mg

FEA (RRA)

Radio Reception and Analysis Unit

↗ Light signal system (LSS) activation control via serial interface

↗ Can be combined with different auxiliary assemblies such as analog / digital radio receivers, LED and relay modules

↗ Field strength determination and recording of radio telegrams

↗ Diverse assembly configurations in completely assembled 48.26cm (19'') module racks

↗ Detailed logging of the entire radio communication

↗ Support of project-specific telegram variants

↗ Function fully configurable via a PC

↗ PC interface for service and maintenance

↗ Overview

The Radio Reception and Analysis Unit (FEA) is used to communicate between the vehicle and light signal system (LSS).

It receives request telegrams via radio, selects the telegrams valid for the LSS and forwards them to the LSS control unit.

For this purpose FEA is responsible for incoming telegram filtering based on the intersection-specific configuration, as well as for functional monitoring of the connected radio receivers.

Radio Receiver
FEA(RRA)
LSS-Control Unit
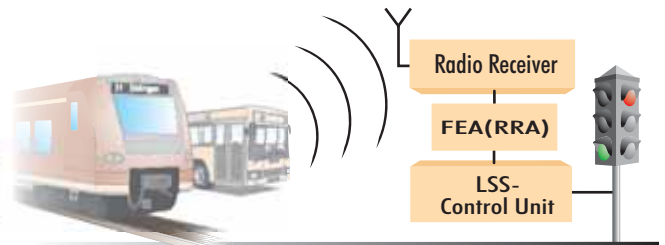
For its universal concept the FEA component can be combined with several different auxiliary assemblies.
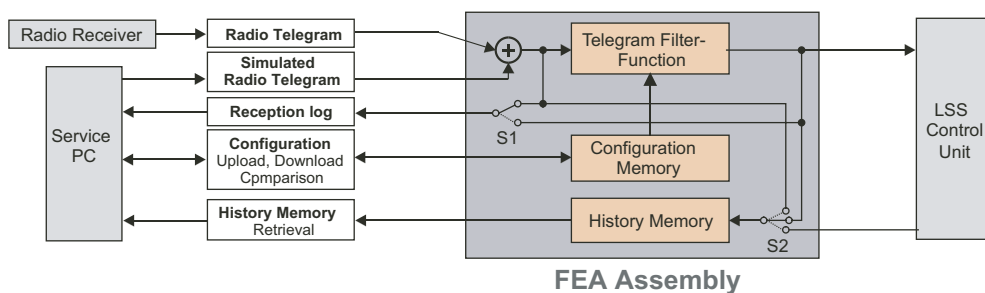
↗ Functionality

A request telegram transmitted by the vehicle is received by a radio receiver and forwarded to the FEA assembly.

Using a stored configuration the FEA can detect, select and process valid request telegrams. The configuration is loaded via PC interface. Supported by the PC service program FEA*Win* the FEA configuration can be checked and modified at any time.

Telegrams dedicated for controlling the connected LSS, are processed and transferred via a serial interface or relay contacts to the LSS control unit.

The detailed logging functions of the FEA support a multitude of retroactive analyses, which go far beyond pure LSS actuation.

Radio Receiver	Radio Telegram				
	Simulated Radio Telegram		Telegram Filter-Function		LSS Control Unit
Service PC	Reception log	S1			
	Configuration Upload, Download Cpmparison		Configuration Memory		
	History Memory Retrieval		History Memory	S2	

FEA Assembly

MG Industrieelektronik GmbH
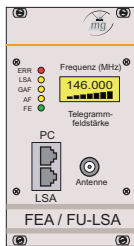
TECHNICAL INFORMATION

FEA (RRA)
Radio Reception and Analysis Unit

Analog radio reception

For reception of analog radio telegrams an analog radio receiver is connected to the FEA. It delivers a NF signal, which is demodulated in the FEA.


FEA / FU-LSA

As an alternative the FEA/AFU combination assembly is available. The assembly combines FEA and analog radio receivers.

Digital radio reception

Digital radio telegrams can be received using the connected digital RF transmission module. The digital RF transmission module is configured and telegrams are received using the FEA. Digital RF transmission modules can be integrated into a FEA module rack or can be externally connected:

- DRM1 and/or DRM2 (Digital Radio Modem) for TETRAPOL radio networks
- TRB (TETRA Radio Box) for TETRA radio networks
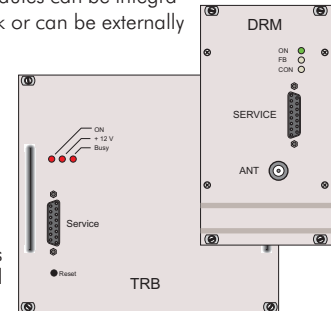
FEA and radio receivers are connected via a serial interface.

The FEA is capable to process request telegrams from analog and digital radio receivers at the same time. The LSS is connected via serial interface or a relay assembly. All common LSS control units are supported. The protocol used for data exchange depends on the LSS manufacturer and type, and can be adjusted via the PC service program FEA*Win*.

FEA*Win*

The PC service program FEAWin is used as comprehensive, Windows-based tool, which can be used to manage all FEA functions.

Using FEAWin simple and clear configurations can be generated and maintained for LSS control. The FEA history memory can be retrieved and analyzed using the Service PC. Comprehensive configuration simulations can be performed prior to their start-up.

The program user interface allows to graphically manage each operated FEA and all corresponding assemblies and radio receivers.

Technical data

Dimensions:	W31 x H129 x D189 mm (3 HE/6 TE)
Weight:	0,4 kg
Supply voltage:	5 V DC ± 2,5 %
Power consumption:	1 W
Operating temperature:	-20 °C ... +70 °C
Interfaces:	• LSS control units: RS232 / TTY • PC: RS232 • Analog radio receiver: 0 dBm / 600 Ohm • Digital radio receiver (TETRA / TETRAPOL): RS232

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