

applications continued

Intelligent terminal station

The mini-computer as an intelligent terminal station, provides the control of the peripherals as well as local processing and storage capability. In addition it provides access to a larger central processing facility via data communication when required.

Typical Functions

Local Processing
Terminal Control
Message editing formatting
Data compression

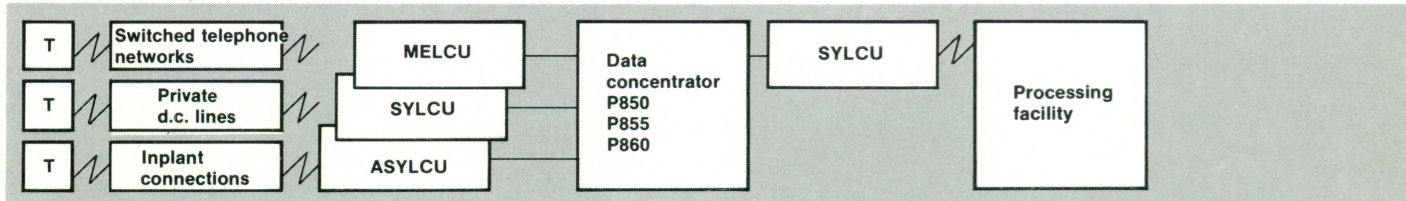
Message storage and buffering
Speed/data conversion.

Front end processor

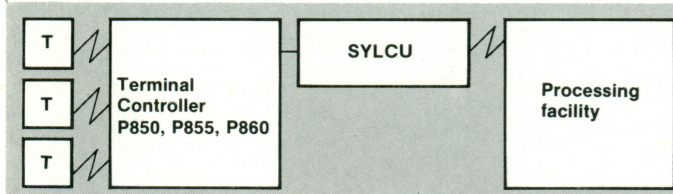
The mini-computer, as a front end processor performs a majority, if not all, of the data communication functions, and thus frees the central processing facility to process information.

The functions of the front end processor depend on the size of the mini-computer, the data network, the application environment, the economical trade-off.

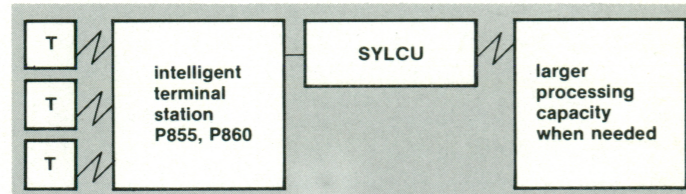
Data Concentrator



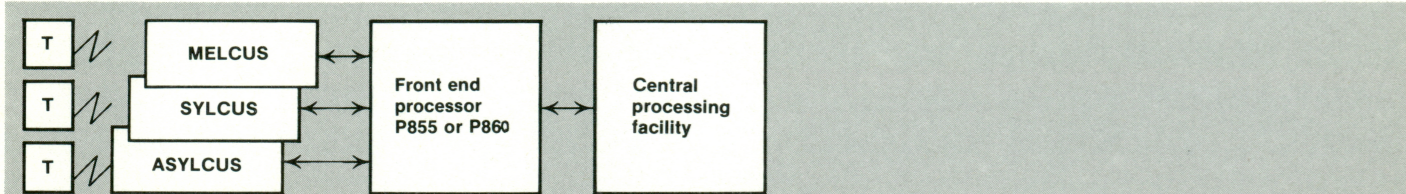
Terminal Controller



Intelligent terminal station



Front end processor

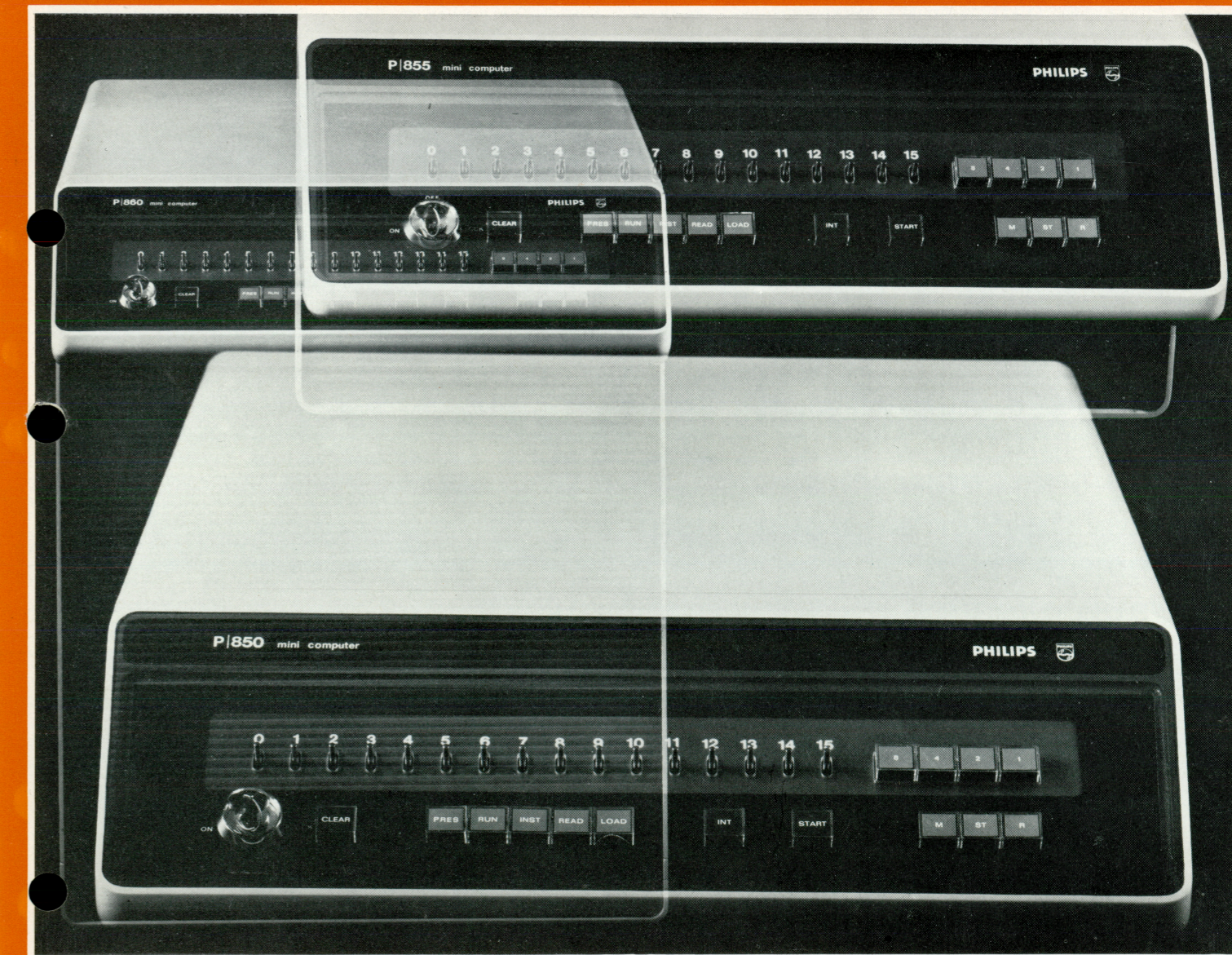


PHILIPS OEM MARKETING

Industry Group Small Computers P.O. Box 245, Apeldoorn, the Netherlands
phone: 05760-30123; telex 4 91 42

PHILIPS

data communication
P850/P855/P860



Full details can be had from the above address or:

EUROPE

Sweden
Svenska AB Philips Data Systems
Fack 183 03, Täby 03,
Stockholm,
Tel. 756 0020

Denmark
Philips Electrologica A/S
Prags Boulevard 80
2300 Kobenhavn S,
Tel. 2222

Norway
Norsk Aktieselskap Philips
Sorkedalsveien
Postbox 5040
Majorstua Oslo 3,
Tel. 463890

Finland
OY Philips AB
Kaivokatu 8
Helsinki 10
Tel. 10915

Belgium
NV Philips-Electrologica
Anspachlaan 1
1000 Brussel,
Tel. 193900

France
Philips M.E.P.
Division Ordinateurs
5, Square Max Hymans
75, Paris 15e,
Tel. 734 7759

Western Germany
Philips Electrologica GmbH
Geschäftsbereich Computer-Systeme
Liesegangstrasse 15
4 Düsseldorf,
Tel. 360361

Italy

Philips S.P.A.
Divisione Sistemi
Viale Fulvio Testi, 327
20162 Milano,
Tel. 6420951

Switzerland
Philips AG
Edenstrasse 20
8027 Zürich
Tel. 442211

The Netherlands
Philips-Electrologica Nederland NV
De Horst 4 (Postbus 2408)
Den Haag - Mariahoeve,
Tel. 814571

England
M.E.L. Equipment Company Ltd.
Manor Royal,
Crawley,
Sussex,
Tel. 0293 28787

NORTH AMERICA

U.S.A.
North American Philips Corp.
Dept. 007
100 East 42nd Street,
New York N.Y. 10017
Tel. 212 697 3600

FAR EAST

Japan
Philips Industrial Development
and Consultant Co. Ltd.
Kokusai Building 7th floor,
1-1, 3-Chome Marunouchi, Chiyoda-Ku,
Tokyo 100
Tel. 213 6752 9

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data systems

Philips has developed three data communication devices for its P850, P855 and P860 mini-computer family. They are: MELCU- Multiple Low Speed Line Control Unit; ASYLCU- Asynchronous Single Line Control Unit; SYLCU- Synchronous Single Line Control Unit.

They use MOS-TTL technology for reliability and compactness. As an MOS chip can hold between 500 and 750 transistor functions, each device can be located on a single board measuring only 208 x 310 mm.

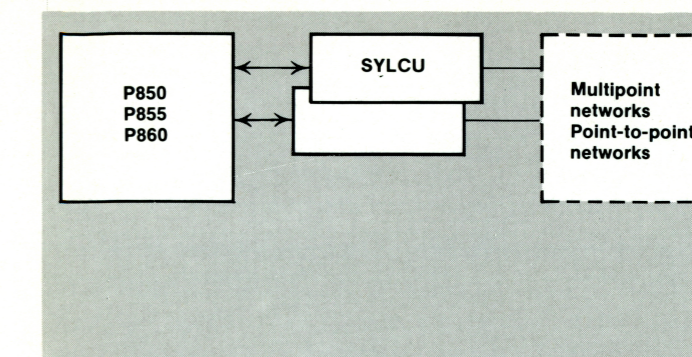
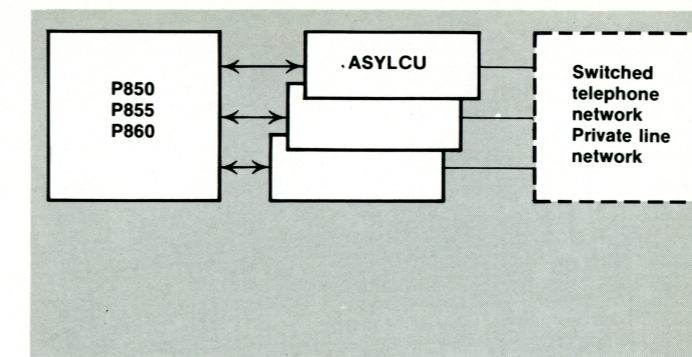
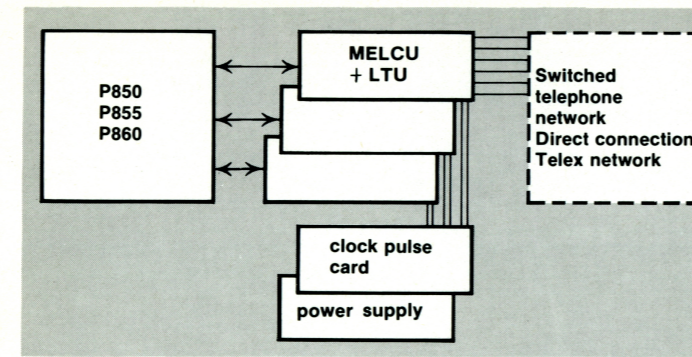
They enable the Philips mini-computers to handle the following:

- Transmission speeds ranging from 50 to 50,000 bits per second
- A number of transmission codes such as USASCII, ISO, EBCDIC etc.
- Telephone switched networks or dedicated data communication lines
- Inplant or outplant terminal devices
- Point to point or multipoint networks
- Half or full duplex transmission
- Operating with either a few or several hundred terminal devices.

These features plus the functional modularity make the following applications possible:

- Data concentrators
- Store and forward message switching
- Terminal controller
- Intelligent terminal stations
- Remote batch
- Data collection
- Time sharing

The data communication software, included with these mini-computers, will provide the basic Input/Output data communication functions for controlling the communication line and the transmitted data.



MELCU

Multiple Low Speed Line Control Unit

The MELCU provides the interface and the control between one of the Philips mini-computers and up to 8 full duplex asynchronous low speed lines. It couples to an LTU, Line Terminating Unit. Several of these exist for interfacing a variety of data communication lines.

FEATURES

- Full duplex transmission
- Standard line speed of 50, 75, 100, 110, 150, 200 and 300 bits per second
- Any other low speed as an option
- Data characters of 5, 6, 7, or 8 bits
- Odd, even or no vertical parity check
- Automatic answering capability for switched telephone or telex networks
- Line Terminating Unit for:
 - Switched telephone network in accordance with CCITT/RS232 standards
 - Telex networks
 - Direct connection to teletype terminals
 - Inplant connections
- Diagnostics for MELCU and LTU via an optional control panel
- Direct connection to the standard programmed channel
- One interrupt line for 1 or 2 MELCUs.

An internal clock pulse card samples the received bits at a very high rate to compensate for distortion caused by the data communication line. A power supply card provides the correct voltages for the MELCU, the LTU and the switched telephone network modem.

ASYLCU

Asynchronous Single Line Control Unit

The ASYLCU provides the interface and the control between one of the Philips mini-computers and an asynchronous low or medium speed line up to 2400 bits per second. It includes the line termination interface for the data communication line for modems operating in accordance with CCITT-V23 recommendation.

FEATURES

- Half duplex or full duplex transmission
- Speeds up to 2400 bits per second
- Assembly and disassembly of characters
- Data characters of 5, 6, 7 or 8 bits
- Stripping or generation of start/stop bits
- Odd, even, or no vertical parity check
- Automatic answering capability
- Direct connection to a programmed channel
- Diagnostics via an optional panel.

The ASYLCU uses the same internal clock pulse card and power supply as the MELCU. Full duplex operation requires two ASYLCUs and two interrupt lines.

SYLCU

Synchronous Single Line Control Unit

The SYLCU provides the interface and the control between one of the Philips mini-computers and a synchronous medium or high speed line up to 50,000 bits per second for inplant connection and 9600 bits per second for switched, leased or dedicated lines. It includes the line termination interface for the data communication line.

FEATURES

- Half duplex or full duplex transmission
- Assembly and disassembly of characters
- Data characters of 6, 7 or 8 bits
- Odd, even, or no vertical parity check
- LRC or CRC capability
- Point to point or multipoint networks
- Detection of control characters
- Deletion of synchronization characters
- Direct connection to a programmed or multiplex channel
- Supports ECMA and BSC procedures
- Diagnostics via an optional panel.

The SYLCU uses the same power supply as the ASYLCU and the MELCU. Full duplex operation requires two SYLCUs and two interrupt lines.

The CRC computations, and control characters recognition are provided either by software or hardware. This hardware option, applicable, for example, to high speed synchronous transmission, will be provided on an option card.

applications

Some of the possible applications of the P850, P855 and P860 mini-computers are described here.

Data Concentrator

These mini-computers, as data concentrators, economically interface a number of low speed devices to the remote central processing system. The concentrator combines several lower speed lines into one higher speed communication line and performs some of the basic data communication functions as outlined overleaf.

Typical Functions

Multiplexing from lower-speed to higher-speed lines
 Message buffering
 Line control
 Error checking
 Automatic answering.

Terminal Controller

As terminal controllers they can control various input or output terminal or peripheral devices for remote access to a batch processing facility.

Typical Functions

Control of Terminals
 Message formatting
 Code conversion
 Data compression
 Speed conversion
 Message buffering.