

TECHNICAL INFORMATION

JANUARY 14, 2001 (updated 4-1-03)

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 an optional 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 a user supplied the Cat-5 cable between the two converters.
- 4) Connect the DB9F adapter to your host computer.
- 5) Connect the DB9M adapter to your "remote" target RS232 device.

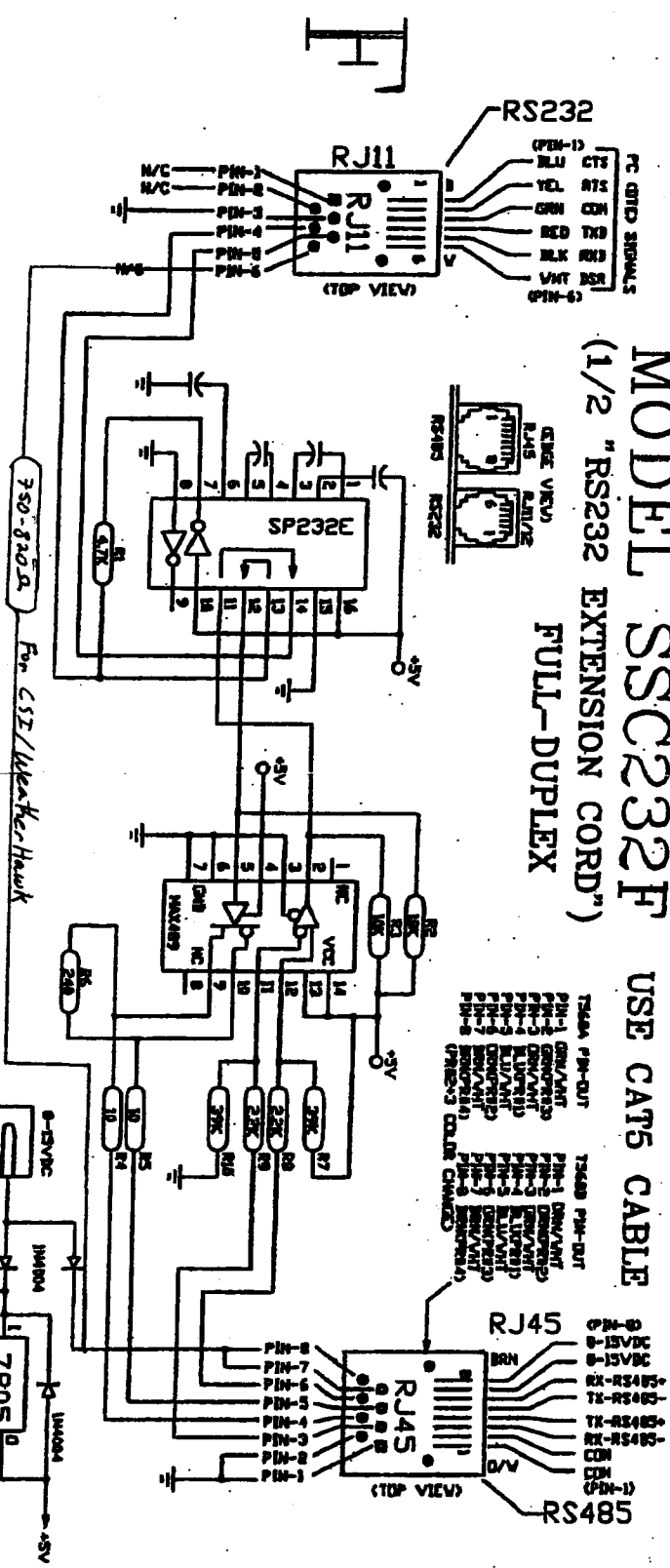
- 6) Connect the wall power supply to the SSAC232F converter and apply AC power.
(Note: If Cat-5 cable length exceeds approximately 1000-1500ft. it might be necessary to apply an additional wall power supply to the SSAC232M converter, due to power voltage drops in the Cat-5 cable.)
 - 7) Next apply power 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.
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EC232CAT PARTS LIST (1 EACH):

- 1) SSAC232F RS232⇔RS422 CONVERTER
- 2) ENCLOSURE-S FOR SSAC232F CONVERTER
- 3) DB9F-7 RS232 CABLE FOR SSAC232F
- 4) 9VDC WALL SUPPLY FOR SSAC232F
- 5) SSAC232M RS232⇔RS422 CONVERTER
- 6) ENCLOSURE-S FOR SSAC232M CONVERTER
- 7) DB9M-7 RS232 CABLE FOR SSAC232M
- 8) THIS TECHNICAL BULLITIN
- 9) SSAC232F SCHEMATIC
- 10) SSAC232M SCHEMATIC
- 11) USER SUPPLIED CAT-5 CABLE

MODEL SSC232F USE CAT5 CABLE

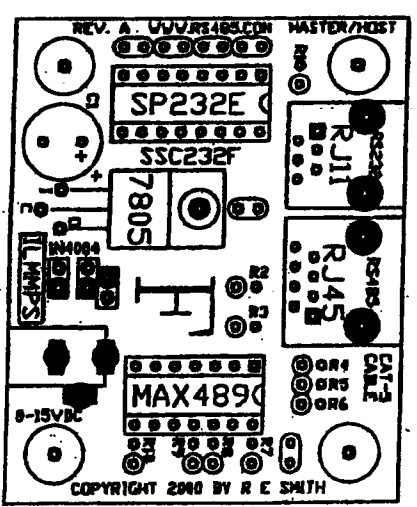
(1/2 "RS232 EXTENSION CORD") FULL-DUPLEX



SPECIFICATIONS

- 1) SIZE: 2.50" X 2.00" X 0.9" (PC BOARD) WITH CONNECTORS: 2.50" X 2.25"
- 2) MOUNTING HOLES: 4-PLACES 2.00" X 1.50" (#6 HARDWARE)
- 3) LIMITED SLEW RATE RS485 DRIVER (MAX489) IC.
- 4) TEMPERATURE RANGE: 0C TO 65C
- 5) HUMIDITY: 10-90% RH NON-CONDENSING
- 6) BAUD: 300-115.2K (LIMITED SLEW)
- 7) OPERATING VOLTAGE: 8-15VDC
- 8) TYPICAL POWER UNDER 0.5W
- 9) FULL-DUPLEX 4-WIRE RS422/485

ACTUAL SIZE (1:1)



GENERAL INFO.

FULL-DUPLEX RS232C=>RS422/
RS485 CONVERTER FOR 4-WIRE
APPLICATIONS AT BAUD RATES
UP TO 115.2K. LIMITED SLEW
RATE DRIVER WITH LIGHT
ONBOARD BIAS AND TERMINATION.

NOTE: USE THIS BOARD WITH
DB9F-7 CABLE AT HOST PC END,
ALSD APPLY POWER HERE.

R.E. SMITH
4311 TILLESVILLE ROAD
HAMILTON, OHIO 45011
(513) 874-4796

WWW.RS485.COM

OPTIONAL ENCLOSURE,
CABLE (DB9F OR DB25F),
AND POWER SUPPLY
ARE AVAILABLE.

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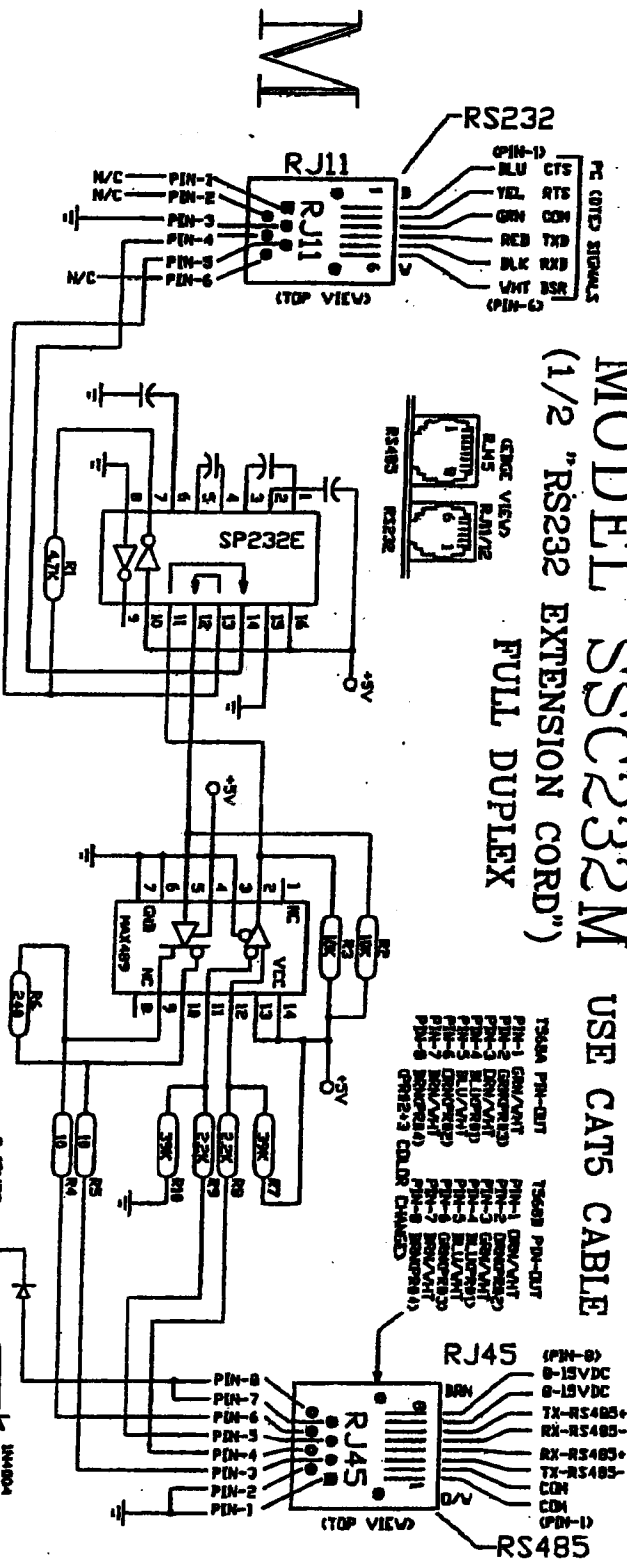
DATE 2-17-00
DRAWN BY RES
CHECKED BY RES
SHEET 1 OF 1

SUBJECT RS232 TO CAT-5
EXTENSION CORD
RES R. E. SMITH
SSC232F

MODEL SSC232M

(1/2" RS232 EXTENSION CORD")
FULL DUPLEX

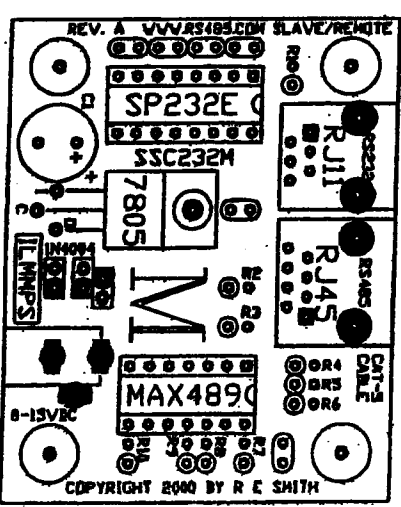
USE CAT5 CABLE



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ONBOARD BIAS AND TERMINATION.

NOTE: USE THIS BOARD WITH
DB9M-7 CABLE AT REMOTE END,
AND OPTIONAL POWER IF NEEDED.

R. E. SMITH
4311 TYLERVILLE ROAD
HAMILTON, OHIO 45011
(613) 874-4798

WWW.RS485.COM

OPTIONAL ENCLOSURE,
CABLE (DB9F DR DB25F),
AND POWER SUPPLY
ARE AVAILABLE.

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<p>DATE: 11-01-00</p> <p>SCALE: NONE</p>	<p>SUBJECT: RS232 TO CAT-5</p>	<p>DESIGNED BY: R. E. SMITH</p> <p>DATE: 11-01-00</p>	<p>REV: A</p>