

Multifunctional Display MFD G2

On-board information – colored, animated, up-to-the minute



In our information age, bus and train passengers expect up-to-the-minute and comprehensive information on routes, transfers, and schedule deviations. The latest Trapeze ITS Multifunctional Displays visualize this information and are an eye-catcher in any vehicle.

A wide variety of up-to-the-minute information greatly enhances the popularity of public urban transportation. The elegantly styled and versatile MFD G2 Multifunctional Display enables the control center at all times to inform commuters and passengers not familiar with the local conditions about the current status of operations. Especially the information provided on transfers offers passengers valuable recommendations for their onward trips. In the event of trouble or delays, the departure times will be continuously updated.

———— **Here are some examples of passenger information:**

Route: In addition to the current location, the next stops and the final destination are displayed. As an option, it is possible to display the entire route as a line route.

Traveling times: Passengers know how long their trips are likely to take.

Transfer information: This allows passengers to transfer easily to other means of transportation.

Transfer times: The next connection times of buses, tramways, or railways make it easier for passengers to continue their journeys.

State-of-the-art operations control systems supply the data by wireless communications to the IBISplus on-board computer inside the vehicle. This computer processes the information and transmits it to the MFD. The MFDs are capable of processing large volumes of data and of displaying the information in colors, with a high resolution, and in an animated form. As single or dual displays, they also blend smoothly with our operations control system and supplement the other components for providing dynamic passenger information before and during trips.

In addition, the new MFDs also open up possibilities for partnering with outside companies, for example in the tourism or advertising sector.

Numerous benefits of the Multifunctional Display are produced also for transport companies which have not yet installed any IBISplus on-board computers in their vehicles.

The optional vehicle bus link allows easy integration of the component in such vehicles.

Various display screen layouts supply uninterrupted information on those items which are important to passengers. Here are some examples:

———— **Route**

The route is the most important source of information for passengers. It shows them on which line they are traveling, where the vehicle is located at any given moment, in what direction it is traveling, and what stops will be the next. In addition, time-related information enables passengers to adjust to the remaining length of their journeys before they reach their destinations.

Multifunctional Display MFD G2

Connection display

This display provides information on possible connections at the next stops. In addition to the public transport authority's own transfers, it is also possible to display connections of outside companies. Beside the departure time and departure position, the display also shows current information on delays, cancellations etc. This differentiates the MFD G2 from displays supplied by other manufacturers.

Passenger information

This information panel draws passengers' attention once or more to special situations (accidents, change of route, construction sites).

Targeted place- or time-related information

A new, trend-setting possibility allows the display of highly targeted information on tourist attractions or local services.

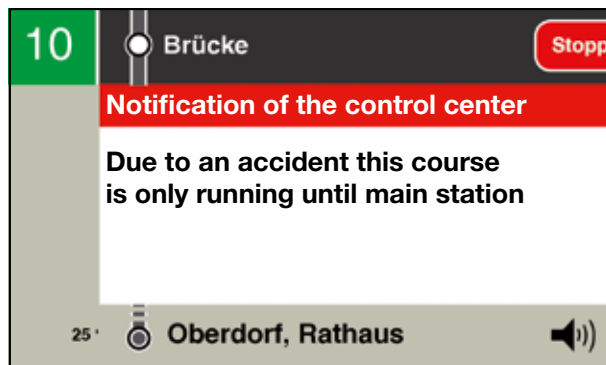
Advertising images or videos

On-board advertising using MFD enables operators to generate additional income.

These messages are displayed alternately with the passenger information. However, priorities are defined to ensure that important passenger information will always take precedence over advertising content. If a dual display is available, advertising may also be displayed concurrently with the route-related information.



Route display



Passenger information

| | | Gleis/ Kante | Information |
|-------|------|----------------|--------------|
| 14:01 | U 68 | Dottendorf 2 | wartet |
| 14:02 | 1 | Stadtstrasse - | o.k. |
| 14:05 | 12 | Höhrenberg - | fällt aus |
| 14:12 | 5 | Uferstrasse - | 2' verspätet |
| 14:15 | 55 | Park - | o.k. |
| 14:17 | U 75 | Uni-Kliniken 1 | knapp |
| 14:22 | 66 | Rheinaue - | o.k. |
| 14:27 | U 88 | Karlsplatz 3 | o.k. |

Transfer display



Advertising (e.g. transport authority's own advertising)

Multifunctional Display MFD G2

Sizes and designs

The Multifunctional Displays are available as flat panels in different sizes for single or dual mounting. Their high-grade construction allows them to be used in rough environments. They will work reliably even when exposed to high stressing. Maintenance requirements are minimal for public transport authorities.

Master – slave

If several displays are installed in a single vehicle, a Multifunctional Display containing a central processor unit (CPU) may act as the master and the other displays as slaves. This allows different contents to be displayed on the master and the slaves.



15.6" and 19" versions



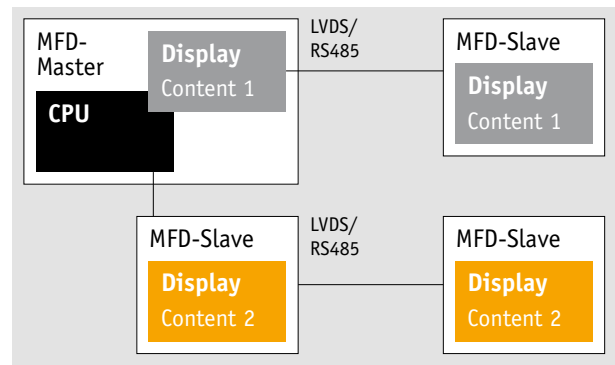
Dual mounting

Installation

Different mounting variants are possible: directly underneath the vehicle roof, embedded in interior paneling, or attached to support bars.

Highlights at a glance

- Up-to-the-minute passenger information
- Display of transfers with status information
- Event reporting almost in real time
- Single-source supply: minimized maintenance and operating cost for public transport authorities, optimized data loading
- Fully integrated in the operations control system
- Master and slave can if required display different contents
- Advertising contents and video films
- Ethernet and vehicle bus interface, integrated Ethernet switch



Sample configuration



Ceiling mounting example

Multifunctional Display MFD G2

PRODUCT FEATURES/TECHNICAL DATA

- Attractive styling
- Bright display and excellent visual characteristics
- Automatic brightness adjustment
- Display sizes: 15.6", 19" wide display
- Several slave displays can be connected to one master
- Display can be switched on and off through the software
- Heating and temperature monitoring to protect the displays
- Life cycle of the backlight: approx. 50,000 hours
- Monitoring and logging of: activation/deactivation, temperature, brightness (lighting current), and input voltage

Master

- Central processor unit (CPU)
 - Celeron M ULV 1 GHz or better
 - 1024 MB RAM
 - 8 GB Flash
- Two independent video channels
- Integrated Ethernet switch

Display 15.6"

- Diagonal 15.6"
- Resolution 1366 × 768
- Brightness 300 cd/m²
- Contrast 500:1

Display 19"

- Diagonal 19"
- Resolution 1440 × 900
- Brightness 300 cd/m²
- Contrast 800:1

Interfaces of master

- 2× Ethernet 100 Mbits/s
- VDV vehicle bus to VDV300
- 3× LVDS/RS485 output

Interfaces of slave

- 1× LVDS/RS485 input
- 1× LVDS/RS485 output

Dimensions and weights 15.6"

Master

- Dimensions 402 × 250 × 92 mm
- Weight approx. 5.5 kg

Slave

- Dimensions 402 × 250 × 74 mm
- Weight approx. 4.5 kg

Dimensions and weights 19"

Master

- Dimensions 481 × 315 × 97 mm
- Weight approx. 8 kg

Slave

- Dimensions 481 × 315 × 71 mm
- Weight approx. 7 kg

Environmental specifications

- Storage temperature: -20 °C to +60 °C
- Operating temperature: 0 °C to +50 °C
- Vibration: EN61373
- Rail applications EN50155, electronic equipment on board rail vehicles
- Humidity according to VDV 410: up to 90%, no condensation
- RoHS conform

EMC conformity

- CE guidelines 2005/108/EC
- e1 guidelines 2006/28/EC