote control panel (RCP)

Connect both plugs of the ERM Power Cable to the remote control panel. (FS CAN Bus & Aux 12V). Then connect a FS CAN Bus extension cable to the ERM Power Cable. Finally connect FS CAN Bus extension to the ERM.
5.2
Connect the second ERM to the remote head
Connect the FS CAN Bus Cable to the remote head and then to the ERM.

6. Positioning the ERMs

CAUTION
To exclude any health risk, the minimum distance between the ERM transmitter and the operator must be at least 1 m.

NOTE
To increase the transmission range, it is recommended to mount the transmitter on a stand or in some other way in an elevated position.

NOTE
Additional FS CAN Bus extension cables allow longer distances between the remote control panel and the transmitter.

6.1 Requested additional extensions cables:

- SRH FS CAN Bus Cable, 1m/3.2ft K2.0033762
- SRH-3, FS CAN Bus Cable, 10m/32.8ft K2.0019302
- SRH-3, FS CAN Bus Cable, 25m/82 ft K2.0019301
- SRH-3, FS CAN Bus Coupler, 0.2m/0.65ft K2.0019300
7 Pairing the ERMs

If paired ERMs has lost the connection and a restart did not help, the modules must be paired again.

After the first ERM had been attached to the RCP, press Menu to reach the Settings.

Press External Radio Configure, wait a short while and follow the advice.

Reconnect the first ERM one more time.

Now the first ERM had been detected and connected. In this case the ERM-2400. When ready, detach the first ERM.

Connect the second ERM.

Both ERMs are now ready for Plug & Play.
8 Technical Data

8.1 Pinout

<table>
<thead>
<tr>
<th>AUX Pwr 12V</th>
<th>LEMO ECG.08.302.CLN</th>
<th>F5-CAN</th>
<th>Fischer DGP 103 A053 - 140</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 = GND</td>
<td>2 = 12V</td>
<td>1 = GND</td>
<td></td>
</tr>
<tr>
<td>2 = 12V</td>
<td></td>
<td>2 = CAN1 L</td>
<td></td>
</tr>
<tr>
<td>3 = CAN2 H</td>
<td></td>
<td>3 = CAN2 H</td>
<td></td>
</tr>
<tr>
<td>4 = 12V OUT</td>
<td></td>
<td>4 = 12V OUT</td>
<td></td>
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</table>

8.2 ERM-2400 Specifications Electrical/General

- Supported Frequency: 2.400 - 2.4835 GHz
- Spreading Method: Frequency Hopping, DTS

8.3 ERM-900 Specifications Electrical/General

- Supported Frequency: 902 - 928 MHz
- Spreading Method: Frequency Hopping, DTS

8.4 Dimensions without antenna ERM-2400 / ERM-900

- Length: 11 cm / 4.33"
- Width: 9 cm / 3.54"
- Height: 4 cm / 1.57"

8.5 Weight

- 380 gr / 0.83 lb

8.6 Operating Temperature

- -40°C / -40°F to 85°C / 185°F
- Humidity: 5% to 95% non-condensing
8.7 Dimensional Drawings
9 Declarations of Conformity

9.1 Approval Information

The products offered by ARRI are approved for use in a number of countries. Product-specific information on approval can be found in the respective operating instruction manuals. Import and use in countries other than those mentioned in the respective operating instructions may be subject to legal, regulatory, or official requirements and regulations. Before the products are imported into these countries or used in these countries, compliance with the existing legal, regulatory, and administrative requirements and regulations must be ensured. It is the importer’s or the user’s responsibility, prior to importation or use, to inform themselves of the applicable legal, regulatory, and administrative requirements and regulations and to ensure compliance with these requirements and regulations, including applying for and obtaining any necessary approvals or registrations.

As far as reasonable and legally possible, ARRI will support requests in relation to such applications by providing technical documents or declarations. As an importer or user, you confirm that you are familiar with and comply with the legal, regulatory, and administrative requirements and regulations that apply in the countries to which you ship or use the products. You further confirm that you will arrange for any necessary registrations, enrolments, or authorisations that are required in such countries.

You release ARRI from all obligations resulting from any legislative, regulatory, or administrative requirements regarding import or use of the products, except in countries where ARRI has obtained a registration or certification. You agree to indemnify, defend, and hold ARRI harmless from any and all claims, damages, losses, liabilities, costs, and expenses (including reasonable fees of attorneys and other professionals) that may arise out of a demand on ARRI in connection with your obligations mentioned above.
Declaration of Conformity

Product Type: External Radiomodule
Brand Name: FoMaSystems
Product Name: FoMaSystems ERM-P2400
Address: FoMa Systems GmbH
Oskar-Sembach-Ring 11
D-91207 Lauf

The product complies with the requirements of the following European directives:

**2014/53/EU**


Compliance was proved by the application of the following standards:

- Draft ETSI EN 301 489-1:V2.2.0 (2017-03)
- Draft ETSI EN 301 489-17:V3.2.0 (2017-03)
- EN 300 328 V2.1.1

**2011/65/EU**


Compliance was proved by the application of the following standards:

- EN 50581 : 2012

Year of the first marking: 2019
9.3
FCC Statement / IC Statement

USA

ERM-2400 contains:  FCCID: NS9P2400
ERM-900   contains:  FCCID: NSN920X2

The ERM-2400 will be shipped with readjusted 0.1Watt transmission power to be complaint in all addressed markets.

<table>
<thead>
<tr>
<th>NOTICE</th>
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<tr>
<td>For USA and Canada the transmission power can be changed locally by the ARRI service to 1Watt transmission power.</td>
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<table>
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<tr>
<th>NOTICE</th>
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<tbody>
<tr>
<td>Therefore ERM-900 can only be ordered from ARRI Inc. in USA. Using the ERM-900 outside USA and Canada is illegal!</td>
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</tbody>
</table>

§15.19(a)
Operation is subject to the following two conditions:
(1) This device may not cause harmful interference, and
(2) this device must accept any interference received, including interference that may cause undesired operation.

Part 15 Clause 15.21
Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

<table>
<thead>
<tr>
<th>NOTICE</th>
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<tr>
<td>Make sure that you select the proper area you are operating the device in. All available region settings comply with Part 15 of the FCC rules.</td>
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</table>

Canada

ERM-2400 contains:  IC 3143A-14P2400
ERM-900   contains:  IC 3143A-N9020X2

This device complies with Industry Canada’s licence-exempt RSSs.
Operation is subject to the following two conditions:
(1) This device may not cause interference; and
(2) This device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d’Industrie Canada applicables aux appareils radio exempts de licence. L’exploitation est autorisée aux deux conditions suivantes : 1) l’appareil ne doit pas produire de brouillage; 2) l’appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d’en compromettre le fonctionnement.

9.4
Australia / New Zealand

9.5
Japan