



www.rs485.com and/or www.fiberspace1.com

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Welcome to RS485.COM...

PRELIMINARY INFORMATION

SS SERIES OF CONVERTERS FOR CATEGORY 5 AND OTHER
RS232 ⇔ RS485/RS422 APPLICATIONS

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INTRODUCTION AND GENERAL INFORMATION

The SS (super simple) series of automatic converters are designed to provide a practical/straight-forward method to implement remote serial data communications, in both 2-wire(RS485, half-duplex) or 4-wire(RS422, full-duplex) applications. Point-to-point and/or multi-drop networks can be constructed using various models from our product line. Many of the unit can be used with Category 5 cables, at distances up to 4000 ft. (1250 meters) and at data rates up to 115.2kbps. In general most units/models do NOT have any jumpers to contend with, power per unit is generally well below 1/2W (with an input voltage range of 8-15VDC or more), and limited slew rate drivers/receivers eliminate many problems concerning termination.

Light bias is a built in feature for many units, and a powered "hub" board is available to provide jumper-selectable bias and/or termination as required. In many applications power to the "hub," can be distributed to other converters on the network.

The product line is designed to work with Cat-5 cables, that are readily available for 10 Base T Ethernet applications (Note: Do not connect these

units to an Ethernet system). Our design(s) uses the center pair of conductors (RJ45 pins 4/5) for Tx/Rx data in 2-wire systems. In 4-wire systems the second pair of conductors (RJ45 pins 3/6) are used for data also. The pair of conductors connected to pins 1/2 are used as signal/power common, and the pair of conductors connected to pins 7/8 are used to supply raw +voltage to the network (individual units on the network have +5 volt linear regulators). In a typical point-to-point application, such as an "RS232 extension-cord," power can be applied at the host computer and distributed to the remote unit via the Cat-5 cable at distances of 1000ft. or more. For longer distances, local power can be applied at the remote end.

Enclosures, RS232 cables, wall power-supplies, and Cat-5 cables in various lengths are available from us. A simple to use RS232 extension-cord "Kit" (no assembly required) for full or half-duplex communications with all accessories is available for only \$99.00 (3ft. test cable) or \$115.00 (with 100ft. Cat-5 cable).

TECHNICAL BULLITIN to EXTENDING the DISTANCE of RS232 to 4000FT. (1250 meters), and/or up to 115.2Kbps, using the EC232CAT and/or EC232CAT-100 "Kit(s)" for CAT-5, RS232 "EXTENSION CORD" applications.

In many applications, the distance between a host computer and a target serial device can extend well beyond the recommended 50 foot maximum limit for RS232 communications. The solution is to employ a pair of RS232 <=> RS422 converters to extend the distance.

A fully assembled/tested conversion "kit" consisting of two converters, two enclosures, a 7ft. DB9F cable, a 7ft. DB9M cable, one wall power supply, and a 3ft. Cat-5 test cable (100ft. cable with -100 "Kit") is available from R. E. Smith (513-874-4796, www.rs485.com). These units do NOT support any handshaking signals. Setup instructions are as follows:

- 1) Connect the RJ11 connector of the DB9F-7 cable to the SSAC232F converter.

- 2) Connect the RJ11 connector of the DB9M-7 cable to the SSAC232M converter.
- 3) Connect the 3ft. Cat-5 cable (or 100ft.) between the two converters.
- 4) Connect the DB9F adapter to your host computer.
- 5) Connect the DB9M adapter to your "remote" target RS232 device.
- 6) Connect the wall power supply to the SSAC232F converter and apply AC power.
(Note: If Cat-5 cable length exceeds approximately 1000-2000ft. it might be necessary to apply an additional wall power supply to the SSAC232M converter, due to power voltage drops in the Cat-5 cable.)
- 7) Next apply power to your host computer and target RS232 device. You are now ready for full duplex communications between the units.
(Note: The SSAC232F and SSAC232M converters do NOT support any hand-shaking signals. It might be necessary to select NO-handshaking for your host computer and/or target RS232 device. This full-duplex RS232 "extension-cord" will operate at distances up to 4000ft. (1250 meters) and at baud rates up to 115.2kbps.)
- 8) No jumper settings are required in this system. Please call 513-874-4796 if you have any problems getting your system to operate. If the system does NOT operate initially, remember that the Baud rate, and communications parameters must be the same. Also, handshaking can cause problems if not disabled.

CURRENT LIST OF SS (SUPER SIMPLE) SERIES CONVERTERS, OTHER CAT-5 CONVERTERS, AND ACCESSORIES:

SPECIAL NOTE: Due to the low cost, and special nature of the SS Series of converters, units can only be purchased with ALL accessories for quantity 1-9. Other pricing options/configurations are available for quantity 10 and above.

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| RJ45 COUPLER (8P8C) | 1.50 |
| DB9F-7 RS232 CABLE | 7.50 |
| WALL POWER SUPPLY (9V @ 300mA) | 7.50 |
| ENCLOSURE-S (SMALL ENCLOSURE) | 8.00 |
| ENCLOSURE-M (MEDIUN ENCLOSURE) | 10.00 |
| 100FT CAT-5 CABLE WITH RS45 CONNECTORS | 16.00 |
| HUBCAT RS485, 4-RJ45 | 19.00 |
| SSAC24R RS485, RJ12/RJ45 | 29.00 |
| SSC232F RS422, RJ12/RJ45 (SOLD AS PAIR) | 29.00 |
| SSC232M RS422, RJ12/RJ45 (SOLD AS PAIR) | 29.00 |
| SSAC24WS RS485 SPECIAL | 29.00 |
| SSAC24T RS485, RJ12/3-PIN TERM | 32.00 |
| SSAC44T RS485/RS422 JUMPERS | 45.00 |
| DB9CAT RS232/RS422 DB9M-RJ45 | 69.00 |
| EC232CAT RS232 FULL-DUPLEX RJ12/RJ45 | 99.00 |
| EC232CAT-100 EC232CAT W/100FT CABLE | 115.00 |