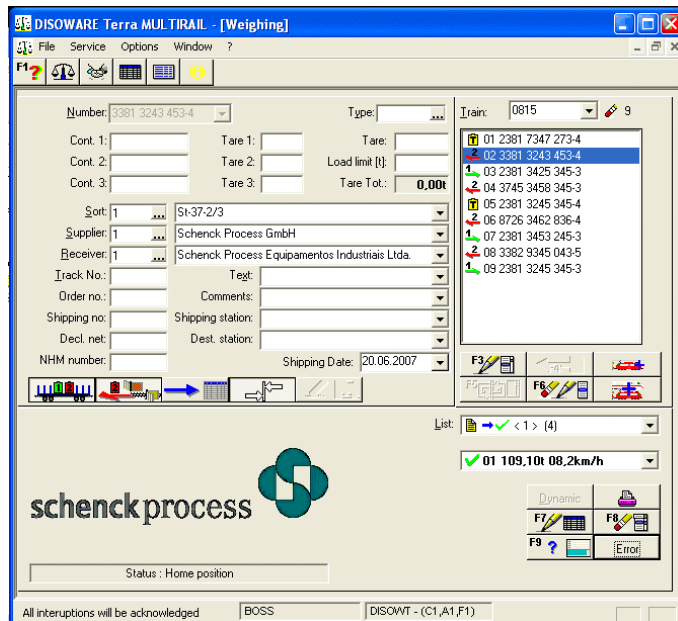


## DISOWARE Terra – The Data Management System for Rail Weighbridges



(Fig. 1)

- Convenient data management on standard Windows PCs
- Network-compatible in a server – client database environment
- Multilingual operator prompting
- Wagon identification via RFID long range tag reader
- Fully automatic mode possible
- Data acquisition and remote control in WLAN using hand-held terminal
- Flexible connection to user's EDP systems

### Application

The DISOWARE Terra software is designed as data management system for MULTIRAIL® and MULTIBRIDGE rail weighbridges of Schenck Process.

Used for control and direct communication with the connected rail weighbridge, this software lets you process your weigh data with utmost ease and interface any EDP system available in your plant.

The use of an SQL database ensures maximum data safety both with single user systems and in the network of a multi-user environment.

### Functions

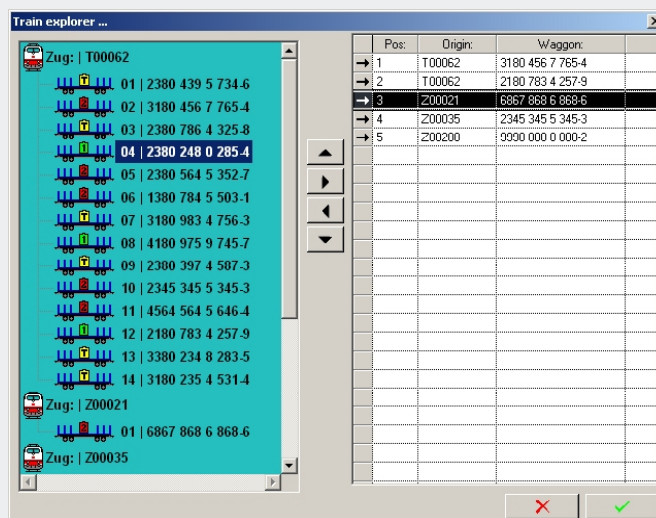
DISOWARE Terra comes with a host of functions, processes and options for utilisation of your weigh data.

- Control of connected dynamic or static rail weighbridge
- Easy acquisition, display, edit, evaluation, export, import, print, delete, and search of weigh data
- Flexible evaluation tools for individual configuration of database queries
- Master data tables for wagons, suppliers, receivers, material types and comments
- User management with multiple access privileges
- Data safety through integrated mechanisms for saving and restoring of database
- Remote control of weighing operation through user's EDP systems
- Fully automatic mode with no need for operator intervention
- Integrated wagon identification with the use of RFID tags and appertaining long range tag reader system (< 10m reach)
- Integrated wagon monitoring system for evaluation of wheel and axle loads using defined limit values
- Remote maintenance and update options for complete software
- Automatic recognition of first and second weighing with subsequent NET weight computation
- Data acquisition and remote control of scale in WLAN using rugged industrial hand-held terminal
- Empty-state check weighing with automatic update of TARE weight in wagon master file

## Weighing Mode

Fig. 1 depicts the DISOWARE Terra main window that readies all functions required for easy handling of connected scale and acquired weigh data.

- Convenient acquisition of train data complete with
  - Wagon number, including check number check
  - Material, supplier, receiver, comments
  - Up to 3 containers with declared tare
  - Order, shipper and track numbers, NHM code
  - Input of first, second or tare weighing for each single wagon
- Convenient editing of acquired train lists:
  - Wagon arrangement, weighing mode and all assigned data
  - Train explorer (Fig. 2) for convenient assembly of new train from existing data by mouse click



(Fig 2)

- Fast-track acquisition function for trains with wagons containing same load for same receiver
- Dynamic and static weighing control functions; data acquisition possible during weighing
- Train weighing before acquisition of train data. Acquired train data can be assigned also after weighing.
- To save input time, wagons to be left out can be marked after weighing (no data acquired).
- Trains can be weighed partially and comprised to form a new train at a later time.

- Acquired weight is stored in wagon file complete with data, so that empty weight can be checked.

## DISOWARE Terra Modules

The functions of the various modules partially depends on available hardware.

- During weighing, the **wagon monitoring function** checks speed, highest wagon axle load, wagon side and front/rear ratios using defined limit values. Any excess is output on report monitor, reported via digital output and can be printed in form of an error report (Fig. 3). Weigh data are assigned to acquired train data, so that load limit can be checked for compliance with limit value from wagon file, reported and printed .

Fault protocol load distribution

Train No: 888888  
 Date: 07.05.2007  
 Time: 14:14:24  
 Average speed: 7,21km/h  
 Number of axes of the train: 36

Allowable deviation Left / Right Min -5,0 % Max: 5,0 %  
 Allowable deviation Front/Rear Min -5,0 % Max: 5,0 %

Pos: Scale Axles Date / Time / Running No. Decl. tare Gross Net

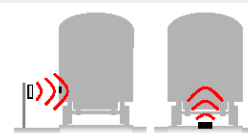
Pos:	Scale	Axles	Date / Time / Running No.	Decl. tare	Gross	Net	
1	3181 663 6077-2	4	07.05.2007 14:14:24	1522	0,00tH	77,35tW	2,30tE

Allowable axle load Min Max:  
 Greatest axle load 0,00 tE  
 Ratio Front/Rear 0,89  
 Ratio Left/Right 0,93

Pos: 1 Load distribution Front/Rear by 11,00% too low!  
 Pos: 1 Load distribution Left/Right by 7,00% too low!

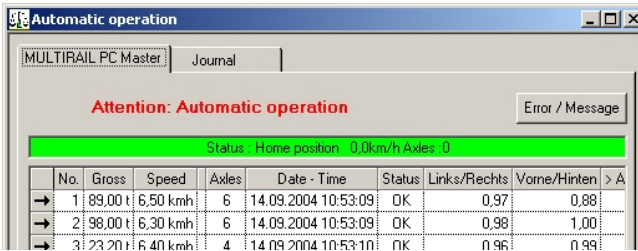
(Fig. 3)

- The **wagon identification** function comprises one or multiple long range RFID tag reader system(s) and a semi-passive tag attached to every wagon (see Fig. 4). Using the ID stored in the RFID tag wagon data are read from master data, train is automatically formed, and train list with wagon number is printed and stored.



(Fig. 4)

- The **DISPO** EDP connection readies an interface based on the exchange of ASCII files. DISOWARE Terra uses supplied file to form the train list that can be completed by the operator. After weighing, software assigns weigh data, prints train list and writes result file.
- The **DEBIS** EDP connection enables complete control of scale including feedback of weigh data via serial interface (Fig. 5). The protocol offers freedom of adaption; standard S3964R is also realised. No PC intervention is necessary.



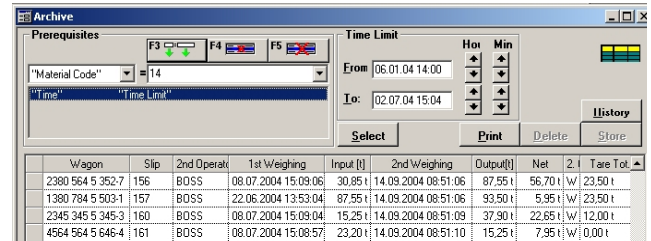
(Fig. 5)

- The **MQ Series** EDP connection lets you realise a fully automatic scale. Weighing is started via a rail switch for any direction of travel. When weighing is complete, data are entered into the MQ series message queue and are available for further processing by user. Scale status also enters into message queue in cycles.
- The **SAP R/3** EDP connection can be realised via **IDoc** standard interface. Wagon arrangement can be adopted from SAP R/3, or weighing results transferred to SAP R/3.
- EDP connections to **Oracle** databases with data acquisition and transfer are realised as well.
- The **Evaluation/Export** EDP connection reads CSV files in ASCII format using freely definable SQL commands.
- **Mobile data acquisition** and remote control of scale can be effected on rail direct, or started by the engine driver via a rugged industrial hand-held terminal (Fig. 6) or commercial PDA. The hand-held terminal lets you acquire complete trains and start weighing. A PC can be connected using the cost-effective open WLAN 2.4GHz or the coordinated frequencies 450MHz ... 470MHz. Data can also be acquired in the form of a web application, with inputs being made via Internet Explorer.



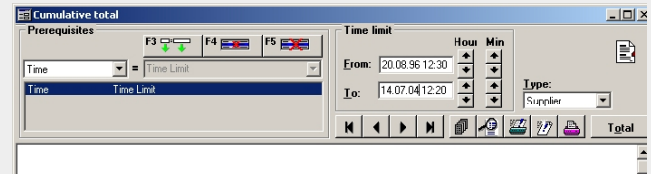
(Fig. 6)

- The **weighing file** stores all previously effected weighing operations (Fig. 7). The window prompts for input of period, wagon, customer, material type, supplier and product. These data can be combined at will, so that simple reports, e.g. by shift or customer, can be displayed and printed.



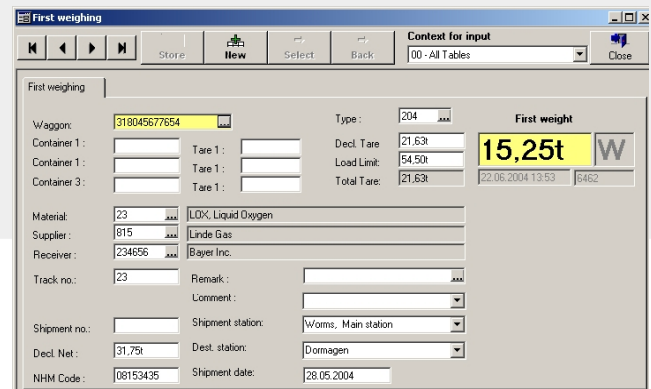
(Fig. 7)

- The **Balance** window (Fig. 8) reads functions for preparation of evaluations, e.g. a material throughput statistic for a certain supplier over an optional period of time.



(Fig. 8)

- For convenient acquisition of master data, **acquisition screens** (Fig. 9) are available for all master data tables. These screens represent single data records in a set form. Compared to table input, these forms are much easier to handle.



(Fig. 9)

- **Backup and Restore**  
For the sake of data safety, a database safety copy should be prepared regularly. To do so, you can use the backup function that lets you save data on a predefined backup medium. In case of data loss, the Restore function lets you return to the state at the time of data saving.
- The **DISOSAVE** program lets you **store** weigh data **legal-for-trade** (Spec Sheet BV-D2045GB) and is approved for legal-for-trade storage on PC throughout the European Community.

**Relevant Spec Sheets**

<b>MULTIRAIL® LegalWeight</b>	<b>BV-D2142GB</b>
<b>DISOSAVE Legal-for-trade Memory</b>	<b>BV-D2045GB</b>
<b>DISOVIEW E L-f-t Scale Window</b>	<b>BV-D2066GB</b>
<b>Clearing the way for greater safety</b>	<b>BV-P2050GB</b>

**Variants**

V020078.B12	Program package 'Software for MULTIRAIL® and Components'. Installations CD for Windows 95/98/NT/2000/XP. Complete with relevant manuals.
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**Special Configurations**

DISOWARE Terra special configurations can be offered at any time, e.g.

- Connection to your EDP system
- Adaption to existing processes.

**Please let us know your requirements, we will gladly provide you with a tailored solution.**

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