



RelComm, Inc

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9110003
9110003E

Automatic Backup Switch

RS-232 — Fallback

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Notes

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Limited Warranty service may be obtained by delivering the Product during the warranty period to RCI and providing proof of purchase date. If this Product is delivered by mail, you agree to insure the Product or assume the risk of loss or damage in transit, to prepay shipping charges to the warranty service location and to use the original shipping container or equivalent. For further information, contact Service, 4868 Hwy. 4, Suite G, P.O. Box 640, Angels Camp, California 95222, 209-736-0421, www.relcomm.com.

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FEDERAL COMMUNICATIONS COMMISSION AND INDUSTRY ANADA RADIO FREQUENCY INTERFERENCE STATEMENTS

This equipment generates, uses, and can radiate radio frequency energy and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio communication. It has been tested and found to comply with the limits for a Class A computing device in accordance with the specifications in Subpart J of Part 15 of FCC rules, which are designed to provide reasonable protection against such interference when the equipment is operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference, in which case the user at his own expense will be required to take whatever measures may be necessary to correct the interference.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

5. Operation

The RS-232 Fallback Switch will begin operating immediately as soon as you plug its power cord (SW901A) or the input cord of its power supply (SW901AE) into a utility-power outlet—the unit has no ON/OFF switch. It will continue operating until it is unplugged.

For normal automatic switching, leave the Fallback Switch's front-panel toggle switch in the left-hand ("AUTO") position. To manually (override) switch to the device on the primary channel, move this toggle switch to the center ("PRI") position. To manually (override) switch to the device on the alternate channel, move this toggle switch to the right-hand ("ALT") position. As long as this toggle switch is in the PRI or ALT position, the Fallback Switch will maintain a dedicated connection to the corresponding device; it will never automatically switch to the other device until this toggle switch is returned to the AUTO position.

While the Fallback Switch is operating and is switched (automatically or manually) to the primary device, its front-panel "PRIMARY" LED will be lit. While the unit is switched to the alternate device, the "ALTERNATIVE" LED will be lit.

4. Installation

Once you have made any necessary adjustments to its configuration, the RS-232 Fallback Switch can be installed. Take these steps:

1. Place the Fallback Switch in a cool, dry place close to the devices you want to attach to it.
2. Run cable from your primary modem (or other device) to the PRIMARY connector on the Switch's rear panel. For a modem or other DCE, this cable should be straight-through-pinned RS-232 cable; for a DTE device, this cable will need to be specially cross-pinned
3. Run cable from your alternate modem (or other device) to the ALTERNATE connector on the Switch's rear panel. For a modem or other DCE, this cable should be straight-through-pinned RS-232 cable; for a DTE device, this cable will need to be specially cross-pinned
4. Run cable from the master or common device (server, PC, host, printer, etc.) to the MASTER connector on the Switch's rear panel. For a computer, printer, or other DTE, this cable should be straight-through-pinned RS-232 cable; for a DCE device, this cable will need to be specially cross-pinned
5. Attach the Fallback Switch's power cord or the output cord of the switch's power supply to the IEC 320 male inlet on the unit's rear panel.

This completes the installation of the RS-232 Fallback Switch. It should be ready for continuous operation; see the next chapter.

1. Specifications

Compliance —	Both models: FCC Class A, IC Class/classe A;
Compatibility —	Compatible with dialup modems using ITU-TSS V.34, V.32 bis, V.32, and most other major modem stds.
Interfaces —	EIA RS-232C (DCE on common or master port, DTE on primary and alternate ports) and modular telco
Protocols —	Synchronous or asynchronous
Clock Source —	External (from attached DTE) or recovered (from attached DCE)
Data Format —	Transparent to data format
Flow Control —	Transparent to flow control, but monitors/switches on DSR, CTS, or RLSD (CD); also passes or forces DTR
Operation —	Automatic fallback (default), automatic switching, or manual switching (user-selectable); Automatic modes can respond to DSR (default), CTS, or CD (user-selectable); DTR can be forced or passed on the Alternate channel (user-selectable)
Maximum Distance —	Up to 50 ft. (15.2 m) to any attached RS-232 device with standard cable
Data Rate —	Up to maximum rate supported by cabling
User Controls —	(1) Front-mounted 3-position toggle switch for mode/channel selection; (4) internal jumpers for mode and trigger-signal selection

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Indicators —	(2) Front-mounted LEDs: (1) each for the primary and alternate (“ALTERNATIVE”) channels
Connectors —	(3) Rear-mounted DB25 female: common (master), primary, and alternate ports
Leads Supported —	1 through 8, 15, 17, 20 through 22, and 24 (PGND, TD, RD, RTS, CTS, DSR, SGND, RLSD [CD], TSETC [TC], RSETC [RC], DTR, RI, SQD, and TSETT [EXTC] respectively; Pins 1 and 7 (PGND and SGND) tied common
MTBF —	180,000 hours
Temperature Tolerance —	Operating: 32 to 122° F (0 to 50° C); Storage: -4 to 158° F (-20 to 70° C)
Humidity Tolerance —	0 to 95% noncondensing
Enclosure —	High-impact ABS plastic
Power —	Input: 9110003 115 VAC, 60 Hz, or 220 VAC, 50 Hz (selectable) through detachable power cord (included) and internal power supply; 9110003E : 230 VAC, 50 Hz through desktop power supply; Output (power supplies of both models): 18 VAC, 60 Hz, at 700 mA Consumption (both models): 8 watts
Size —	2.2"H x 8"W x 11.3"D (5.6 x 20.3 x 28.7 cm)
Weight —	2.7 lb. (1.2 kg)

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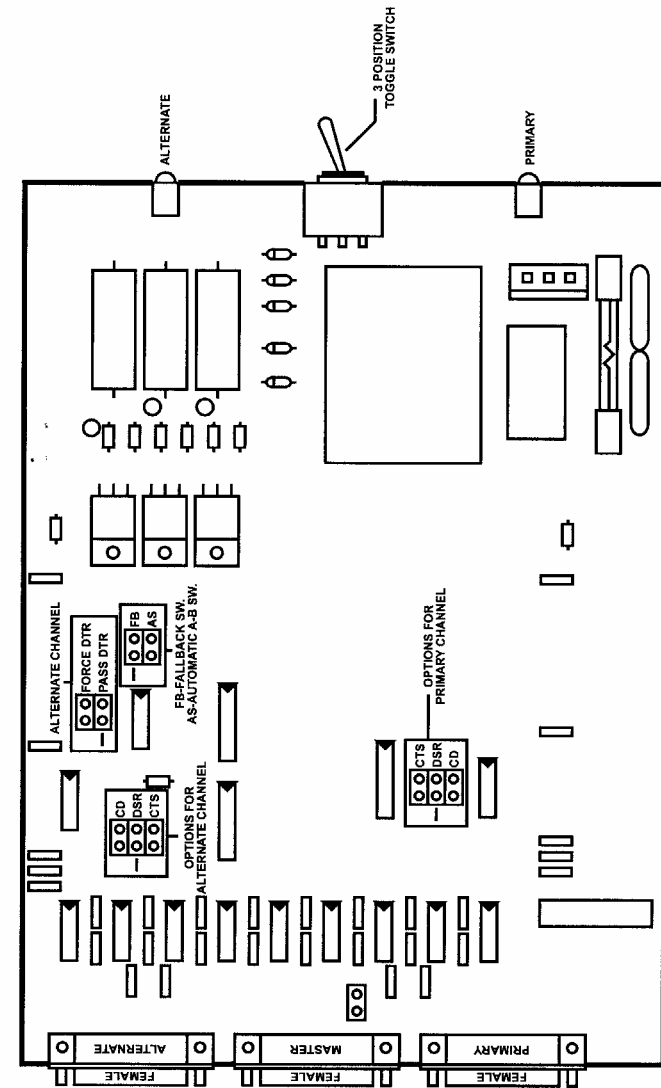


Figure 3-1. Layout of the Switch's printed circuit board.

These two jumpers can be set differently.

Force DTR/Pass DTR on Alternate Channel

The RS-232 Fallback Switch is factory-preset to pass through the state of the DTR signal (Data Terminal Ready, Pin 20) from the master channel to the alternate channel. However, if the device on the alternate channel needs to sense DTR even when it isn't active, you can set this jumper to have the Switch force DTR high on the alternate channel.

2.2 Configuration Procedure

If you need to change the settings of any of the RS-232 Fallback Switch's configuration jumpers, take these steps:

1. Making sure that the Fallback Switch is OFF and unplugged from utility power, unscrew and temporarily remove the screws from the bottom of the Fallback Switch.
2. Lift off the Switch's top cover.
3. Referring to Figure 3-1 on the next page, move the jumper(s) to the desired position(s).
4. Replace the Switch's cover and screw the screws back in.

2. Introduction

The RS-232 Fallback Switch is designed to allow automatic electronic switching between two modems (see **Figure 2-1** below). It has two automatic modes of operation—regular fallback and auto-switching—that you can customize by setting jumpers inside the unit (refer to **Chapter 3**). Alternatively, you can operate the Fallback Switch manually, physically switching between modems as needed.

You can use the RS-232 Fallback Switch to switch between RS-232 devices other than modems, but you need to make sure that those devices and the cables that attach them to the Fallback Switch are pinned in such a way that the devices can communicate properly with the Fallback Switch; see **Figure 2-2** on the next page for the pinout of the Switch's RS-232 ports.

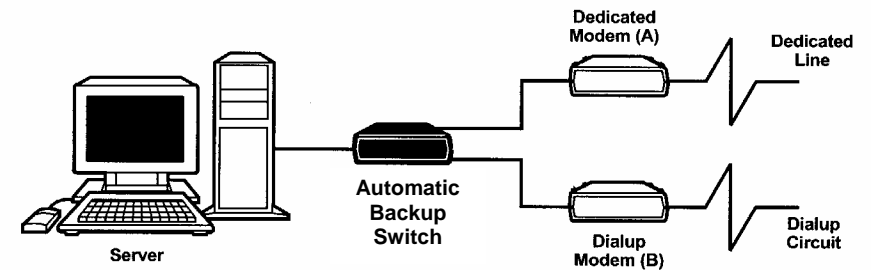


Figure 2-1. A typical application.

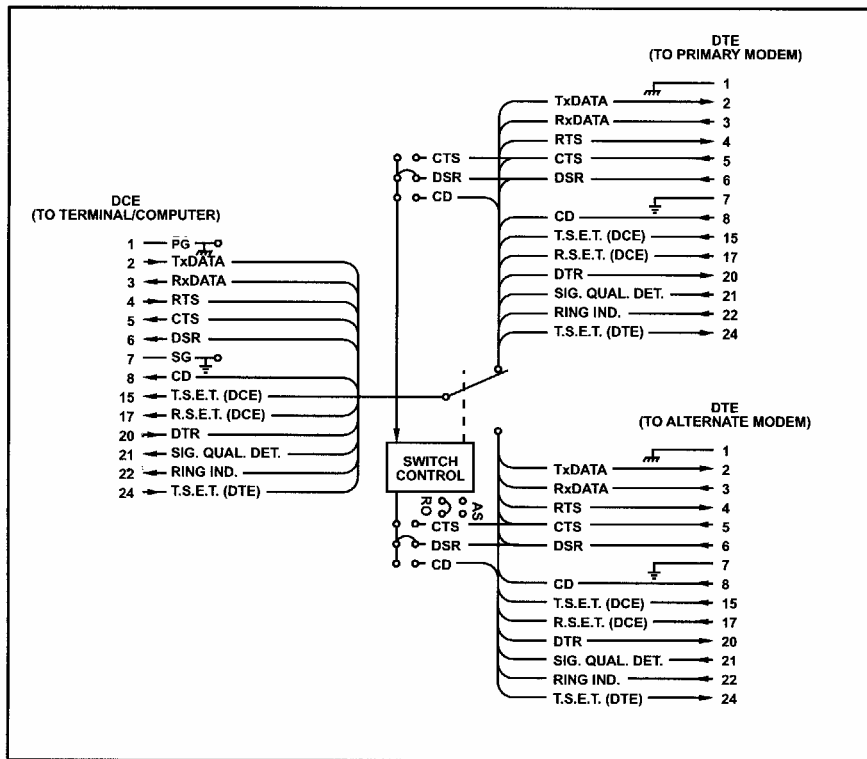


Figure 2-2. Signal handling.

3. Configuration

Before you install the RS-232 Fallback Switch, you should set its internal jumpers if you need it to do anything different from its default functions. There are four of these jumpers, as described below (refer to **Figure 3-1** on page 11).

3.1 Jumper Descriptions

FB/AS: Fallback vs. Auto-Switching Mode

The Fallback Switch is factory-preset to operate in normal fallback (FB) mode. In this mode, the Fallback Switch expects to communicate with the modem attached to the PRIMARY connector under normal circumstances. However, when the Switch senses DSR (or CTS or CD, depending on which of these “trigger signals” you select—see below) on the ALTERNATE connector, it switches to the modem attached to that connector. (This switch occurs even if the primary modem is still operating.) When the Fallback Switch no longer senses the trigger signal, it “falls back” to the primary modem.

By contrast, if you set this jumper to auto-switching (AS) mode, the Fallback Switch doesn’t give either the PRIMARY or the ALTERNATE channel higher priority than the other; it will switch to whichever modem raises the trigger signal first, and won’t switch back to the other modem until the currently connected one drops the trigger signal.

CD/DSR/CTS (Primary and Alternate): “Trigger Signal” Control

During automatic operation, the RS-232 Fallback Switch is constantly checking for the presence of a “trigger signal” that controls its switching function. The Fallback Switch comes from the factory preset to look for DSR (Data Set Ready, Pin 6) as the trigger signal, but you can set either of these jumpers to have the Switch monitor CTS (Clear to Send, Pin 5) or CD (“Carrier Detect,” Pin 8—actual name RLSD, Received Line Signal Detector) instead.

The “alternate options” jumper determines which signal is monitored on the alternate channel; its setting is meaningful in both fallback and auto-switching mode. The “primary options” jumper determines which signal is monitored on the primary channel; its setting is meaningful in auto-switching mode only.