Newsletter - März 2015

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Delivery started in December 2014.
ZIMO System MX10 and MX32

*Delivery will restart in March 2015
after the elimination of some software errors.*

The **MX10** is the central unit of the ZIMO digital control system, in other words the "digital centre" or according to the traditional ZIMO name the "base station". In NMRA - terminology, it is a combination of "command control station" and "power station".

The base unit provides a stabilized, short-circuit proof driving voltage at the rails (ie, on each of the two rail outputs) and also transmits the control information for vehicles and accessories (formerly solenoids), optionally in the standardized DCC - Data format and / or in MOTOROLA data format (to control the factory-installed decoder in Marklin vehicles).

Via the sockets of the ZIMO CAN bus, the MX10 is connected with other devices from the ZIMO system: with the input devices (CABs) and the stationary setup modules ("StEin modules") or with the accessory and track section modules of the past generations of products.

Output **Track 1** - Driving voltage (adjustable in steps of 0.1 V) .... 10 to 24 V
- Maximum current (adjustable in steps of 0.1 A) ...... 0,5 - **12 A**
Output **Track 2** - Driving voltage (adjustable in steps of 0.1 V) .... 10 to 24 V
- Maximum current (adjustable in steps of 0.1 A) .... 0,5 - **8 A**

The MX32 and the radio version MX32FU are the main input devices for digital multi-train control by ZIMO.

Battery life in the non-wireless version..   15 min
Battery life in the wireless version (2200 mAh).. . ... 5 h
Dimensions .. 160 x 70 x 20 (front) up to 40 (back) mm

The special shape of the housing ("crooked" and lightly ascending towards the top) lends itself towards use either as a desktop unit or as a walk-around hand controller. The OLED touch screen with a diagonal of 2.4" and a resolution of 320 x 240 px is a prerequisite for the wide-ranging functionality and ease of use.

The MX32 has a complete set of "real" keys (plus sliders, scroll wheel and rocker button); the screen touch function is primarily to alter the presentation, later to switch points in the track layout, including sets of interlocked switches and signals.

To enable software update and the reloading of additional loco icons collections, operation languages, signal boxes, and to make this as simple as possible, a socket for USB sticks can be used with the downloaded ZIMO data file from the website.

2015:
the decoder prices will (probably) NOT increase!

ZIMO decoder prices are expected to remain unchanged this year. However, there is a currency risk, which could force adjustments during the year.

Like last year, this is possible because the sales figures of ZIMO decoders continued to grow and the consequent production in large quantities compensated for the rising labour costs.

ZIMO had no need to save on quality or functionality in order to keep the same prices. On the contrary, we are always trying to make improvements, including the ongoing series.

By the way: all ZIMO decoders (and of course all system products) are manufactured in-house in Vienna, i.e. assembled, soldered, assembled, wired, programmed and tested.

Interoperability between Roco Z21-Products and the new ZIMO System

The fact that the model railway manufacturers (i.e. Roco and Fleischmann) have ZIMO decoders (especially sound decoders) installed in their vehicles is well known. But also on the DCC system side, there is collaboration (although the Roco Central Z21 is NOT ZIMO, contrary to the rumours).

Roco Z21 Centre ←→ ZIMO MX32 Controller (CAB)

Recently, the Roco Z21 Control Centre and the ZIMO MX32 are able to communicate with each other; the usual ZIMO CAN bus cable (remote cable) is used at the socket "CAN" on the back of the Z21.

The operation of the remote MX32 is identical to during operation using ZIMO command stations; Driving, including RailCom® speed feedback, programming mode via Service Mode (on the programming track) and Ops (Operations) Mode (POM=Programming on the Main) works well.

Some restrictions exist however: only two ZIMO MX32 CABs can be connected directly to the Z21 (more with additional Power Supply), ZIMO cabs must be connected to the Z21 in cable mode, "GUI-transfers", which is the transfer of GUI elements from the MX32 such as function symbols, tachometer data, and loco images are only partially possible.

Certain operational possibilities, such as the exchange of data with concurrent Roco apps on the tablet or smartphone will work in future software versions.

ZIMO MX10 Control Centre ←→ Roco Apps for Smartphones und Tablets

According to a recent agreement between the Modelleisenbahn GmbH ZIMO Elektronik GmbH apps (manual control on the smartphone, and in particular the cab apps) can also be used together with ZIMO digital systems. However, currently (January 2015), the LAN interface of the MX10 (to which the wireless router would connect) is not in operation; the necessary software extension should be available soon.

In Development: DiMAX Navigator and ZIMO MX10 Digital Centre

The "DiMAX Navigator" manual control from the company Massoth Electronics can be used soon in the ZIMO MX10 system; by connecting to the XNET socket like the Roco Lokmaus. This is important for large scale modellers who want to take advantage of the performance of the ZIMO MX10, but do not want to give up the existing manual control.

## Imminent Growth for the ZIMO Sound Database: Roco Sound Projects

Until now (or in January 2015), the sound projects that were created by ZIMO for Roco and Fleischmann, or created in collaboration, are not present in the ZIMO Sound Database www.zimo.at, which in some situations (repairs, replacement decoder ...) was not very practical for users.

This is about to change. Apart from some special projects (with exclusive rights) the Roco Sound Projects will be available for download on the Sound Database page, probably in many cases in two versions: the original Roco version, with reduced number of function keys (with sound on / off with F1), and for the "ZIMO Advanced Standard" version (with sound on / off with F8).

Innovation (Project) 2015 - MX821 – 8-way servo decoder for turnouts, et al
Delivery planned for May or June 2015

This accessory decoder fills a gap in the ZIMO product line, which has arisen because the current accessory decoders MX820, (for about a year in sales) as opposed to the previous MX82, has no servo outputs (for numerous other "goodies").

The MX821 as a servo decoder does not have particularly small dimensions, unlike other accessory decoders (which are often installed in a turnout cabinet or in the ballast); therefore there is space for do not have particularly small dimensions he MX821 to offer comfortable screw terminals for connections and sockets for the usual servo plug:
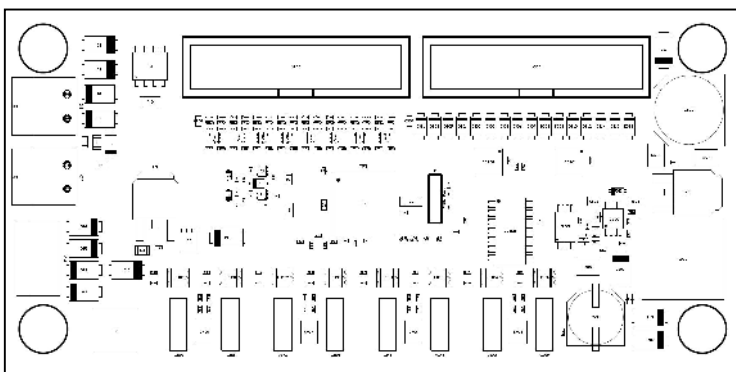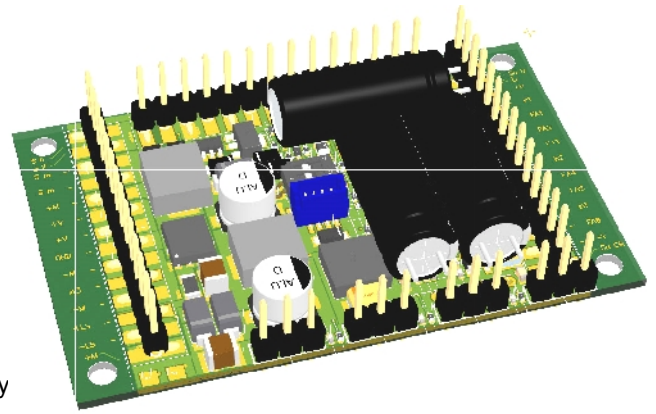
- 8 full servo sockets, all 3 poles each (5V supply, ground, control line), in the bottom row of the diagram.

- 16 inputs for passing contact swirches or latching switches (each of which can used to move a set of points to the desired position, eg to prevent slicing), in the top of the diagram.

- 16 outputs, different possible configurations, such as section signals, but in particular to connect relays suitable for frog switching, in the top left of the diagram.

   The MX821 can be controlled conventionally via accessory addresses, or using object-oriented methods along the lines of StEin module (for details, see the description of the StEin module later on page 4).

MX699 – Large Scale Sound Decoder –
the new flagship of the Large Scale Decoders
Delivery planned for 2015.

The MX699 even surpasses the already very high standard of the previous flagship product - MX695:

+ The MX699 includes three Supercaps (formerly called "goldcaps") each with 3.3 F on-board, representing an effective energy storage for passing over dirty or non-current-carrying rails together uninterrupted sound at full volume, for 1 5 sec, depending on consumption, .. AND. If required, virtually any size energy storage can also be connected externally

+ Two fan outputs (MX695 series has "only" one) allowing independent operation of two pulse smoke generators (suitable for very inexpensive types, with no need to use any other electronics).

+ The "V" type now have **15 function outputs** (MX695 series has "only" 14), and, as in the prior MX695V, 4 additional servo connections (complete with 5V supply); the latter now also come with the "S" type.

+ The **adjustable low voltage** function is not smoothly adjusted with the MX699LV and MX699KV, but precisely defined in steps, and by coding ("Mouse Piano") can be selected: 1.5V - 6.5V - 14V - 19V; in addition there are the fixed voltage 5 V and 10 V (also with the "S" type).

+ The MX699LS and MX699LV variants are suitable for immediate use in the new 2 x 14 - pin Märklin LGB interface (they have pins for the SUSI-like train-bus directly on the header).

At time of publication, but there is no picture of the MX699; therefore, here is the construction drawing from the PCB layout program.

Otherwise, the properties of the MX699 are very similar to the MX695. There are the similar types, each via

Screw (-K) and Pin Headers (-L) can be used as connections;

fully-equipped with
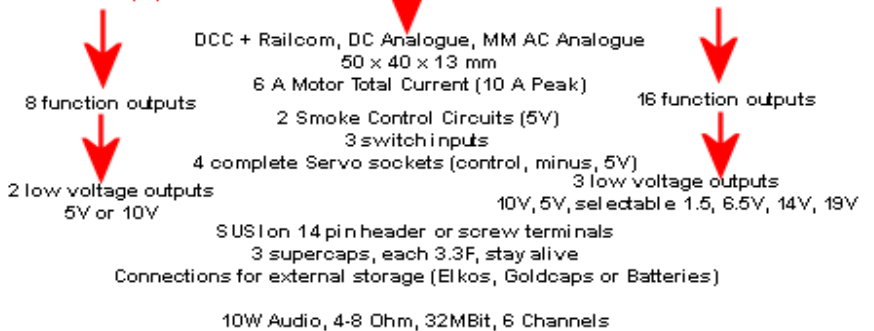15 function outputs and an adjustable low-voltage (V-type) or

reduced specification with
8 function outputs (S-type);

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MX699KS, MX699LS
reduced equipment

General Properties

MX699KV, MX699LV
full equipment

DCC + Railcom, DC Analogue, MM AC Analogue
50 x 40 x 13 mm
6 A Motor Total Current (10 A Peak)
2 Smoke Control Circuits (5V)
3 switch inputs
4 complete Servo sockets (control, minus, 5V)
SUSI on 14 pin header or screw terminals
3 supercaps, each 3.3F, stay alive
Connections for external storage (Elkos, Goldcaps or Batteries)
10W Audio, 4-8 Ohm, 32MBit, 6 Channels

8 function outputs

2 low voltage outputs
5V or 10V

16 function outputs

3 low voltage outputs
10V, 5V, selectable 1.5, 6.5V, 14V, 19V

BUCHS8KAB – 8-pin socket with cables for NEM 652 interface

A small accessorie ... for vehicles without the NEM 652 socket that will use a decoder, but the requirement is for the decoder to be easily replaceable and not soldered directly.

In such cases, the BUCHS8KAB can be used: 5 to 8 wires are wired (soldered) into the locomotive; then an "R" decoder, so e.g. MX622R, MX630R, MX633R, MX645R, etc. is inserted.

This is easier than retrofitting a locomotive with (for example) a PluX socket (16- or 22-pin). However, the 8-pin NEM 652 has limited function outputs – track (2) motor (2), front / rear running lights (2), one function output and common return for lights.

LS2040V – 4 ohm bass reflex speaker flatter and now optimized for sound

The new dimensions of the LS2040V: **58 x 22 x 9 mm** (previously 52 x 18 x 15 mm) and the 8 Ohm type (LS2040B) and 4 Ohm type (LS2040V) have the same dimensions.

Despite the much flatter shape (height 9 mm instead of 15 mm), the frequency response has been improved for the low notes (the actual speaker has become slightly larger).

The LS2040V is suitable for all ZIMO sound decoders with an audio output of up to 3 watts, so for all types of the MX644 and MX645 families.

Project StEin – New Circuit Board for the Stationary Devices Module

One of the major development projects that are currently in progress at ZIMO, the Stationary Devices Module "StEin", which will control and interpret all stationary components (switches, signals, feedback from the track as occupied and RailCom®).

Eine Prototypenserie (10 Stück) laut dem Bild wurde für die bisherigen Arbeiten verwendet; und daraus wurden auch die notwendigen Erkenntnisse für die Gestaltung der endgültigen Platine gewonnen.

The (probably final) layout for this board was completed in December 2014; in the picture below is one of the new prototypes based on this design (the exact connections will change slightly before production):
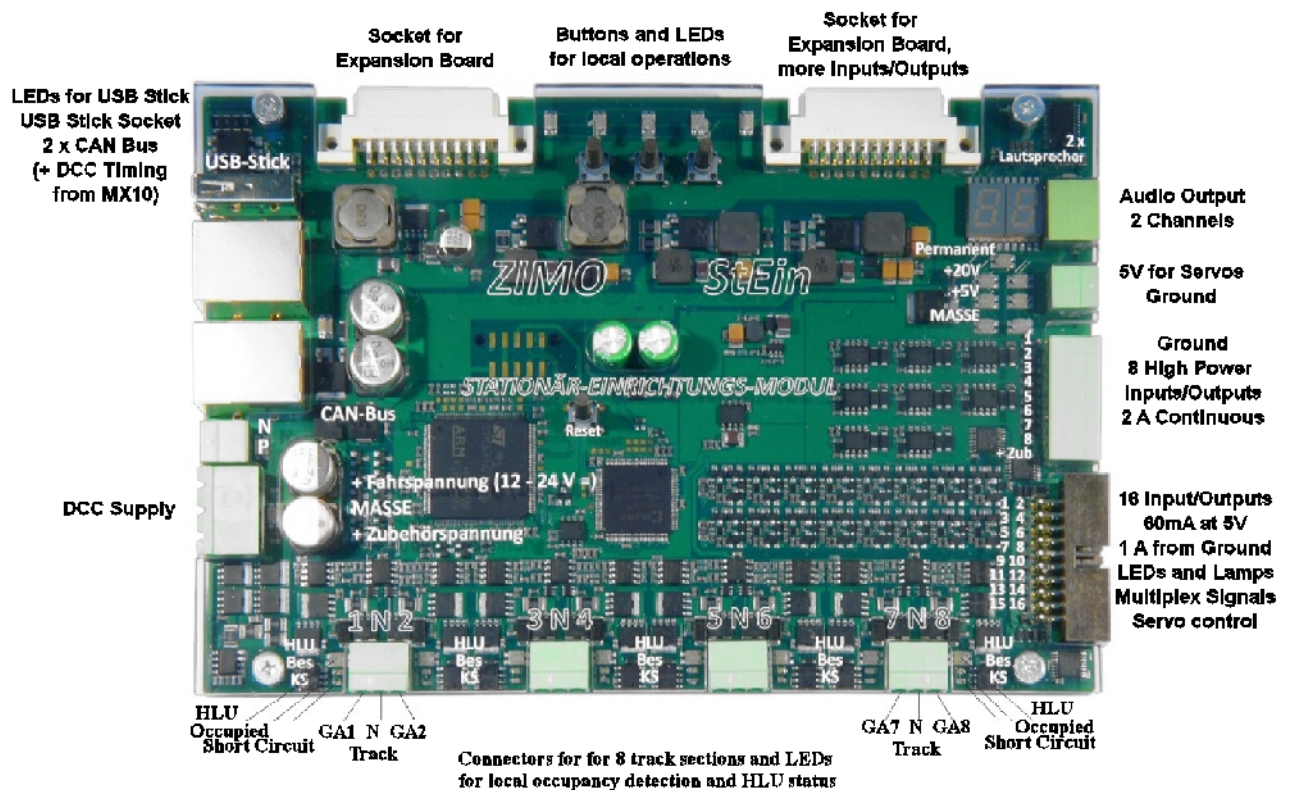
ESTWGJ-V.7 New Release Preview   *Release Date: First Half of 2015*

- New control desk system for model trains using the Swiss model. All control table functions from the colored buttons rings to the Insulating marks are editable and prototypically implemented..

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- Enhancements to the existing four table fields by more table field types, and a host of new features.
- Realistic train porotection signals.
- Improved and automated editing in the driving mode, only start and end section have to be entered. The appropriate route is searched and selected automatically.
- ZIMO system: full control of the new MX10 digital center via USB interface.
- New virtual decoder to control light signal decoders of the company Q-Decoder.
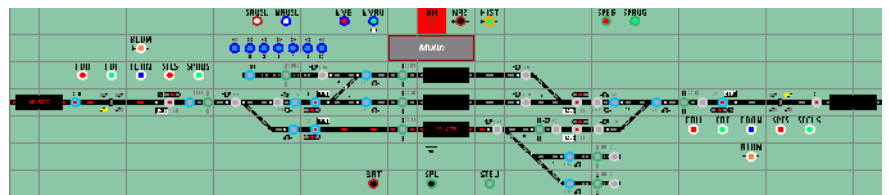
The Professional App for Railway Modellers

New Release 2015:

Use as a controller for: MX10 and MXULF
Use for ABA (=AOS, Automated Operating Sequences) control for MX1 and MX10
Using a Raspberry as a communication device for Wi-Fi and Bluetooth devices to connect to the control center.
Integration of signals in the track plan
Acquisition of MX9 messages into the track plan (later using the StEin module)
Revision of the decoder programming