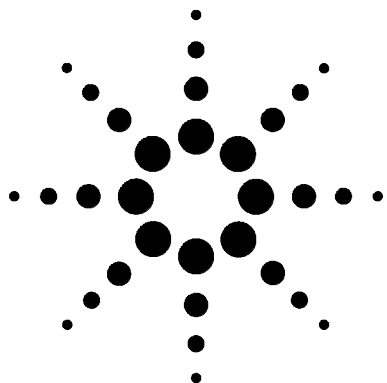




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The Agilent 35900 is a dual-channel run buffered interface that connects analytical instruments to Agilent data systems. It converts the analog signal from analytical instruments to digital data and transmits it to the host computer for further processing. The 35900 is intended for use with both Agilent and non-Agilent manufactured laboratory instruments.

The 35900 uses Modular Input/Output (MIO) for host communications. MIO is a standard designed to allow for maximum flexibility in peripheral to host communications. The 35900 has an MIO slot on the rear panel for plug-in MIO cards. The TCP/IP LAN MIO card connects the 35900 to the networked Agilent data systems. The GPIB/RS-232 MIO card connects the 35900 to Agilent data systems using the GPIB functionality.



Features

The 35900 (Figure 1) features include the following:

- Data buffering
- Independent analog-to-digital (A/D) converters
- Real-time control
- Instrument control ports
- Host communication
- Front panel indicators that show run status, interface activity, etc.
- Compatibility with Agilent data systems
- External power adapter with 24V DC output

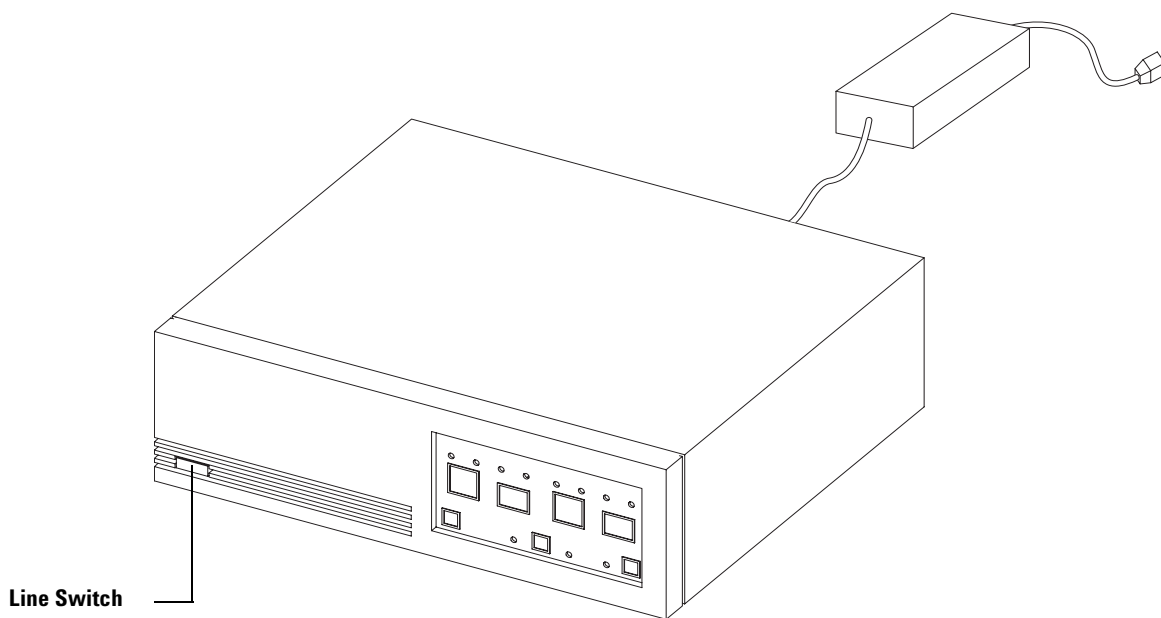


Figure 1 Agilent 35900 dual channel interface

Independent Analog-to-Digital Converters

The analog-to-digital channels provide 24-bit analog-to-digital conversion of up to two independent analog signals. The analog inputs can either be totally asynchronous (have no relationship at all to each other) or synchronous (separate signals, but logically related to the same START reference). To allow asynchronous operation, each channel has separate Start/Stop switches, status indicators, and controllable digital I/O. The analog input signal is digitized by a continuously integrating A/D converter. This means that the input signal is continuously applied to the converter's input, and because of that, no portion of the signal is ever lost due to input multiplexing or the sampling process.

Real-Time Control

The 35900 provides a set of real-time control functions for a host computer system. These can be separated into two groups:

- Remote Control Bus
- Digital (TTL I/O) Ports

Remote control bus

The Remote Control Bus is a hardware interface that provides a set of defined signals most frequently encountered in the laboratory environment. These signals include START, STOP, READY and START REQUEST. The 35900 has one Remote Bus per channel to allow for asynchronous operation. These connectors are 9-pin "D-Type" female connectors each having eight bidirectional (input/output) signals.

Digital (TTL I/O) ports

Each channel has a dedicated TTL I/O connector with 16 signal lines. Of the 16, eight are bidirectional configurable as inputs or outputs (for such functions as valve control) and the remaining eight lines are input-only signals (for such functions as bottle numbers).

Instrument Control Ports

There are two RS-232 ports (one for each channel) that may be used to interface with RS-232 compatible lab instruments such as certain autosamplers, balances, GCs, etc.

Line protocols and operating modes for RS-232 communication are configured via commands from the host computer.

Host Computer Communication

The 35900 has an MIO slot for host communications. There are presently two MIO cards that can be used with the 35900. Option 010 is used for LAN (TCP/IP) communications. Option 011 (or accessory G1847A) is used for RS-232 and GPIB communication.

Front Panel

The front panel of the 35900 has two buttons and three indicator lights for each channel. There are also four indicator lights at the bottom of the panel to convey general information about the state of the 35900 interface.

Start/Stop push buttons

Each channel has **START** and **STOP** push buttons that may be used to manually start and stop analytical runs. These push buttons can be individually enabled or disabled by the host computer software controlling the 35900.

Run status indicators

Each channel has three indicator LEDs (light emitting diodes).

READY—Indicates there is no current activity on the channel and it is ready to begin a chromatographic run.

RUN—This light indicates a run is in progress on that channel.

NOT READY—This light indicates the channel cannot start another run until other events are completed.

Hardware monitoring indicators

There are four indicator LEDs on the bottom of the front panel that display the status of the 35900.

ACTIVE—Indicates that there is data present in the interface that will be lost if the 35900's power is turned off.

COMM—This light indicates that the 35900 is communicating with the host computer.

FAULT—This light indicates that a nonrecoverable error occurred.

POWER—This light indicates that power is applied to the instrument and that the LINE switch is turned on.

Important Safety Warnings

Before moving on, there are several important safety notices that you should always keep in mind when using the 35900 Dual Channel Interface.

WARNING

If the power cord insulation is cut or worn, the cord must be replaced. Contact your Agilent service representative.

Electrostatic discharge is a threat to 35900 electronics

The printed circuit (PC) boards in the 35900 can be damaged by electrostatic discharge. Do not touch any of the boards unless it is absolutely necessary. If you must handle them, wear a grounded wrist strap and take other antistatic precautions. Wear a grounded wrist strap any time you must remove the 35900 right side cover.

Safety and Regulatory Certifications

The 35900 Dual Channel Interface conforms to the following safety standards:

- International Electrotechnical Commission (IEC): 61010–1
- EuroNorm (EN): 61010–1

The 35900 Dual Channel Interface conforms to the following regulations on Electromagnetic Compatibility (EMC) and Radio Frequency Interference (RFI):

- CISPR 11/EN 55011: Group 1, Class A
- IEC/EN 61326
- AUS/NZ 

This ISM device complies with Canadian ICES-001. Cet appareil ISM est conforme à la norme NMB–001 du Canada.



The 35900 Dual Channel Interface is designed and manufactured under a quality system registered to ISO 9001.

Information

The Agilent Technologies 35900 Dual Channel Interface meets the following IEC (International Electro-technical Commission) classifications:

Equipment Class III, Laboratory Equipment Installation Category II, Pollution Degree 2. Excludes the power adapter which is ground protected.

This unit has been designed and tested in accordance with recognized safety standards and is designed for use indoors. If the instrument is used in a manner not specified by the manufacturer, the protection provided by the instrument may be impaired. Whenever the safety protection of the 35900 Dual Channel Interface has been compromised, disconnect the unit from all power sources and secure the unit against unintended operation.

Symbols

Warnings in the manual or on the instrument must be observed during all phases of operation, service, and repair of this instrument. Failure to comply with these precautions violates safety standards of design and the intended use of the instrument. Agilent Technologies assumes no liability for the customer's failure to comply with these requirements.

See accompanying instructions for more information.



Indicates a hot surface.



Indicates hazardous voltages.



Indicates earth (ground) terminal.



Indicates electrostatic discharge hazard.



Indicates that you must not discard this electrical/electronic product in domestic household waste.



Electromagnetic compatibility

This device complies with the requirements of CISPR 11. Operation is subject to the following two conditions:

- This device may not cause harmful interference.
- This device must accept any interference received, including interference that may cause undesired operation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try one or more of the following measures:

- 1** Relocate the radio or antenna.
- 2** Move the device away from the radio or television.
- 3** Plug the device into a different electrical outlet, so that the device and the radio or television are on separate electrical circuits.
- 4** Make sure that all peripheral devices are also certified.
- 5** Make sure that appropriate cables are used to connect the device to peripheral equipment.
- 6** Consult your equipment dealer, Agilent Technologies, or an experienced technician for assistance.

Changes or modifications not expressly approved by Agilent Technologies could void the user's authority to operate the equipment.

Cleaning

To clean the unit, disconnect the power and wipe down with a damp, lint-free cloth.

Recycling the Product

For recycling, contact your local Agilent sales office.