

Sheet 1:

SAnet

Stage Accompany Network

Main features of SAnet:

- PC-based network
- Very efficient wiring
- Unlimited number of devices
- Distances up to several kilometers
- High transmission speed (375 kbits/second)
- Error free data transfer

BRENDON GILL.
PHILIPS SCIENTIFIC
COMMUNICATIONS + SECURITY DIVISION
CROMWELL ROAD
CAMBRIDGE
CB1 3HE
TEL - (0223) 245191
EXTN 233

Brendon Gill
Philips Scientific
Communications + Security
Division
Cromwell Road,
Cambridge CB1 3HE

Sheet 2:

SAnet

Stage Accompany Network

Applications of SAnet:

- Three devices with SAnet interface:
 - * Blue Box (presented by Ben Kok)
 - * PPA-1200 Amplifier
 - * PPE-2410 Equaliser
- System control
- System monitoring
- Equipment synchronisation
- Software downloading
- Automated equipment maintenance
- Tracking of multiple devices

Gentlemen, good evening

As an introduction to our discussion later on I'll tell you something about our network that has been developed to control large amounts of audio equipment.

The network is called SAnet and I'll present you its main features and some of its applications.

Introduction

When we started using microcomputers in our audio equipment we recognised that it was relatively easy to implement a remote control.

During the development of our active loudspeaker system we even felt the need for a centralised control system so we decided to provide our microcomputer controlled equipment with a serial interface.

At that time the most widely used interface was MIDI. The problem with MIDI however, is that each device must have its own connection with the control system which is not an efficient way of wiring. We wanted something like a network with the cable wired from one device to another and so on.

After having evaluated existing networks like Ethernet and Starlan we found that they were too complex and too expensive.

Finally we decided to develop our own network called SAnet.

Now I'll show you some of its main features.

(sheet 1)

Main Features

- SAnet is based on a network controller that fits into a PC.

(showing the SAnet board...)

The SAnet controller has been implemented on a board that fits into an extension slot of an IBM-compatible PC. The controller serves as an input/output processor to the PC and its software can be downloaded to allow for custom made applications.

- SAnet uses efficient wiring.

The network cable is bidirectional and is routed very efficiently from the PC along the devices. Each device has an SAnet input and output which are internally connected without any buffering electronics. When a device is malfunctioning, it can be switched off without affecting SAnet.

- SAnet can connect an unlimited number of devices.

Very large and complex systems can be controlled through one SAnet. We have already successfully controlled systems with more than one hundred Blue Boxes.

- The maximum length of the SAnet cable is 1000 meters.

This distance can be further increased to several kilometers using repeaters and allows you to control large sites like stadions, amusement parks, congress centers, etc...

- SAnet uses a high transmission speed of 375 kbits/second.

This speed is about ten times the speed of MIDI and assures you of a quick response when large amounts of devices are controlled.

- SAnet has an error free data transfer.

Error detection and retransmission techniques are used to guarantee error free data transfer.

Specially in very noisy environments this feature is essential for reliable device control.

Well, all those features are very nice but the most important thing is: what can SAnet do for you?

(sheet 2)

Applications

As SAnet is a multipurpose communication network it has numerous applications but I'll tell you what we are doing with it.

At the moment we have three devices equipped with an SAnet interface:

- Blue Box

The Blue Box is an active loudspeaker system that is used to compose large sound systems. Mr. Ben Kok will tell you everything about it in a moment.

- PPA-1200 Amplifier

The PPA-1200 amplifier is a very advanced amplifier that is used in automated sound systems in combination with passive loudspeakers.

- PPE-2410 Equaliser

The PPE-2410 equaliser is a programmable parametric equaliser that is used in automated sound systems to compensate for acoustical imperfections.

These three devices can be controlled by our PC-based software which allows you to control and monitor each parameter of any device. Settings can be written to disk and can be recalled instantly.

Also the graphic capabilities of the PC's screen make system control much more convenient. After the discussion I can give a demonstration to any one who is interested.

Another important application is the use of SAnet in combination with SMPTE and MIDI sync systems or other computers. By recalling prerecorded settings from disk you can integrate and synchronise the control of audio, video and light equipment.

The three devices I just mentioned ~~are~~ ^{have} each ^{been} provided with reprogrammable memory to allow for fast software updates via SAnet without dismounting the device. Specially in fixed installations this feature reduces service time significantly.

The devices are also equipped with an internal log-book that keeps track of several parameters like hours of operation, duration of overloads, etc... These data can be accessed through SAnet and is used as a basis for a maintenance system.

A ^{further} ~~related~~ application is the use of SAnet without the PC-based controller. One of the devices can be switched as a network Master to track the control of the other devices.

This application is very usefull ~~with~~ ⁱⁿ small setups where you can't afford the use of a PC.

Finally I would like to mention that we don't want to keep SAnet for ourselves and that its use is not restricted to audio equipment only. Other manufacturers are encouraged to implement SAnet in their devices. We are working together, for instance, with a lighting company to provide lighting equipment with an SAnet interface.

Well, I've come to the end of my SAnet presentation.
The next speaker is Mr. Ben Kok and he'll tell you everything
about our loudspeaker systems.