



# NETBRICKS

## V5.1/V5.2 Converter

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### INTRODUCTION

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NETBRICKS *V5.1/V5.2 CONVERTER* is a standalone protocol converter device transforming multiple V5.1 interfaces Local Exchange (LE) side into a single V5.2 interface Access Network side (AN) or V5.1 interfaces AN side into V5.2 interface LE side.

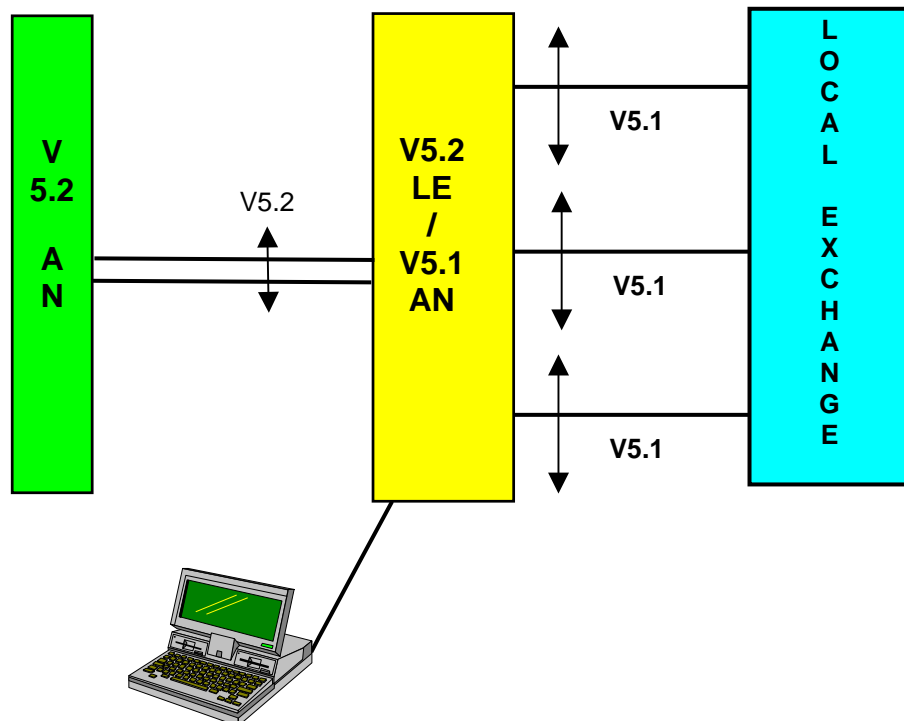
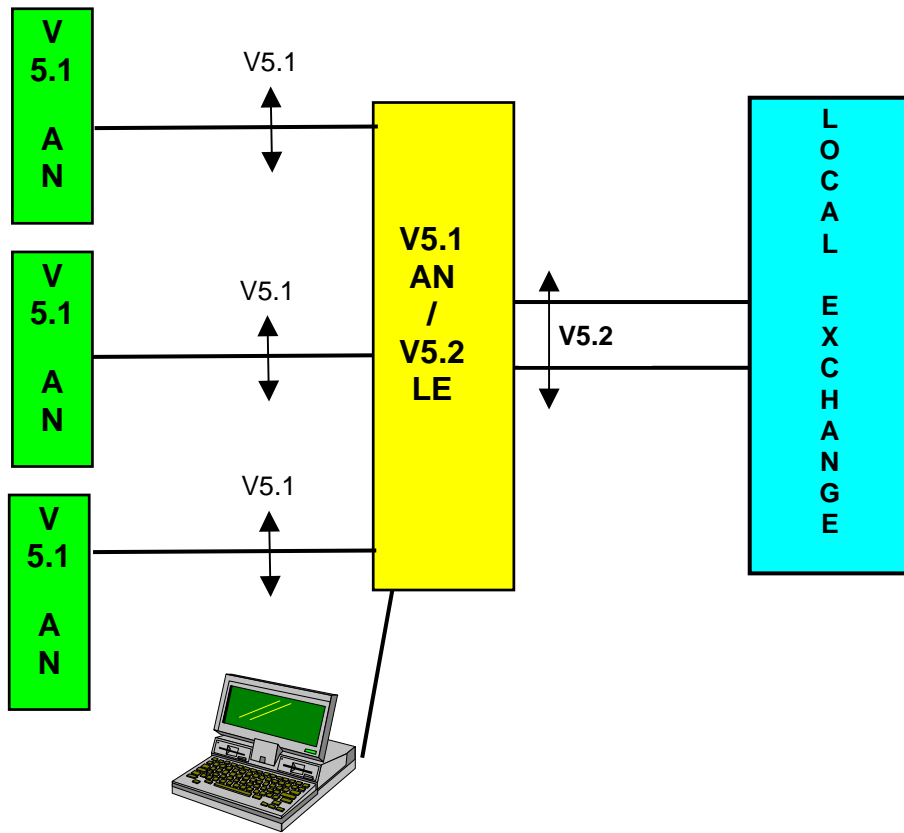
*V5.1/V5.2 CONVERTER* supports the following functions :

- ❑ V5.1 stack LE and AN sides
- ❑ V5.2 stack LE and AN sides
- ❑ V5.1 LE to V5.2 AN conversion,
- ❑ V5.1 AN to V5.2 LE conversion,
- ❑ Provisioning and driving across a UART line.

Through dynamic provisioning, *V5.1/V5.2 CONVERTER* can support up to 7 V5.1 and a V5.2 with one (without protection) or two (protection) E1 links.

NETBRICKS *V5.1/V5.2 CONVERTER* is used at AN side to concentrated V5.1 AN into a single V5.2 Interface in order to reduce the number of E1 links connected to the Local Exchange.

NETBRICKS *V5.1/V5.2 CONVERTER* is used for at LE side to concentrate V5.1 LE interface into V5.2 AN in order to reduce the number of E1 links.



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## FEATURES

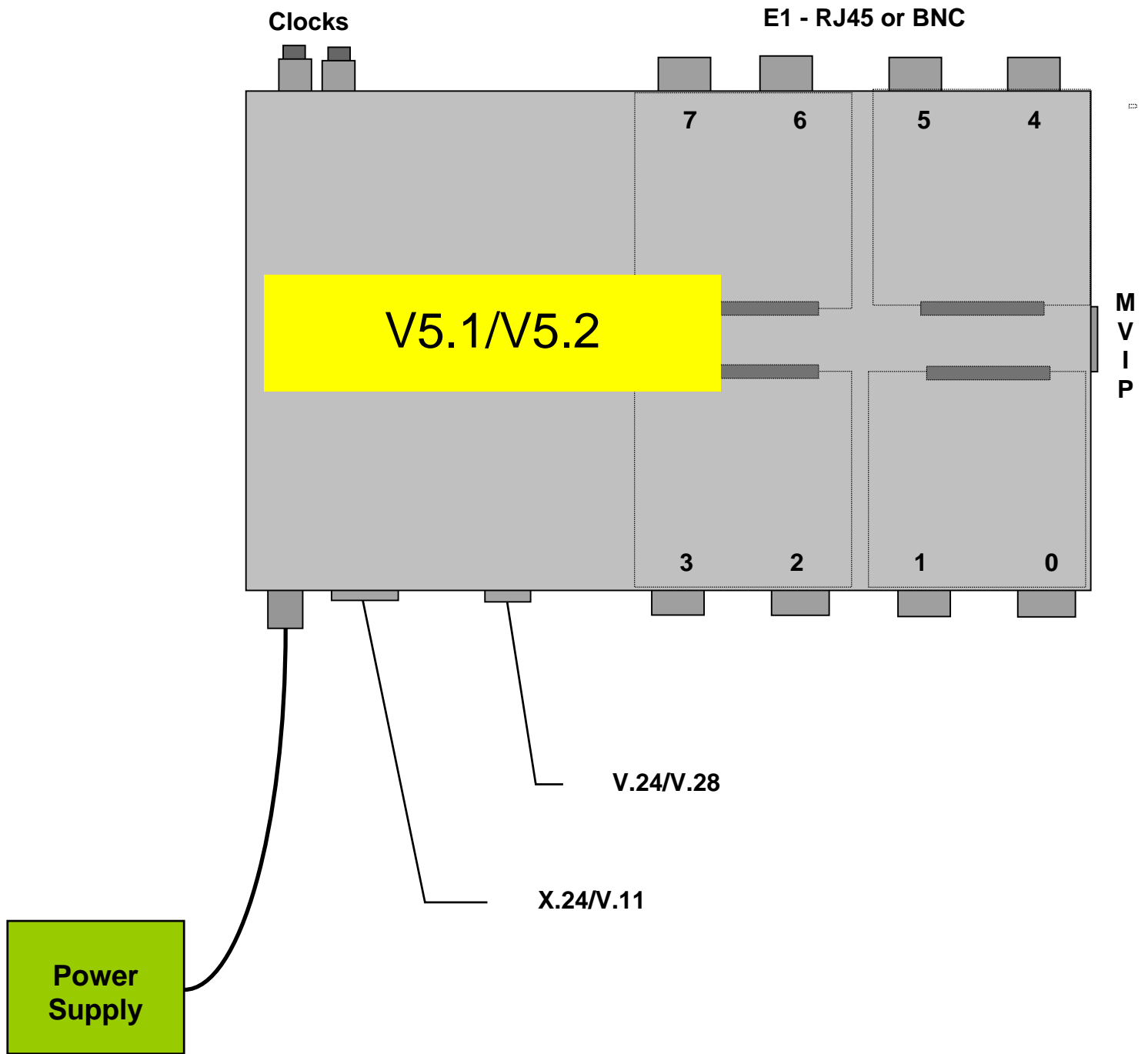
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V5.1/V5.2 CONVERTER consists of the following main hardware components :

- A communication processor Motorola MC68302
- 1 Mbytes of Flash memory
- 1 Mbytes of SRAM memory
- 8 E1 Mitel MT9089 framers with 120 or 75 Ohm transceiver,
- One or two Infineon ESCC8 HDLC framers
- One UART Line
- A 6V DC power supply module

Resident downloadable software provides the following basic choices of functions :

- V5.1 LE/AN stack
- V5.2 LE/AN stack
- V5.1 AN / V5.2 LE conversion
- V5.2 AN / V5.1 LE conversion
- V5 management and start-up sequence
- layer 1 CCITT error information displaying (LED's)
- self-test and automatic restart



## V5.1/V5.2 CONVERTER SOFTWARE ARCHITECTURE

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The software architecture is based on the *NETBRICKS* architecture which is close to the ISO/CCITT X.200 model.

All the protocol entities are managed as isolated objects communicating through a datagram message passing. The message passing is based on FIFO queue communications.

The entities of the system are housed in processes (one or several entities in one process) managed by AMX68000 (KADAK) real-time multitasking kernel. When the origination and destination entities are in the same process the message passing is done through an internal FIFO without need of AMX scheduling, when the two entities are in different processes the message passing is done using AMX message exchange management.

The software code is downloaded in Flash memory through an UART serial port.

The "*protocol entity architecture*" figure describes the different stacks of protocols and the communication between the entities of the system. The following stacks and entities are in the system :

- ❑ System management entity SM.
  
- ❑ V5 stack :
  - ❑ CONTROL for PSTN and ISDN user port,
  - ❑ PSTN out of band signals exchange,
  - ❑ BCC Bearer Channel Control
  - ❑ LINK Id management
  - ❑ PROTECT Protection
  
- ❑ Data Link User data stack :
  - ❑ DL data link protocol (LAPV5 and EF),
  
- ❑ V5.1/V5.2 conversion entity :
  - ❑ V5-CONVERT entity for converting PSTN and ISDN from V5.1 to V5.2.

V5.1/V5.2 CONVERTER SOFTWARE ARCHITECTURE

