1bit FORUM 203

1bit Audio Transmission Over IEEE1394

mLAN (IEEE1394) による1ビット伝送

Junichi Fujimori
fujimori-j@beat.yamaha.co.jp
Dec. 4, 2003

YAMAHA Corporation
Business Research and Development Division
mLAN Project

Waseda - Yamaha Joint Development

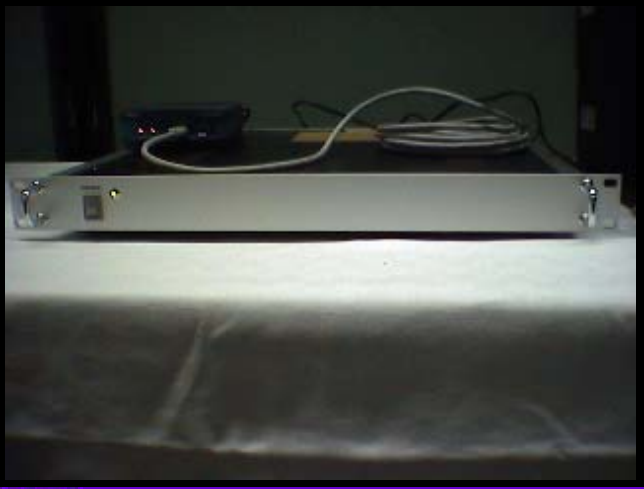
- Digital link for audio dominant archive
  - Multi-format transmission
    - Transmit 1-bit and multi-bit audio simultaneously
    - Ex. 1-bit for front and multi-bit for surround
  - Ancillary data such as date and place info
    - Embedded in 1-bit stream
    - Embedded in SMPTE time code
  - Audio and control data for speaker array
  - Synchronization with video

Low cost implementation

- ROM 64kByte
  - IEEE1394 bus management
  - A/M protocol handler control
- SRAM 8kByte
- EEPROM 4kByte
  - Initialization parameters
  - Signal path information

1bit FORUM 2003 – 1bit Audio Transmission over IEEE1394

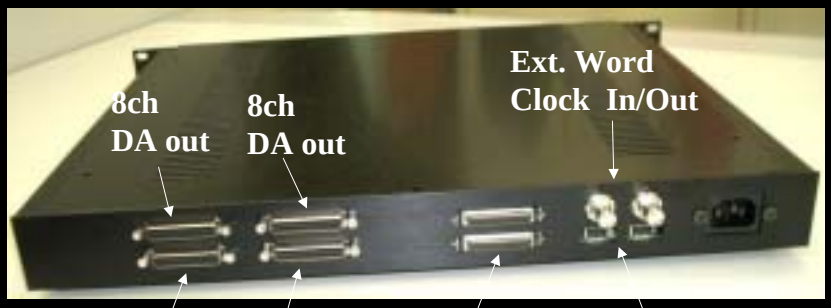
1-bit 8ch AD/DA Box (presented in 2002)



YAMAHA Copyright © 2003 by Yamaha Corporation

1-bit 16ch AD/DA Box front view

1-bit 16ch AD/DA Box rear view



1-bit 16ch AD/DA Box inside

1-bit 16ch in/out mLAN IO module

Full Duplex

64ch In for 32bit 48kHz Multibit

64ch Out for 32bit 48kHz Multibit

PC Software

- mLAN ASIO driver
  - 8ch 1bit in and out (current implementation)
  - Windows XP
  - MacOS9
    - Mac OSX will be available in 2004
- Sample rec/play application (bata)
  - Raw 1bit format

Next Step

- Available for 1bit Consortium member
- WSD format file