1:2 Redundant System Controller

RSC-1200

Introduction

Redundant systems increase system availability by including spares for critical units (e.g., LNAs, LNBs, BUCs or SSPAs) in the signal path. In the case of a detected unit failure, the redundant system automatically switches to the spare. A 1:2 redundant system supports two active units and one spare unit.

The RSC-1200 Redundant System Controller can directly power most LNA or LNB units and monitor the output voltages and currents to detect faults. The controller can also monitor external alarm input signals, such as from a SSPA or BUC, or monitor a combination of output currents and external alarm inputs. Upon detecting a unit failure, the controller can automatically drive a waveguide switch to activate the spare unit.

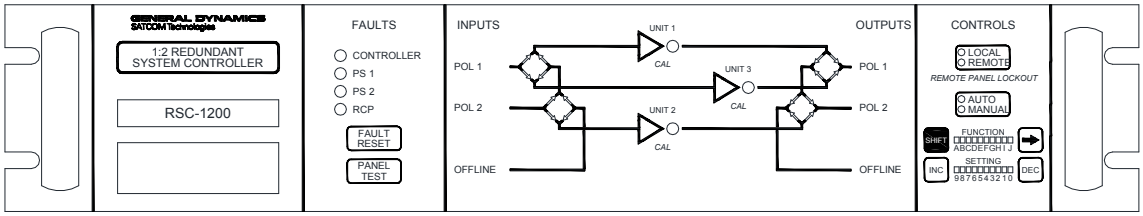
Control Panel Features

- Standard 19" rack panel, 3½" high
- Dual, redundant power supplies
- Worldwide universal AC input capability
- Manual or automatic operation
- Mimic front panel graphically depicts switch positions and unit status
- Monitors unit currents, external alarms, or a combination of both to detect unit failure
- Automatically switches RF path to standby unit when unit failure occurs
- Jumperless RS-232/-422/-485 and parallel I/O M&C interfaces
- Audible alarm
- Jumperless software configuration of all options
- Remote Control Panel option duplicates front panel at remote site

Part Number/Ordering Information

1:2 Redundant System Controller **RSC-1200**	Consult factory for DC power option, longer control cables, and custom configurations. Order control cable separately.

Front Panel Controls and Indicators



Unit Status Alarms	LED Indicators glow green when OK, red when a fault is detected.
PS1, PS2 Indicators	Glow red to show fault with dual redundant power supplies.
Panel Test Pushbutton	Lights all indicators & tests audible alarm.
Unit Pushbuttons and Indicators	Pushbuttons are used to manually switch units. Arrow indicators show which units are on-line. Unit indicators light red to show faulted units. Unit 1 is the primary unit for Pol 1 and Unit 2 is the primary unit for Pol 2. Unit 3 is on standby and can be selected for either Pol.
Auto/Manual Switch and Indicators	In Auto mode, a unit failure initiates automatic switchover to the standby unit. In manual mode, the on-line unit can be selected from the front panel or by serial I/O or parallel I/O command.
Remote/Local Switch and Indicators	Selects local (front panel) control, or remote control from serial I/O, parallel I/O, or optional remote panel.

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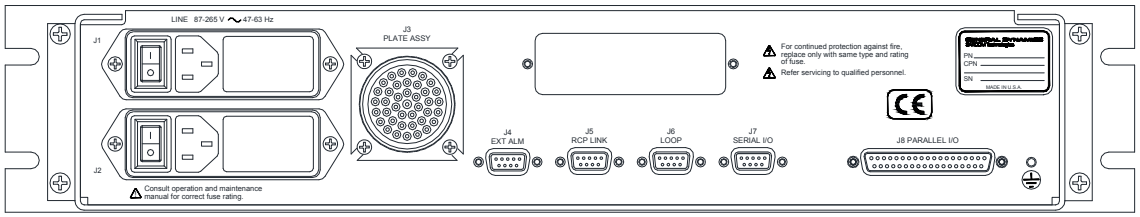
Rear Panel I/O Interface



LINE 1 - J1, LINE 2 - J2	Dual power entry modules contain the AC line input connector, fuses, and power switches. System can be powered from separate AC lines if desired. Either or both power supplies are capable of operating the system.
PLATE ASSEMBLY - J3	Cable to antenna plate assembly carries unit power (for line drivers, LNAs or LNBs) and switch drive signals. Order cable separately. Standard lengths are from 100' (30 m) to 250' (75 m) in 50' (15 m) increments; other lengths are special order.
EXT ALM - J4	External Alarm inputs. Substitute for or combine with internal unit current monitor alarms. Allows an external signal to indicate unit failure. Unused inputs can be used as status inputs to M&C system.
RCP Link - J5	For optional Remote Control panel, which duplicates all front panel functions. Interconnect cable lengths to 4000 ft (1200 m).
LOOP & SERIAL I/O - J6 & J7	RS-232/RS-422/RS-485 connectors for user M&C System. Commands provide monitoring, controlling, and configuration. Interconnect cable lengths to 4000 ft (1200 m) with RS-422 or RS-485.
Parallel I/O - J8	Parallel I/O connection for customer control or monitoring. Capable of controlling all features of the system except remote/local switch. Form 'C' relay contact outputs (1:1 systems): • Unit 1 status • PS1 status • Pol 1: Unit 1 or Unit 3 • Unit 2 status • PS2 status • Pol 2: Unit 2 or Unit 3 • Unit 3 status • Local/Remote mode • Auto/Manual mode Control inputs—contact closure to ground (1:1 systems): • Pol 1 Unit 1 select • Pol 2 Unit 2 select • Auto/Manual select • Pol 1 Unit 3 select • Pol 2 Unit 3 select

Controller Specifications

LNA Status Monitor Method	Controller monitors unit bias current; alarm is generated if current goes outside of allowed tolerance window (LDA or LNA/LNB systems). Controller also monitors external alarm inputs or combinations of both internal unit current and external alarm inputs.
Current Window Width	±5% to ±25% of nominal; software selectable in 5% steps
Switchover Time	100 ms
Unit Power Outputs	15 Vdc; 50 to 600 mA
External Alarm Inputs	One per unit; require sinking 5 mA at 5 Vdc to negate alarm
Serial I/O:	
Interface	RS-232/RS-422/RS-485 2- or 4-wire; jumperless selection
Connector	9-Pin D, female
Parallel I/O:	
Status outputs	Form 'C' dry contacts; 100 Vdc, 0.5 A, 3 W max (resistive load)
Control inputs	Contact closures to ground; require sinking 20 mA at 15 Vdc
Connector	37-pin D, male
Controller Dimensions	19" (483 mm) W x 3.47" (88.1 mm) H x 17.5" (445 mm) D; 25 lb (11.4 kg)
Chassis Slides	Standard
Cable Length to Plate Assy	Order cable separately. 100 ft (30 m) to 250 ft (75 m) lengths in 50 ft (15 m) increments are standard; other lengths are available by special order.
AC Input	87-265 Vac, 47–63 Hz, 100 W. Dual AC inputs and dual redundant power supplies. DC input (48 V) is available as an option; consult factory.
Operating Temperature Range	0 to +50 °C

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13074 Rev. A ECR 7564 2/21/07 MSI