

VAN PRODUCTS

VAN

VAN (Vehicle Area Network) is a communication network. The ISO 11519-3 standard defines its general structure as well as physic and data link layers. Elaborated by an expert team from different countries, this standard brings together the main car industry representatives : car engineers and electronic components suppliers. It defines data transmission between various embedded electronic modules

VAN has been imagined and created to answer to imperatives for strength, reliability, simplicity and economy tied to the mass production of car industry. VAN standard has taken into account especially severe environmental temperature and electromagnetic radiance. VAN is especially suitable for control systems and real time command where the needs for field bus are necessary.

Technical data sheet : FTC-MUX-0001



VAN Boards

VANPC /VR, VAN104 /VR,
VAN PCMCIA

VANPC /VR, VAN104 /VR and VAN PCMCIA boards allow the connection of PC ISA, PC /104 or PCMCIA system to the standardized VAN network.

The boards are designed around the TSS461 VAN Controller from TEMIC and the MTC 30521 (REMQ) line driver from ALCATEL MIETEC (up to 125 KTS/s). All the boards manage the sleep and wake up of the network. A dedicated connector allows to use other transmission medium interfaces (power line, fiber optics,...).

The boards are delivered with software interface for Windows 3.x, 9x and NT.

Technical data sheet : FTC-MUX-0003

VANPC EXPERT,
VANPCMCIA EXPERT

VANPC EXPERT and VANPCMCIA EXPERT boards (2 VAN channels) allow the connection of a PC system to the standardized VAN network and all ISA or E-ISA standard busses.

Both boards are designed around one MOTOROLA MC68340 microprocessor, two TEMIC TSS461 VAN controller, two MTC3051 (REMQ) line driver from ALCATEL MIETEC (up to 125 KTS/s) and 8 logical input/output.

These boards are delivered with software interface for Windows 9x and NT (availability : december 1999).

In analyzer version, VANPC EXPERT and VANPCMCIA EXPERT are the hardware base for VANalyzer software environment.

Technical data sheet : FTC-MUX-0027

VAN E/S16

VAN E/S16 board allows to connect quickly 16 logical Input/Output to a VAN network (ISO 11519-2). Each Input/Output line can be programed either in input or output mode. The informations exchanged between the Input/Output and the VAN network are managed by the Input/Output component : I/O16 from TEMIC. VAN E/S16 provides an user wrapping area to develop own specific applications.

VAN E/S16 board includes : LED's to display logical Input/Output levels, Tx and Rx status, a TEXAS INSTRUMENTS 75LBC030 line driver and a connector for other transmission medium.

The VAN E/S16 is externally 12 Vdc power supplied.

Technical data sheet : FTC-MUX-0009



VAN Softwares

NSIDLCL

NSIDLCL is a PC software for VANPC /VR, VAN104 /VR and VANPCMCIA interface. Running with Windows 95 or NT, it allows to send and receive VAN frames. Network characteristics, data, number and type of VAN frames (transmit, receive, inframe reply messages...) are saved to the disk. Communication exchanges are supervised : display of received frames, counting of exchanges and errors, display of the line diagnostic state.

NSIDLCL manages the sleep and wake up mode of the network.

Technical data sheet : FTC-MUX-0005

VANalyzer

VANalyzer is a VAN PC analyzer and emulator. It allows to observe, analyze and supply data traffic on VAN network. It manages functions like tracing time-stamp bus data traffic (messages, errors), displaying data segments of specific messages (physical row value), sending VAN messages, providing statistics (bus load, bus disturbance, identifiers load, ...), recording and saving messages for replay and off-line evaluations, managing database symbolic names.

VANalyzer includes a 'C' like programming language which provides all necessary environment for creation,

modification and compilation of specific applications.

VANalyzer uses the VAN EXPERT or VANPCMCIA EXPERT boards.

Technical data sheet : FTC-MUX-0024



VAN Tools

VAN Starter Kit

VAN starter kit allows to built rapidly a small VAN network where two PC can drive remote input/output and exchange information.

VAN starter kit is composed of two VANPC /VR boards with the DOS, Windows 3.x, 9x or NT software interface, one NSIDLCL software, one VAN E/S16 board and two cables to interconnect these three nodes.

This kit is also available with VAN104 /VR or VAN PCMCIA bus boards.

Technical data sheet : FTC-MUX-00010

VAN embedded data logger

VAN embedded data logger allows to record data flow from two embedded VAN channels or on one VAN channel and one CAN channel.

It is composed of a "metal black box" with a remote control box. The recorded data are stored in the "black box" and can be transferred into a PC via a serial link or a PCMCIA memory card. Data processing is done by a utility program converting binary records into text or VANalyzer files.

This spying tool starts data acquisition on : an user action, a selected identifier and data pattern in the data field, a network load (40 %, null load,...), a rising or failing edge of a logical input.

All recorded frames and detected errors are time stamped with 10 µs accuracy.

The embedded data logger is also available with one CAN channel and one VAN channel.

Technical data sheet : FTC-MUX-0015

TRAMINATOR VAN

TRAMINATOR VAN is a conformity test tool. It generates frame errors or lines perturbations on VAN network.

It is packed in plastic black box and needs an external 12 Vdc supply. It interferes VAN network according two different modes : VAN lines interferences (simultaneously or separately DATA and DATAB VAN lines) and in frame errors generator mode. Frame identifier is selectable. Recessive or dominant VAN bits can scratch one another.

VAN Training

NSI proposes permanent training sessions. The VAN network training enables to discover this network, to have it in hand through simple, quick and didactic practical work, to get used to the existing development tools and to have an overall view of the offer of components

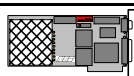
NSI also proposes special training within firms.

Technical data sheet : FTC-MUX-0043

CAN PRODUCTS

CAN

CAN (Controller Area Network) is a standardized bus elaborated by automotive equipment supplier Robert BOSCH GmbH. Low speed ISO 11519-1 (up to 125 kbit/s) and high speed ISO 11898 (up to 1 Mbit/s) standards define data transmission between the various embedded in car, electronic modules. Part A of 2.0 specification defines CAN standard (11bits identifiers), part B defines extended CAN standard (29 bits identifiers). CAN is especially suitable for industry control systems and real time command where the needs for field bus are necessary. Application layers (OSI layer) based on CAN are now available.



CAN Boards

CANPCa, CAN104,
CAN PCMCIA

CANPCa, CAN104 and CAN PCMCIA boards allow the connection of a PC ISA/EISA, PC/104 or PCMCIA system to the standardized CAN network.

The three boards use an INTEL 82527 CAN controller (standard and extended identifiers) and high speed line interface PHILIPS 82C250 (up to 1 Mbit/s) or low speed line interface TJA 1053 (up to 125 kbits/s). They are available with or without opto isolation. For the CANPCa and CAN104 boards, a dedicated connector allows to use other transmission medium interfaces (low-speed driver, power line, fiber optics,...). For the CAN PCMCIA board, the cable and the network connector are completely described to enable the use of other line interfaces.

The CANPCa, CAN104 and CAN PCMCIA are delivered with software interfaces for Windows 3.x, 95 or NT.

Technical data sheet : FTC-MUX-0021

CAN-AC2

The CAN-AC2 boards (2 CAN busses) allow the connection of a PC system to the standardized CAN network (ISO 11898). It can be used on all ISA or E-ISA IEEE P996 standard busses.

The CAN-AC2/82C200 uses two PHILIPS 82C200 controllers (CAN standard) ; the CAN-AC2/82527 board

uses two INTEL 82527 controllers (standard and extended identifiers). Both boards are designed around two PHILIPS 82C250 line interfaces (up to 1 Mbits/s, ISO 11898), one NEC V25+ 10 MHz microprocessor, a 64 Kbytes dual ported RAM and an errors transmission emulation logic on channel one in analyser version. Other line interfaces on baby boards allow to use other transmission medium interfaces (power line, fiber optics,...).

The CAN-AC2 boards are delivered with a library for 'C' language and a DLL interface. The analyzer CAN-AC2 boards are used by the CANalyzer, the CANoe and the CANape.

Technical data sheet : FTC-MUX-0019

CANcardX

CANcardX board allows the connection of a PCMCIA system to the standardized CAN bus (ISO 11898). CANcardX provides two independent CAN channels conforming to CAN specification V.2.0B (29 bits identifiers).

it is designed around one SIEMENS 80165 microprocessor, two CAN SJA1000 controllers from PHILIPS, two PHILIPS 82C251 line interfaces (up to 1 Mbits/s) or two PHILIPS TJA1053 line interface. The board is delivered with a library for 'C' language and a DLL interface. The analyzer CANcardX board is used by the CANalyzer, the CANoe and the CANape.

Technical data sheet : FTC-MUX-0020



CAN Softwares

NSI527

NSI527 is a communication software for CANPCa, CAN104 and CAN PCMCIA boards. Running with Windows 3.x, 95 or NT, it allows to rapidly transmit or receive CAN frames. Network characteristics together with number, type and content of CAN messages (data frames, remote frames) are saved to the disk. Communication is analyzed : frame display, counting of exchanges and errors.

Technical data sheet : FTC-MUX-0036

CANalyzer

CANalyzer™ is a CAN PC analyzer-emulator for WINDOWS 3.x, 9x or NT. It allows to observe, analyze and supply data traffic on CAN bus.

With the basic version, it manages functions like tracing time-stamp bus data traffic (messages, errors frames), displaying data segments (physical or row value), sending CAN messages, providing statistics (bus load, bus disturbance, identifiers load, ...), recording and saving messages for replay and off-line evaluations, managing database of symbolic names, generating error frames on the bus line.

The PRO version includes a 'C' like programming language which provides all necessary environment for creation, modification and compilation of specific

applications. CANalyzer is using the CAN-AC2 board in CAN standard version (11 bits) or CAN extended (29 bits) or the CANcardX board for PCMCIA interface.

Technical data sheet : FTC-MUX-0016

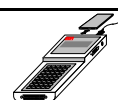
CANoe

The CANoe is a software environment under Windows which provides a development methodology of a CAN networked system.

The network and variables are first modelled and simulated in the CANoe. Then each module is integrated to test his conformity to the application.

The CANoe integrates the CANalyzer functions and enables a graphic representation of the simulated modules and their functions. CANoe is using the CAN-AC2 board in CAN standard version (11 bits) or CAN extended (29 bits) or the CANcardX board for PCMCIA interface.

Technical data sheet : FTC-MUX-0052



CAN Tools

CAN Starter Kit

CAN starter kit allows to built rapidly a small CAN network where two PC can transmit and receive parametrable CAN frames.

CAN starter kit is composed by two CANPCa boards with the DOS or Windows 3.x, 95 and NT driver software, one NSI527 software and two cables to interconnect these three nodes.

This kit is also available with CAN104 bus boards.

Technical data sheet : FTC-MUX-0040

CANpocket Analyser

As an hand held terminal which can be connected to a standard or extended CAN network, the CANpocket Analyser is an analysis and emulation tool. It can be embedded on a vehicle, used in the fields or in laboratory. CANpocket Analyser offers a LCD display of 4 lines x 20 characters and a 47 keys keyboard. It realizes functions like : tracing messages on the bus, statistics computation : bus load, number of frames per seconde, error rate, analysis and monitoring of periods, datas, bus load generation, messages transmission. In monitoring mode, it uses a logic output in case of errors in order to synchronize other tools (CAN embedded data logger, ...)

Technical data sheet : FTC-MUX-0042

CAN on-board data logger

CAN embedded data logger allows to record data flow from an embedded CAN network. It is composed of a "metal black box" with a remote control box or/and a hand held terminal. The recorded data are stored on a PCMCIA memory card. Data processing is done by a DOS utility program converting

binary records into text files or into CANalyzer files.

This spying tool starts data acquisition on : an user action, a selected identifier and data pattern in the data field, a network load (40 %, null load,...), an error frame, a rising or falling edge of a logical input. All recorded frames and detected errors are time stamped with 10 µs accuracy.

The On board data logger is available for the CAN high speed and for the CAN Low speed. An other version possesses one VAN channel and one CAN channel.

Technical data sheet : FTC-MUX-0037

TRAMINATOR CAN

TRAMINATOR CAN is a conformity tool. It participates to the validation stage of the software application developed in a CAN Electronical Control Unit. Driven by a CAN tool (CANalyzer, ...) or by downloaded scenarios, TRAMINATOR allows to disturb CAN frames send or received by the tested Electronical Control Unit.

CANscope

Oscilloscope for CAN signals, the CANscope is a tool dedicated to study the effect of the physical layer on a CAN network (cable types, cable length, bus drivers, bus terminaison and failure mode ...).

It allows to log in a box CAN frames and to observe it on a PC screen in order to evaluate the signal level. The logging module can be activated by several trigger conditions. The oscilloscope window possesses the same measurement functions and viewing area functions than the CANalyzer graphic window.

The CAN database CANdb (used by the CANalyzer and the CANoe) is integrated in the CANscope. It allows to have a symbolic display of the messages and signals names in the trace window.

CAN Training

NSI proposes permanent training sessions. The CAN network training enables to discover this network, to have it in hand through simple, quick and didactic practical work, to get used to the existing development tools, to have an overall view of the offer of components and to have a first approach of the application layers based on CAN available.

The standard sessions are CAN in automotive use and CAN in industrial use.

NSI also proposes special training intra-companies.

Technical data sheet : FTC-MUX-0043

APPLICATION LAYERS PRODUCTS

CANopen

CANopen is an application layer (OSI, level 7) based on the CAN Network. It

defines a messagery for the communication between sensors and actors connected on the CAN bus.

CANalyzer CANopen

CANalyzer CANopen is a tool for CANopen applications.

It is a development tool which passes off the CANopen specificities.

The CANalyzer CANopen manages the communication between CANopen devices with a symbolic representation of the CAN messages. It allows to read and to configure the object defining the communication monitoring for each device.

The CANalyzer programming language CAPL has been extended for this application layer. The CAPL allows to emulate easily the CANopen sensors and actors. An integrated message builder allows to create and send messages to the application layer. After selecting a service and specifying the parameters, the CANalyzer creates automatically the associated message. It allows to read and write the process data in the calculator. All CANalyzer functions can be performed in CANopen mode.

Technical data sheet : FTC-MUX-0054

ProCANopen

ProCANopen is a tool for the management of a CANopen project. It realises the following functions : definition of the network architecture, definition of the communication parameters, choice of the module, definition of the modules parameters, definition of the application data, programm downloading. ProCANopen represents graphically the structure of the network.

CANsetter

CANsetter allows to configure individually CANopen modules (PLCs, drives, controllers, remote I/O, encoders,...). It realises the same functions as the ProCANopen about module choice and parametering. CANsetter saves the data in EDS or DCF files. It allows to interchange files with other CANopen environment like ProCANopen or CANalyzer option CANopen for example.

CANeds

CANeds CANeds allows to consult, modify and create Electronic Data Sheet (file describing a CANopen module). With a tree representation, the user can define objects and attributes of the module. CANeds displays the structure of an EDS in a tree representation and it represents symbolically the attributes according to the type of object or data.

DeviceNet

DeviceNet is an OSI Layer 7 protocol from Allen-Bradley and based on CAN network. It defines an object oriented communication model.

CANalyzer DeviceNet

CANalyzer DeviceNet is a tool for DeviceNet applications.

The DeviceNet CANalyzer allows monitoring based on symbolic object-oriented communications. CANalyzer manages a database in order to provide correct interpretation of DeviceNet messages. The necessary information is taken from data traffic on the bus at the network start-up. The resulting configuration can be saved and be re-loaded later. Using the DeviceNet message builder, CAN messages are generated automatically after specifying DeviceNet services.

The CANalyzer programming language CAPL was also expanded for DeviceNet. It allows to emulate DeviceNet stations.

All CANalyzer functions can be performed in DeviceNet mode.

Technical data sheet : FTC-MUX-0025

SDS

SDS is an OSI Layer 7 protocol from Honeywell and based on CAN network. It defines a messagery for the communication between sensors and actors connected on the CAN bus.

CANalyzer SDS

CANalyzer SDS is a tool for SDS applications.

The SDS CANalyzer allows monitoring based on symbolic object-oriented communications. CANalyzer manages a database in order to provide correct interpretation of SDS messages. Using the SDS message builder, CAN messages are generated automatically after specifying SDS services.

The CANalyzer programming language CAPL was also expanded for SDS. It allows to emulate SDS stations.

All CANalyzer functions can be performed in SDS mode.

Technical data sheet : FTC-MUX-0025

J1939

J1939 is an application layer (OSI, level 7) based on the CAN Network. It defines communication services between calculators on the CAN networks.

CANalyzer J1939, CANoe J1939

The CANalyzer J1939 and the CANoe J1939 are development tools which pass off the J1939 specificities.

They represent symbolically parameter group and J1939 signals.

They integrate a symbolic database for the definition of the messagerie. This database contains the parameter groups and J1939 signals. An integrated editor allows to extend it for specific applications. The logging functions and all statistic and graphic windows from the CANalyzer and the CANoe are available for analyzing the J1939 signals. A trace window displays the messages with the associated service and parameter.

The CANalyzer programming language CAPL has been extended for this application layer in order to get the possibility to extend the functionalities of the CANalyzer J1939 and the CANoe J1939. An integrated message builder allows to create and send messages to the application layer. After selecting a service and specifying the parameters, the associated message is automatically created. It allows to read and write the process data in the calculator.

Technical data sheet : FTC-MUX-0025

ISO 9141 PRODUCTS

ISO 9141

The ISO 9141 standard specifies exchanges characteristic for digital information between embedded Electronical Control Units in vehicles and appropriated diagnostic equipment. An Electronical control Unit has one K line or two K & L lines.

The ISO 9141 standard defines the characteristic of the signal, the transmission channel, the delays and the exchanges format. Two complementary standard KWP2000 and CARB define messengeries for ISO 9141. The automotive car manufacturers define the architecture, the messagery and the transmission speed of the Control Unit.

ISO 9141 boards

EDIC-PC3, EDICcard

The EDIC-PC3 and EDICcard are boards for PC/ISA and PCMCIA buses. It allows the connection to Electronical Control Units equipped with a ISO 9141

diagnostic link. It manages one K line and one L line or two K lines. These boards are used by DTS or API softwares.

ISO 9141 softwares

Diagnostic Tool Set

DTS is a PC tool for the standard diagnostic link ISO 9141, it allows to observe, analyse and supply data traffic in order to verify the conformity to the communication protocol of an Electronic Control Unit (ECU) or to spy the exchanges between ECUs and a Diagnostic tool. DTS functions with KWP2000 standard, CARB or owner car manufacturer protocol optionally supplied (BMW, OPEL, PSA, ...). DTS is designed to create and execute exchanges scenarios on the diagnostic link. An other function allows to spy and display without interpretation exchanges from any ISO 9141 link, independently of the protocol. Optionnaly it allows to download or upload programs to an ECU through the ISO 9141 link. DTS runs under Windows 9x or NT with the EDIC-PC3 or EDICcard boards.

A P I

An API module (Application Programming Interface) allows to program entirely an OEM application (Original Equipment Manufacturer) from the database and to create own user interfaces. API functions with KWP2000 standard, CARB or owner car manufacturer protocol optionally supplied (BMW, OPEL, PSA, ...). It runs under

Windows 9x or NT with the EDIC-PC3 or EDICcard boards.

CAN, VAN DIAG

Mux Tester

The Mux Tester is a diagnostic Tool, fast and reliable on CAN High Speed Network. Handled connected to the network, set up done through PC, it is built on hardware platform which includes a graphic display and a set up software. This set up software creates a file from the CANalyzer Data Base and from specifics customer parameters. That file is used for the architecture and messages downloading through an USB link at 12 Mbits/s.

Technical data sheet : FTC-MUX-0072

TCR Network Conformance Tester

The Network Conformance Tester performs conformity tests for ECU on CAN, VAN and ISO 9141 networks. Tests scripts are defined to verify the ECU characteristics compliance with car manufacturer specifications. It allows time saving and guarantee the repetitiveness of the tests.

The Network Conformance Tester is based on a full set of equipment which includes : a PC, a Laser Printer and a black box containing a microcontroller, a Protocol Management and Line Interfaces.

Technical data sheet : FTC-MUX-0060

Information may be modified without prior notice

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