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**control 80 f**

**6036**

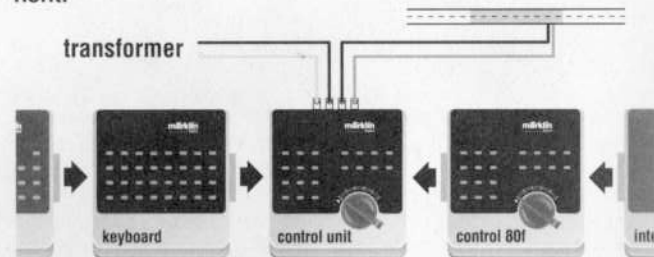
## 1. Connecting additional Digital locomotive controllers

Locomotive controllers and accessory controllers are combined under the general heading "Digital controllers". The CONTROL UNIT is equipped with plug connectors on either side for additional Digital controllers.



**Always disconnect the TRANSFORMER from the household current before connecting or removing any Digital component.**

Connecting additional Digital controllers



Digital locomotive controllers on the right

Additional Digital locomotive controllers must always be plugged into the connector on the *right-hand side* of the CONTROL UNIT. Digital locomotive controllers include: CONTROL 80 F, CONTROL 80, INFRA CONTROL and INTERFACE. The maximum possible configuration includes 9 additional locomotive controllers (including INTERFACE).

Digital accessory controllers on the left

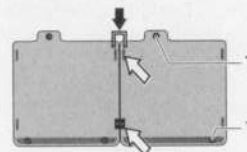
Additional Digital accessory controllers, on the other hand, must always be plugged into the connector on the *left-hand side* of the CONTROL UNIT. Digital accessory controllers include: KEYBOARD, SWITCHBOARD and MEMORY. The maximum possible configuration includes 16 KEYBOARDS/SWITCHBOARDS and 4 MEMORYs.

Note

If the configuration of your layout includes a large number of Digital controllers, the CONTROL UNIT should be exclusively used to supply power to the controllers. In this case locomotives and solenoid accessories must receive their power from one or several BOOSTERS.

Securing plug-in connections

- Fit the plastic clips supplied with the components into the recesses on the bottom of the units.
- If necessary, also mount the components onto a baseplate with screws (using the holes provided for this, item 1).



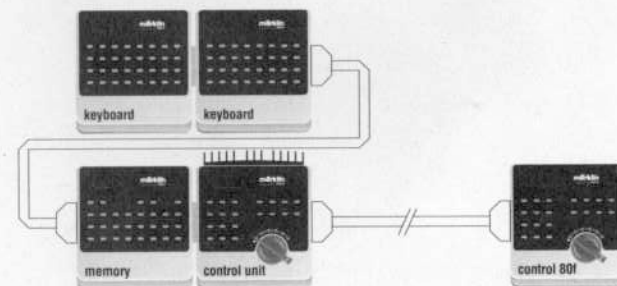
Using interconnecting cables

Digital controllers may also be located a certain distance away from the CONTROL UNIT if interconnecting cables are used. This may be an advantage if, for example, a large layout is to be controlled from different stations. Interconnecting wires between the Digital controllers: ADAPTER 60 (No. 6039): 60 cm (23-1/2") long. ADAPTER 180 (No. 6038): 180 cm (71") long. The total length of all interconnecting wires should not exceed 6 m (20 feet).



The layout of the components shown below (locomotive controllers always on the right of the CONTROL UNIT and accessory controllers always on the left) must always be maintained, even if interconnecting cables are used. Non-compliance with this rule may cause damage to the incorrectly connected components.

Correct use of interconnecting cables



## 2. Controlling Digital locomotives from the locomotive controller

### 2.1 Addressing a locomotive

Prerequisite

The LED above the "L" on the locomotive controller is illuminated (the LED above the "F" button may also light up).

Enter the locomotive address



Display starts flashing

→ Enter the two digits for the address of the locomotive in question (between 01 and 80), for example "08".



- The address must light up continuously on the LED display.
- Control the speed of the train with the speed control knob.

If the displayed address starts flashing, the system is unable to control the locomotive.

- The programmed address was outside the range of 01 to 80 or
- the programmed address has already been selected by another locomotive controller (or the INTERFACE).

### 2.2 Reversing direction

→ Turn the speed control knob to the left, beyond the zero position, until you hear a gentle "click" in the locomotive controller (not in the locomotive).



### 2.3 Activating the auxiliary function

Virtually all Digital locomotives are equipped with an auxiliary function which can be switched on or off from the locomotive controller. The "function" LED on the locomotive controller remains illuminated as long as the auxiliary function is active.

Function

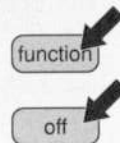


The auxiliary function varies according to the type of locomotive, example: headlights, TELEX coupler or smoke. Refer to the operating instructions for your locomotive for information concerning its auxiliary function.

Continuous contact

To activate: press the "function" button.

To deactivate: press the "off" button.

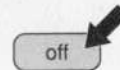


Momentary contact

To activate the auxiliary function briefly (example: for the TELEX coupler):

To activate: press the "off" button.

To deactivate: release the "off" button.



### 2.4 Addressing other locomotives from the same locomotive controller

Several locomotives can be controlled from one locomotive controller at the same time. For this:

- Enter the address for the 1st locomotive.
- Use the speed control knob to set the speed for the 1st locomotive.
- Enter the address for the 2nd locomotive. (The 1st locomotive continues running in the previously set direction at the previously set speed.)
- Use the speed control knob to set the speed for the 2nd locomotive, etc.

### 2.5 Taking over a moving locomotive at a locomotive controller

- Enter the 1st digit of the address for the moving locomotive.
- Set the speed control knob to approximately the speed at which the locomotive is travelling. (The auxiliary function is automatically retained when the locomotive is taken over.)
- Enter the 2nd digit of the address: the locomotive can be controlled from the new locomotive controller as soon as the address lights up constantly on the display.

### 2.6 Operation with several locomotive controllers

A locomotive can only be addressed from one locomotive controller at any one time. If the same locomotive address is entered at another locomotive controller, the address will start flashing. The locomotive remains under the control of the first locomotive controller. This also applies to the INTERFACE (also refer to Chapter 5.8).

Releasing a locomotive

A locomotive can only be controlled from another locomotive controller after a different locomotive address has been entered into the first locomotive controller.

### 3. Suspending and resuming operation

Suspending operation



→ Press the "stop" button.

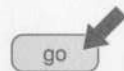
- This interrupts the output voltage to the track and the LED pilot light on the CONTROL UNIT goes out.
- All trains come to a halt (without allowing for any braking delays that may have been programmed).
- The power supply to the Digital controllers is maintained. The direction, speed and auxiliary functions of all locomotives are stored in the memory.



Resuming operation

→ Press the "go" button.

- All locomotives start moving again at their previously set speeds.



Note

The speeds of one or more locomotives may be changed to avoid a collision, for example, while the "stop" command is in effect. To do this:

- Enter the address of the 1st locomotive, use the speed control knob to alter the speed.
- Enter the address of the 2nd locomotive, alter the speed, etc. The commands are only forwarded to the track when the "go" button has been pressed. It is therefore possible that the locomotives continue to travel for a few inches at their original speed before the new settings are adopted.

### 4. Controlling functional models

What are functional models?

Some Märklin models contain built-in function decoders. A decoder of this type can be used to activate and deactivate various functions, example: motors, lighting etc. The vista dome car 4999 (no longer available) and the Digital slewing crane 7651 are examples of such functional models.

Function decoder addresses

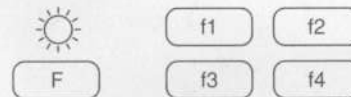
Like the locomotive decoders, each function decoder is assigned a digital address. Please refer to the respective operating instructions for information concerning the programming of the function decoder in your functional model.

Selecting a function decoder

Basically, the addresses of function decoders and locomotive decoders can be selected fully independent of one another. The two addresses are set equal when the CONTROL UNIT is switched on. This is indicated by the fact that the two LEDs above the "L" (locomotive decoder) and "F" (function decoder) light up together. When a locomotive address is entered, this is also the address of the function decoder.

Buttons for functional models

Buttons "F", "f1", "f2", "f3" and "f4" are used to control the function decoders. (This is independent of the locomotive's auxiliary function controlled with the "function" and "off" buttons, refer to Chapter 5.3.3).



Activating functions

Press one of buttons "f1" to "f4". The associated LED lights up when a function has been selected.

Independent selection of a function decoder address



- Press the "F" button.
- You may continue to control the previously selected locomotive (speed and auxiliary function).
- Enter the two-digit function decoder address.

Example:



- Activate the required function.

Independent selection of a locomotive address



- Press the "L" button.
- The previously selected function remains active.
- Enter the new locomotive address.

Example:



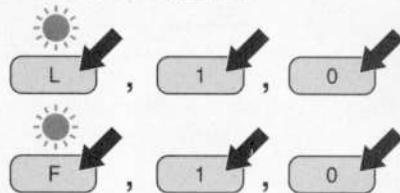
- Control the locomotive.

Setting locomotive and function decoder addresses equal



- Press the "F" button.
- Enter the function decoder address.
- Press the "L" button.
- Enter the same locomotive address.

Example:



- The two LEDs above the "L" and "F" buttons light up together. All subsequently entered addresses apply to both locomotive and function decoders.

Example  
Vista dome car

The vista dome car has been programmed with function decoder address "10". If this car is part of a multiple-unit train, the most convenient solution is to assign the address "10" to the locomotive of this train as well.

All you need to do now is to enter the address "10" to enable direct control of the train and the functions of the vista dome car.

Vista dome car



If the locomotive and function decoder addresses are different, you will have to program the addresses separately under "L" and "F" as described on the previous page. You will then be able to control the selected locomotive and activate/deactivate the functions of the selected function decoder.

The functions of the vista dome car can be controlled with buttons "f1" to "f4":

- f1 on, f2 off: waiter moves forwards
- f1 off, f2 on: waiter moves backwards
- f1 on, f2 on: waiter stops moving
- f1 off, f2 off: waiter stops moving
- f3 on/off: table lighting on/off
- f4 on/off: interior lighting on/off

Example  
Digital rotary crane

The digital rotary crane is a special functional model: it contains a locomotive decoder *and* a function decoder, both set to the same address (programmable). No other locomotive should therefore be assigned the same address.

Controlling the rotary crane

Both LEDs above "L" and "F" **must** light up together to operate the rotary crane.  
(If not: refer to the section "Setting locomotive and function decoder addresses equal" on the previous page.)





- Enter the address for the rotary crane on the locomotive controller.
- Select one of the two motors with button "f1" or "f2",
- then use the speed control knob to control the speed and direction of travel for this motor.

f1 on, f2 off: to activate the rotary motor  
 f1 off, f2 on: to activate the lifting motor  
 f1 on, f2 on: both motors off  
 function/off: to activate/deactivate the electromagnet

## FCC NOTICE

This device complies with Part 15 of the FCC Rules. 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.

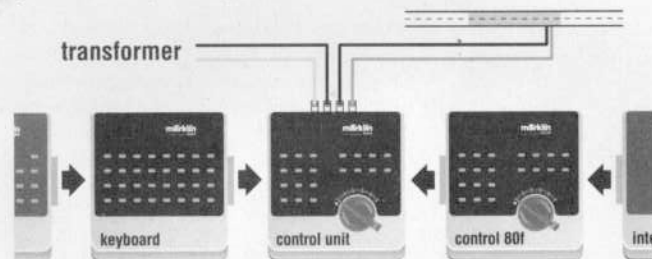
## 1. Branchement d'autres pupitres de commande Digital

Le terme générique de "pupitres de commande Digital" englobe les pupitres Digital de commande locomotives et les pupitres de commande Digital des articles magnétiques. La CONTROL UNIT possède sur le côté gauche et droit des connecteurs pour d'autres pupitres de commande Digital.



**Avant de brancher ou de débrancher un appareil Digital quel qu'il soit, couper toujours le TRANSFORMER du secteur!**

Branchement  
d'autres pupitres  
de commande Digital



Pupitres de commande locomotives à droite

Les pupitres Digital de commande locomotives supplémentaires doivent toujours être branchés du *côté droit* de la CONTROL UNIT. Les pupitres Digital de commande locomotives comprennent: CONTROL 80 F, CONTROL 80, INFRA CONTROL et INTERFACE. 9 pupitres de commande locomotives supplémentaires sont possibles au maximum (y compris l'INTERFACE).

Pupitres de commande des articles magnétiques à gauche

Les pupitres de commande Digital des articles magnétiques par contre doivent toujours être branchés du *côté gauche* de la CONTROL UNIT. Les pupitres de commande des articles magnétiques comprennent: KEYBOARD, SWITCHBOARD et MEMORY. 16 KEYBOARD/SWITCHBOARD ainsi que 4 MEMORY sont possibles au maximum.

Remarque

Si vous utilisez de nombreux pupitres de commande Digital supplémentaires dans votre réseau, la CONTROL UNIT doit alimenter exclusivement les pupitres de commande. L'alimentation électrique des locomotives et des articles magnétiques doit alors être assurée par un ou plusieurs BOOSTER.