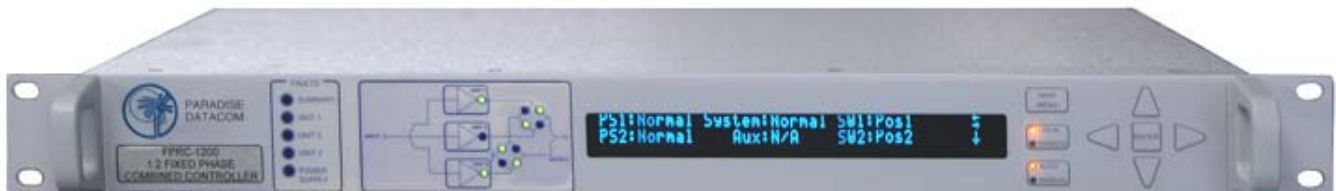


RCP2-1100 1:1 REDUNDANT SYSTEM CONTROLLER



FPRC-1200 1:2 PHASE COMBINED SYSTEM CONTROLLER

Description:

The Paradise Datacom family of Redundant System Controllers is used to monitor and control amplifiers configured in 1:1 and 1:2 redundant systems.

The RCP2-1100 and FPRC-1100 controllers provide control of two amplifiers and their corresponding transfer switch. The RCP2-1200 and FPRC-1200 controllers monitor and control three amplifiers and two switches.

The RCP2/FPRC Series of redundant controller can be used in LNA, LNB, and SSPA systems as well as frequency converter systems. They feature a full mimic panel and menu-driven Vacuum Fluorescent Display all in one rack unit of cabinet space. Front panel fault lights and an audible alarm are available for fault detection.

Completely redundant power supplies are incorporated with universal input and power factor correction. System control is available through the front panel (local mode), or through the rear panel parallel I/O remote, or serial I/O remote modes.

The use of flash memory allows easy field programmable firmware updating.

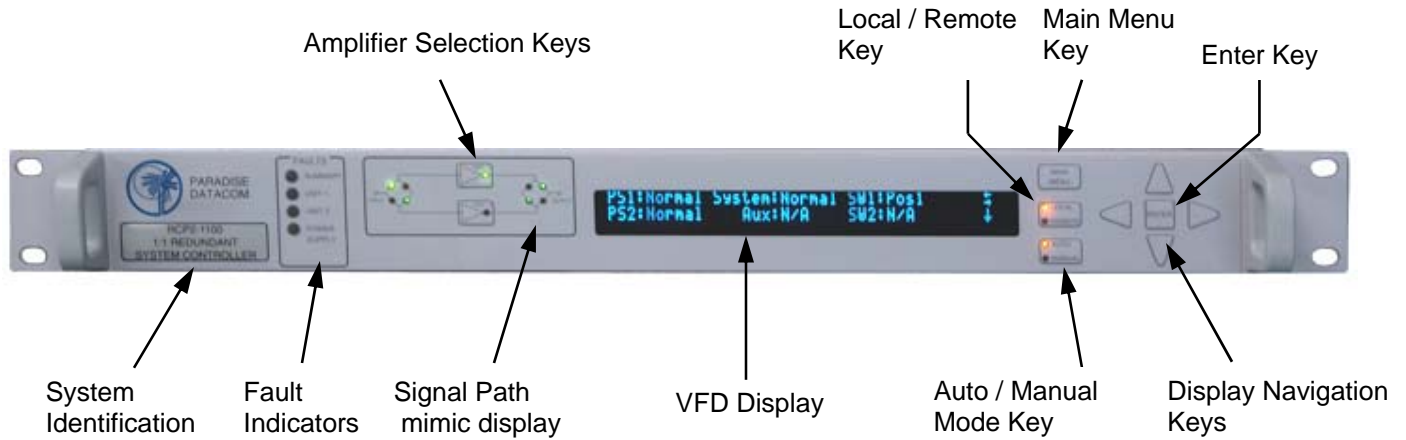
FEATURES

- Menu Driven display for user friendly monitor and control
- Front Panel Display of Signal Path for intuitive operation
- Parallel I/O; Form C Contact Closure Outputs & Opto-Isolated Inputs
- 1 Rack Unit height to maximize cabinet space
- RS-232/485 Serial Interface for Remote M&C
- Audible alarms
- Field programmable firmware
- Windows™ based remote M&C Software
- Ethernet Port

OPTIONS

- Remote Control Panel
- Control Panels for Phase Combined SSPA Systems
- Adapter cables for compatibility with previous generation systems
- DC Operation

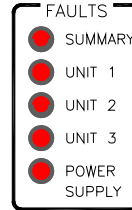
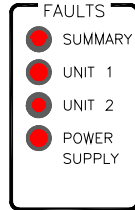
FRONT PANEL DESCRIPTION



GENERAL SPECIFICATIONS

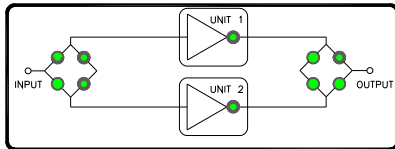
| Characteristic | Specification |
|--------------------------------------|--|
| Configurations | RCP2-1100 ; 1:1 Redundant System |
| | RCP2-1200 ; 1:2 Redundant System |
| | FPRC-1100 ; 1:1 Redundant / Phase Combined System |
| | FPRC-1200 ; 1:2 Fixed Phase Combined System |
| Switch Time | Fault Detection, 20 - 50 msec |
| | Total Switchover (including mechanical switch) - 100 msec maximum |
| Switch Drive | 26 VDC @ 5 Amps |
| Alarm Input | Closure to Ground, (Ground=OK / Open=Fault) |
| Serial Communication | RS232 / RS485 4 wire |
| Parallel I/O | |
| Status Outputs | Form C Relay Contacts (10 sets) |
| Control Inputs | Contact Closure to Ground |
| AC Input Power | 85-265 VAC, 47-63 Hz, 1 A max, > 0.93 power factor |
| DC Input Power (48 VDC Input Option) | 36-72 VDC, Maximum DC Input current @ 48V - 2 Amps |
| Mechanical | |
| Dimensions | 1.75 in. H x 19.0 in. W x 13.3 in D [1RU] 44.5 mm H x 483 mm W x 338 mm D |
| Weight | 5 lbs. (2.3 kg) |
| Temperature | 0 to 50 °C operating (non-condensing) |

FAULT INDICATORS

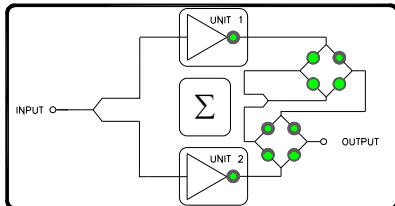


The image on the left shows the fault indicators for RCP2-1100 and FPRC-1100 models; the figure to the right shows the fault indicators for RCP2-1200 and FPRC-1200 models.

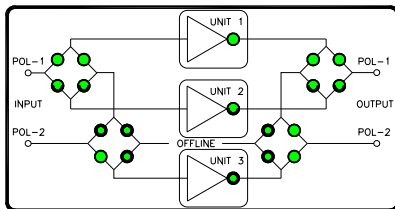
SIGNAL PATH MIMIC DISPLAYS



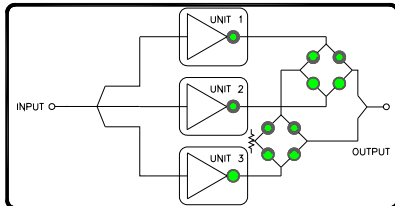
RCP2-1100
1:1 Redundant System Controller



FPRC-1100
1:1 Phase Combined System Controller

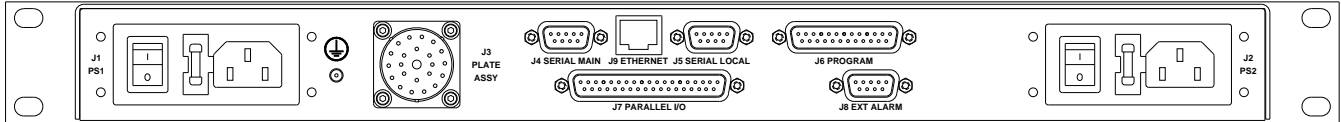


RCP2-1200
1:2 Redundant System Controller



FPRC-1200
1:2 Phase Combined System Controller

REAR PANEL CONNECTORS AND PIN IDENTIFICATION

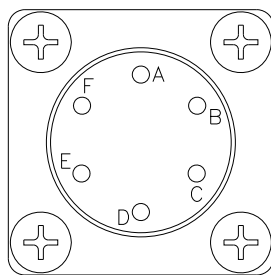


J1, J2 - Power Supply Requirements

| ID | Input Voltage Range | Line Frequency | Input Power | Power Factor |
|--------|---------------------|----------------------------------|-------------|--------------|
| J1 | 85-265 VAC | 47-63 Hz | 100 W | .93 |
| J2 | 85-265 VAC | 47-63 Hz | 100 W | .93 |
| J1, J2 | 36-72 VDC | Max. DC Input Current @ 48V - 2A | | |

J1, J2 - DC Input Option Pin Outs

| Pin | Function |
|-----|----------|
| A | + 48 VDC |
| B | + 48 VDC |
| C | - 48 VDC |
| D | - 48 VDC |
| E | Ground |
| F | Ground |



MS3112E10-6P
Mates to MS3116F10-6S

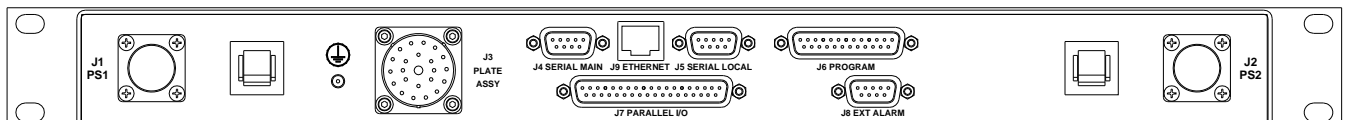
J3 - Switch Connector, MS3112E16-23S

| Pin | Function |
|-------|---|
| L | Power Supply #1 +13-17 VDC, 900mA or +26V, 1.5A (-HP models only) |
| J | Power Supply #2 +13-17 VDC, 900mA or +26V, 1.5A (-HP models only) |
| G | Power Supply #3 +13-17 VDC, 900mA or +26V, 1.5A (-HP models only) |
| E,D | Switch Common, +26 VDC, 5A max |
| W,U | Switch #1 Position 1 (Tx) |
| P,S | Switch #1 Position 2 (Tx) |
| F,H | Switch Common, +26 VDC, 5A max |
| T,V | Switch #2 Position 1 (Rx) |
| N,R | Switch #2 Position 2 (Rx) |
| A,B,C | AMP Support GND |
| K,M | Switch Common, +26 VDC, 5A max |

J4 - Serial Port (Main) Pin Out

| Pin | Function |
|-----|------------------------|
| 1 | RS485 TX+ |
| 2 | RS232 Out or RS485 TX- |
| 3 | RS232 In or RS485 RX- |
| 4 | RS485 RX+ |
| 5 | Ground |
| 6 | Service Request 1 |
| 8 | Service Request 2 |
| 7 | Service Request Common |
| 9 | Termination (120 Ohm) |

Rear Panel Connectors and Pin Identification, DC Option





J5 - Serial Local Pin-out (For Remote SSPA Control)

| Function | Pin | Notes |
|-----------------------|-----|--|
| RS485 RX+ | 1 | |
| RS485 RX- | 2 | |
| RS485 TX- | 3 | |
| RS485 TX+ | 4 | |
| Ground | 5 | |
| Termination (120 Ohm) | 9 | Connect to pin 1 to terminate unit on end of bus |

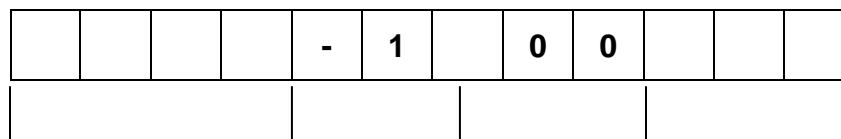
J8 - External Alarm Pin-out

| Function | Pin | Notes |
|-------------------|-------|--|
| External Alarm 1 | 1 | Closure to Ground, 5mA max short circuit current, 5 VDC open circuit voltage |
| External Alarm 2 | 2 | |
| External Alarm 3 | 3 | |
| Ground | 4,8,9 | |
| Auxiliary Alarm 1 | 5 | Closure to Ground, 5mA max short circuit current, 5 VDC open circuit voltage |
| Auxiliary Alarm 2 | 6 | |
| Auxiliary Alarm 3 | 7 | |

J9 - Ethernet Port Pin-out

| Pin | Notes |
|---------|-------|
| 1 | TX+ |
| 2 | TX- |
| 3 | RX- |
| 6 | RX+ |
| 4,5,7,8 | GND |

Configurator - Redundant System Controllers



Unit Type
 RCP2 - Redundant Controller
 FPRC - Fixed Phase Combined Redundant Controller

Redundancy
 1 - 1:1 Operation
 2 - 1:2 Operation

Options
 -48 - +48V DC Input
 -HP - High Power Option

J7 - Parallel I/O Connector Pin-out

| Identification | Signal | Pin | Function | Notes |
|-----------------------|--------|-----|-----------------------|-------------------------------|
| Amp 1 Alarm | Output | 1 | Closed on Fault | Relay Contacts: 30 VDC @ 0.5A |
| | | 20 | Common | |
| | | 2 | Open on Fault | |
| Amp 2 Alarm | Output | 21 | Closed on Fault | Relay Contacts: 30 VDC @ 0.5A |
| | | 3 | Common | |
| | | 22 | Open on Fault | |
| Amp 3 Alarm | Output | 4 | Closed on Fault | Closed on Phase Combined Mode |
| | | 23 | Common | |
| | | 5 | Open on Fault | Open on Phase Combined Mode |
| Auto / Manual Mode | Output | 24 | Closed on Manual | |
| | | 6 | Common | |
| | | 25 | Closed on Auto | |
| Local / Remote Mode | Output | 7 | Closed on Local | |
| | | 26 | Common | |
| | | 8 | Closed on Remote | |
| Switch #1 Position | Output | 27 | Switch #1, Position 1 | |
| | | 9 | Common | |
| | | 28 | Switch #1, Position 2 | |
| Switch #2 Position | Output | 10 | Switch #2, Position 1 | |
| | | 29 | Common | |
| | | 11 | Switch #2, Position 2 | |
| Power Supply #1 Alarm | Output | 30 | Closed on Fault | |
| | | 12 | Common | |
| | | 31 | Open on Fault | |
| Power Supply #2 Alarm | Output | 13 | Closed on Fault | |
| | | 32 | Common | |
| | | 14 | Open on Fault | |
| Priority Setting | Output | 33 | Closed on Priority 2 | |
| | | 15 | Common | |
| | | 34 | Closed on Priority 1 | |
| Auxiliary Input | Input | 16 | Ground to Activate | 5mA max current on all inputs |
| Priority Select | Input | 17 | Ground to Activate | Toggle Function |
| Auto / Manual | Input | 18 | Ground to Activate | Toggle Function |
| Amp 3 Standby | Input | 35 | Ground to Activate | |
| Amp 2 Standby | Input | 36 | Ground to Activate | |
| Amp 1 Standby | Input | 37 | Ground to Activate | |
| Inputs Ground | Common | 19 | | (isolated) |