

## FIELDRIVE®

FIPWARE®: ALSTOM technology for WorldFIP®

**The FIELDRIVE chip is a high-immunity line driver dedicated to interface a protocol component to a copper twisted pair through an insulating transformer.**

FIELDRIVE outperforms classical level oriented drivers and includes extra functions such as jabber inhibit, line monitoring and loopback.

It can operate at any of the four IEC 61158-2 and EN 50170-3 (WorldFIP) standard speeds by just changing a few external passive components.

Manufactured in 1.5µm CMOS technology, the FIELDRIVE component is available in PLCC28 packaging.

The FIELDRIVE component is designed for connection to a communication coprocessor (e.g. FULLFIP2®, MICROFIP®, offering an MAU-MDS interface. FIELDRIVE line driver integrates a line receiver, a transmission error detection circuit, a monitoring interface and a test interface circuit.



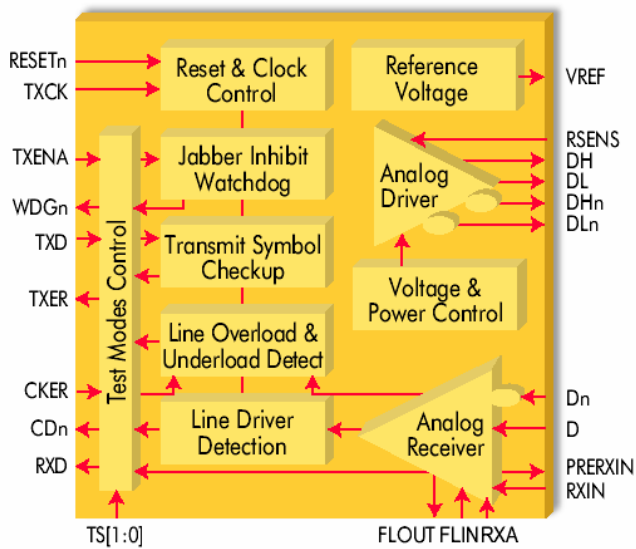
FIELDRIVE also includes line overload/underload detection and a watchdog for the jabber inhibit function.

FIELDRIVE integrates diagnostic features that provide loopback capabilities which can

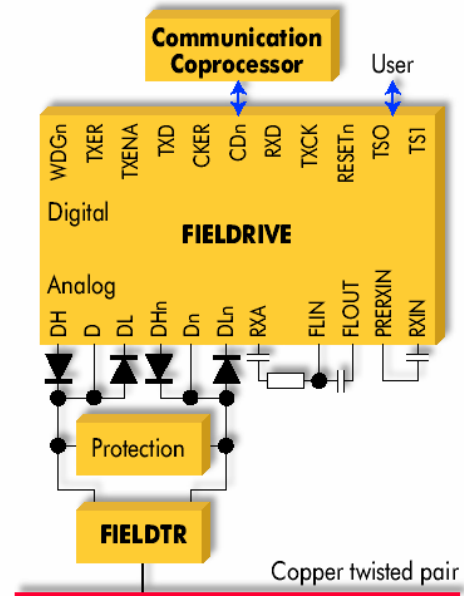
be used by the application test routines.

FIELDRIVE component was designed to be associated with an insulating transformer, a protection circuit and RC filtering elements (depending on the network bit rate).

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FIELDRIVE functional diagram



Typical application

### Features

IEC 61158-2 and EN 50170-3 (WorldFIP) voltage mode for 31.25 kbits/s, 1 Mbit/s, 2,5 Mbits/s and 5 Mbits/s bit rates.

Differential reception, using external filter adapted to the speed.

Integrated push-pull stage to drive on line.

Carrier detection based on signal level and digital processing.

Monitoring current levels and maximum duration.

### Specifications

Supply voltage (DC)	5V ± 5%
Supply current (DC)	40mAmps
Clock	62.5 KHz at 31.25 kbits/s
	2 MHz at 1 Mbit/s
	5 MHz at 2.5 Mbits/s
	10 MHz at 5 Mbits/s
Temperature range	- 40°C to + 85°C
Storage temperature	- 40°C to + 125°C
Packaging	PLCC28
Manufacturer	National Semiconductor Corp.

WorldFIP® is a registered trademark of WorldFIP Association.

# ALSTOM

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