

# JkJK

## Cable list and test tool

### Introduction

#### Concept of x

#### Concept of y

#### Functionnalities

Functionnality	State	Remarks
Vehicle type edition	<b>Work in progress</b>	
Connector edition	<b>Work in progress</b>	
Article edition	<b>Work in progress</b>	
Unit edition	<b>Work in progress</b>	
Link edition	<b>Work in progress</b>	
Link list reporting (printing, PDF)	<b>Missing</b>	
Import, export, backup	<b>Missing</b>	
Versionning	<b>Missing</b>	
Test node edition	<b>Work in progress</b>	
Test (model) edition	<b>Work in progress</b>	
Calibration	<b>Missing</b>	
Test execution edition and API	<b>Starting</b>	
Test result reporting (printing, PDF)	<b>Missing</b>	

#### Versionning

On real life project, versionning is a very important feature. Imagine that many systems are already produced, and that a new feature must be implemented. When used software does not provide versionning, there is needed to create documentation about modifications to do. This can be cumbersome and error prone.

Currently, no versionning is implemented. Adding such feature will request modifications in deep (database schema and C++ classes).

## Create a project

### The complete workflow

The complete workflow will show how we could use this tool in a project. We considere a project for witch we have to make the entire engeneering, for example for a modification on the electrical part of a system.

This requiers several tasks, at least:

- Define what to modify
- Draw schemas
- Define components to add or change
- Dependent of the complexity, create cable lists
- Create documentation for continuity check
- Create documentation for comissioning

Cable list tool is able to create a part list, link lists, continuity and isolation checks. This will be explained in next chapters. Note that schema drawing, project management and other stuff is not, and will probably never, provided by this tool (other tools exists for this).

The suggested workflow is:

- Create vehicle type for each system (denomination of vehicle type will be discussed later)
- Enter connectors
- Enter parts of the project by creating articles
- Take schemas and enter each position as new unit
- Add links (in unit edition): if cable lists are needed, check that schema shows every link (most of time, this is not true) an investigate...
- Create test nodes
- Create test (models)
- Create test application itself

At first point of view, this seems to be a infinite task. And yes, it is. But, at some point of a project, if such engeneering was not made, this can give some problems. If you think that these steps are not relevant, then you probably not need to create any test application too.

## Create vehicle types

The term 'Vehicle type' seems to be something wrong. The main idea here is a container for all elements (units) of a system.

The 'Vehicle type edition' window contains the following fields and table:

Type:

Variant:

Serie:

Units

	Coordinate	Cabinet	Schema position	Alias
1			K1	
2			K2	
3			K3	
4			K4	
5			K5	
6			K6	
7			K7	
8			K8	
9			K9	
10			K11	
11			K12	

Vehicle type

## Create articles

The 'Article edition' window contains the following fields and table:

Article code (internal):

Manufacturer:

Designation (English):

Type:

Designation (German):

Code:

Designation (French):

Manufacturer identification document:

Designation (Italian):

Identification document (internal):

Unit:

Components

	Connector	actionType_Coc	Contact	I/O type	Function EN	FunctionFR	FunctionDE	FunctionIT
1	T		13 (2)	DO	L1	L1	L1	L1
2	T		14 (1)	DO	SD1	SD1	SD1	SD1
3	T		23 (6)	DO	L2	L2	L2	L2
4	T		24 (5)	DO	SD2	SD2	SD2	SD2
5	T		PE					

Buttons: Add connection ..., Edit connection ..., Remove connections

Article edition

## Create connectors

Connector edition

File

Manufacturer: ITT Cannon Manufacturer config code: FRCIR06WCML101-24-5PX-V0

Series: FRCIR Manufacturer article code:

Housing: 06 Form: Round

Insert: 24-5 Contact qty: 16

Gender: Male

Insert rotation: X

Contacts

Name	ActionType_Coc
1 A	P
2 B	P
3 C	P
4 D	P
5 E	P
6 F	P
7 G	P
8 H	P
9 J	P

New Save Cancel Delete

## Connector edition

## Create units

Unit edition

File

Unit data

Vehicle schema pos. K62

Alias

Cabinet

Location (or coordinate)

Base article

Base article ID 18

Article code 750-55-55-XXX-Fake

Designation (English) Output terminal, 2 channels, relay 230 V AC, 30 V DC, 2A

Designation (French) Borne de sorties 2 canaux à relais 230 V AC, 30 V DC, 2A

Designation (German)

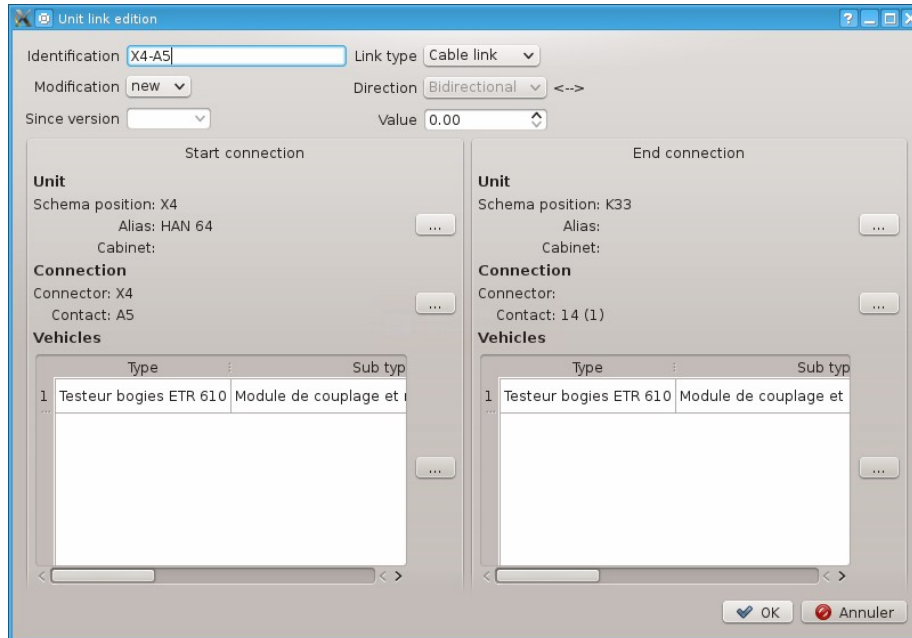
Designation (Italian)

Connections

Unit connector	Unit contact	Vehicle Schema page	Unit function (English)	Unit function (French)	Unit function (German)	Unit function (Italian)	Signal name	SW address	Article connector	Article contact	I/O type	Article function (English)
1	23 (6)									23 (6)	DO	L2
2	24 (5)									24 (5)	DO	SD2

Add connection ... Add art. connections ... Edit connection ... Set functions from ... Remove connections ... Linked connections

## Unit edition



Unit link edition dialog box. Fields include Identification (X4-A5), Link type (Cable link), Modification (new), Direction (Bidirectional), Since version, and Value (0.00). It features two panels: Start connection and End connection. Each panel contains Unit information (Schema position, Alias, Cabinet), Connection information (Connector, Contact), and a Vehicles table.

**Start connection**

**Unit**  
 Schema position: X4  
 Alias: HAN 64  
 Cabinet: ...

**Connection**  
 Connector: X4  
 Contact: A5

**Vehicles**

Type	Sub type
1 Testeur bogies ETR 610	Module de couplage et

**End connection**

**Unit**  
 Schema position: K33  
 Alias: ...  
 Cabinet: ...

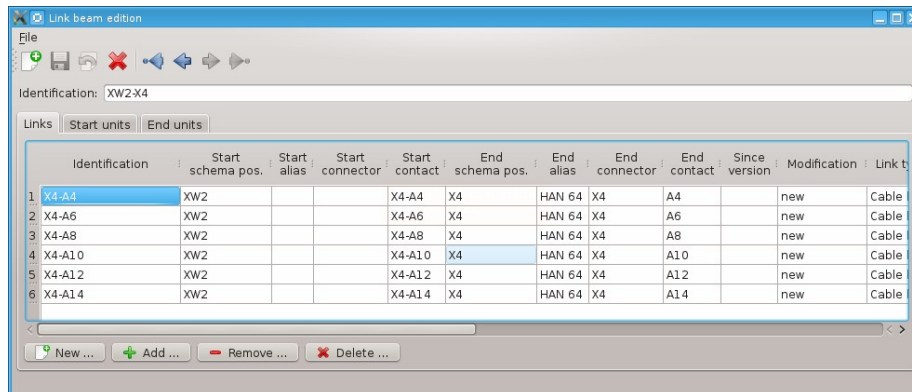
**Connection**  
 Connector: ...  
 Contact: 14 (1)

**Vehicles**

Type	Sub type
1 Testeur bogies ETR 610	Module de couplage et

Buttons: OK, Annuler

## Unit link edition

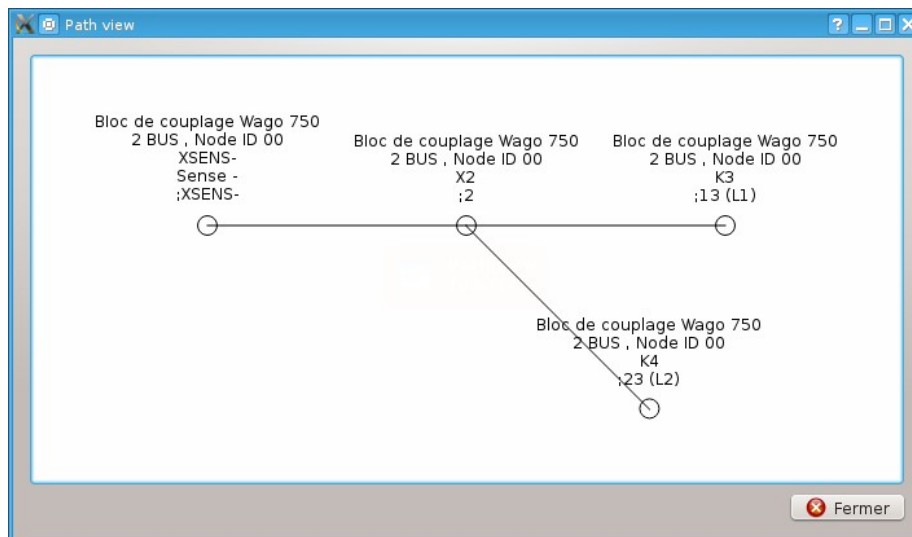


Link beam edition dialog box. Identification: XW2-X4. Tabs: Links, Start units, End units. The Links tab shows a table of links.

Identification	Start schema pos.	Start alias	Start connector	Start contact	End schema pos.	End alias	End connector	End contact	Since version	Modification	Link type
1 X4-A4	XW2			X4-A4	X4	HAN 64	X4	A4		new	Cable
2 X4-A6	XW2			X4-A6	X4	HAN 64	X4	A6		new	Cable
3 X4-A8	XW2			X4-A8	X4	HAN 64	X4	A8		new	Cable
4 X4-A10	XW2			X4-A10	X4	HAN 64	X4	A10		new	Cable
5 X4-A12	XW2			X4-A12	X4	HAN 64	X4	A12		new	Cable
6 X4-A14	XW2			X4-A14	X4	HAN 64	X4	A14		new	Cable

Buttons: New, Add, Remove, Delete

## Link beam edition



Unit link path view

Linked connections info window showing unit details and a table of linked connections.

**Unit**  
 Schema position: X2  
 Alias:  
 Cabinet:  
 Coordinate (or location):

**Connection**  
 Connector:  
 Contact: 3

**Linked connections:**

	Cabinet	Coordinate	Schema position	Alias	Unit connector	Unit contact	Schema page	Unit Function (English)	Unit Function (Frensh)	Unit Function (German)	Unit Function (Italian)
1			K2			24 (SD2)					
2			K4			24 (SD2)	1				
3			K5			14 (SD1)	1				
4			K8			24 (SD2)					
5			K11			13 (L1)					
6			K13			13 (L1)					
7			K15			13 (L1)					
8			K17			13 (L1)					
9			K19			13 (L1)					
10			K21			13 (L1)					
11			K23			13 (L1)					
12			K25			13 (L1)					

Unit linked connections view

## Create test nodes

Type: Bloc de couplage Wago 750

Sub type: 2 BUS, Node ID 00

Serie: 1

Node identification: 0

Device identification:

Units | Bus | Unit connections

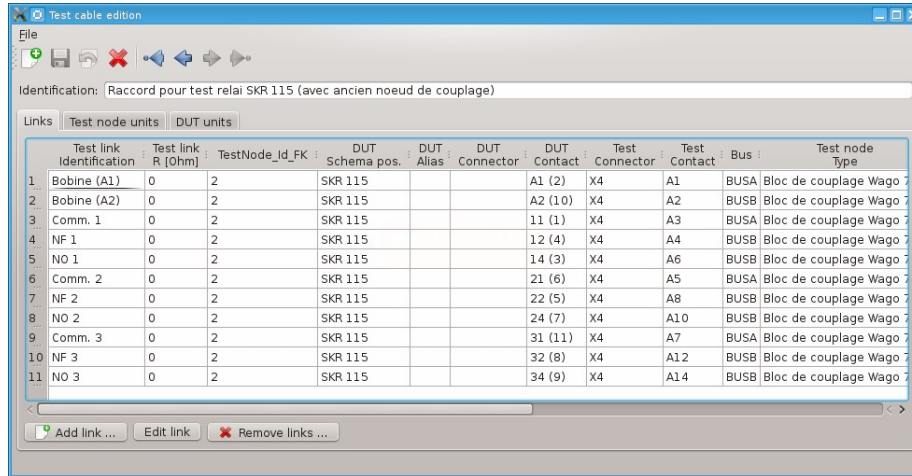
Type_Code_FK	Schema position	I/O pos.	Type (ENG)	Type (FRA)	Type (DEU)	Type (ITA)
1 BUSCPREL	K1	0	Bus coupling relay	Relai de couplage de bus	Bus Koppelrelais	Relè di accoppiamento bus
2 BUSCPREL	K2	1	Bus coupling relay	Relai de couplage de bus	Bus Koppelrelais	Relè di accoppiamento bus
3 BUSCPREL	K3	2	Bus coupling relay	Relai de couplage de bus	Bus Koppelrelais	Relè di accoppiamento bus
4 BUSCPREL	K4	3	Bus coupling relay	Relai de couplage de bus	Bus Koppelrelais	Relè di accoppiamento bus
5 BUSCPREL	K5	4	Bus coupling relay	Relai de couplage de bus	Bus Koppelrelais	Relè di accoppiamento bus
6 BUSCPREL	K6	5	Bus coupling relay	Relai de couplage de bus	Bus Koppelrelais	Relè di accoppiamento bus
7 BUSCPREL	K7	6	Bus coupling relay	Relai de couplage de bus	Bus Koppelrelais	Relè di accoppiamento bus
8 BUSCPREL	K8	7	Bus coupling relay	Relai de couplage de bus	Bus Koppelrelais	Relè di accoppiamento bus
9 BUSCPREL	K9	8	Bus coupling relay	Relai de couplage de bus	Bus Koppelrelais	Relè di accoppiamento bus
10 CHANELREL	K11	10	Channel relay	Relai de canal	Kanal-Relais	Relè della Manica
11 CHANELREL	K12	11	Channel relay	Relai de canal	Kanal-Relais	Relè della Manica
12 CHANELREL	K13	12	Channel relay	Relai de canal	Kanal-Relais	Relè della Manica
13 CHANELREL	K14	13	Channel relay	Relai de canal	Kanal-Relais	Relè della Manica
14 CHANELREL	K15	14	Channel relay	Relai de canal	Kanal-Relais	Relè della Manica
15 CHANELREL	K16	15	Channel relay	Relai de canal	Kanal-Relais	Relè della Manica
16 CHANELREL	K17	16	Channel relay	Relai de canal	Kanal-Relais	Relè della Manica
17 CHANELREL	K18	17	Channel relay	Relai de canal	Kanal-Relais	Relè della Manica

+ Add ... Edit unit - Remove

## Test node edition

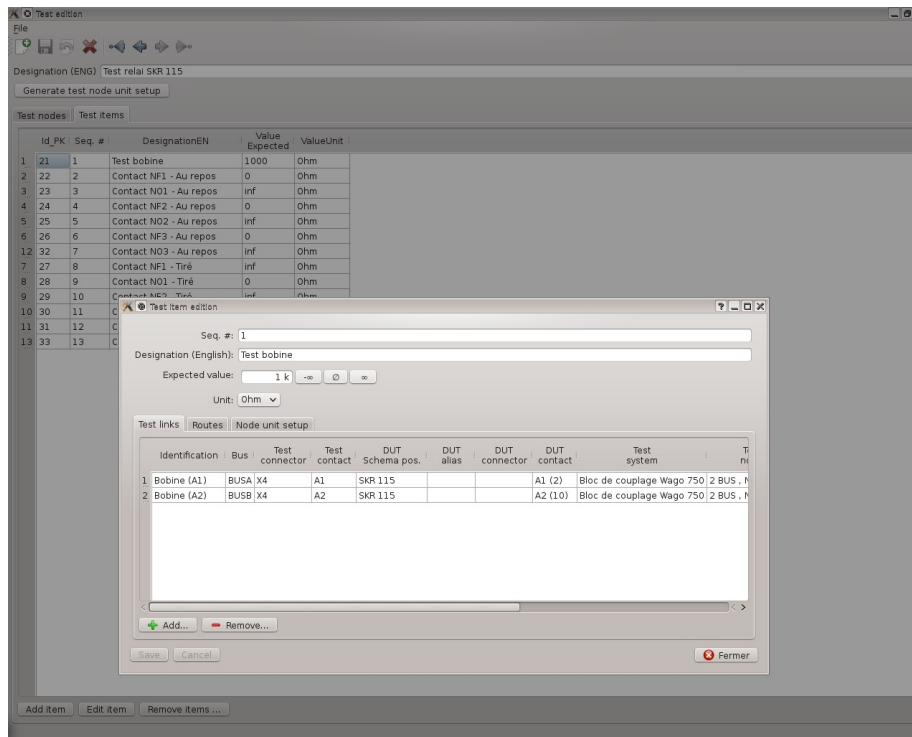
## Affect units

## Create test cables



## Test cable edition

## Create test (models)





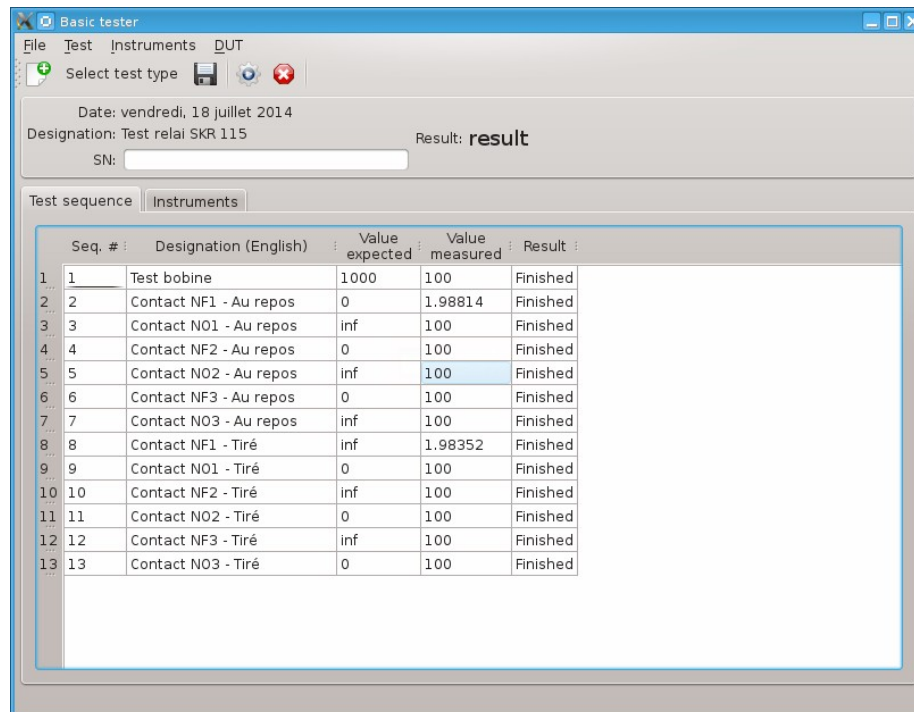
Test (model) edition

Add routes

Edit test node unit setup

Calibration

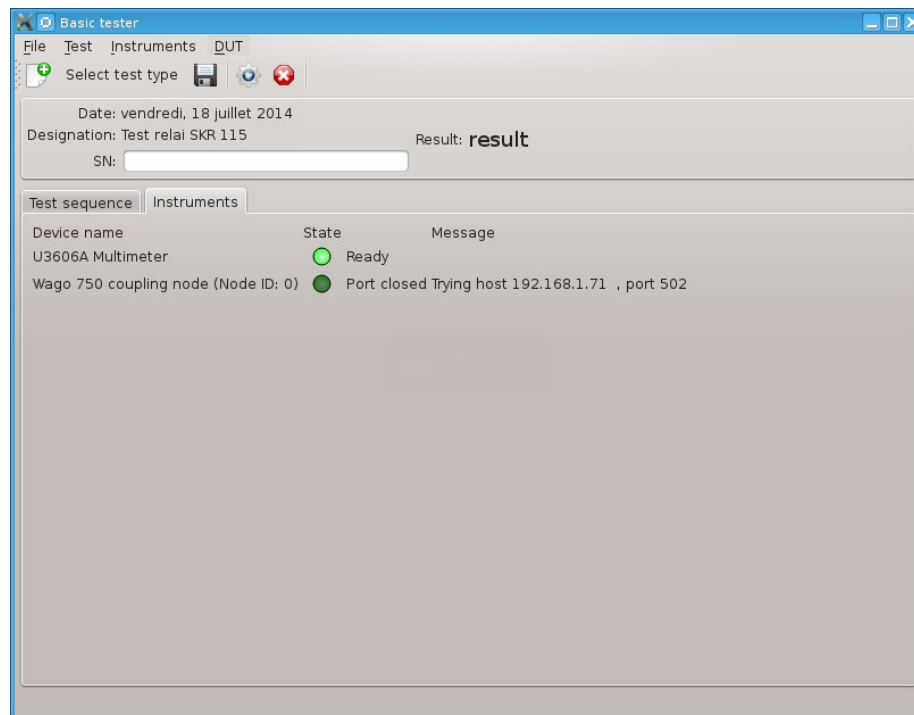
Create test application



The screenshot shows the 'Basic tester' application window. It has a menu bar with 'File', 'Test', 'Instruments', and 'DUT'. Below the menu bar is a toolbar with icons for 'Select test type', a save icon, a settings icon, and a close icon. The main area displays test information: 'Date: vendredi, 18 juillet 2014', 'Designation: Test relai SKR 115', and 'Result: result'. Below this is a tabbed interface with 'Test sequence' and 'Instruments' tabs. The 'Test sequence' tab is active, showing a table with 13 rows of test data.

Seq. #	Designation (English)	Value expected	Value measured	Result
1	Test bobine	1000	100	Finished
2	Contact NF1 - Au repos	0	1.98814	Finished
3	Contact N01 - Au repos	inf	100	Finished
4	Contact NF2 - Au repos	0	100	Finished
5	Contact N02 - Au repos	inf	100	Finished
6	Contact NF3 - Au repos	0	100	Finished
7	Contact N03 - Au repos	inf	100	Finished
8	Contact NF1 - Tiré	inf	1.98352	Finished
9	Contact N01 - Tiré	0	100	Finished
10	Contact NF2 - Tiré	inf	100	Finished
11	Contact N02 - Tiré	0	100	Finished
12	Contact NF3 - Tiré	inf	100	Finished
13	Contact N03 - Tiré	0	100	Finished

Basic test tool example



Basic test tool example (instruments states)

**Vehicle type**

**Connector**

**Article**

**Unit**

**Test node**

**Test connection cable**

**Licence**

**Credits**