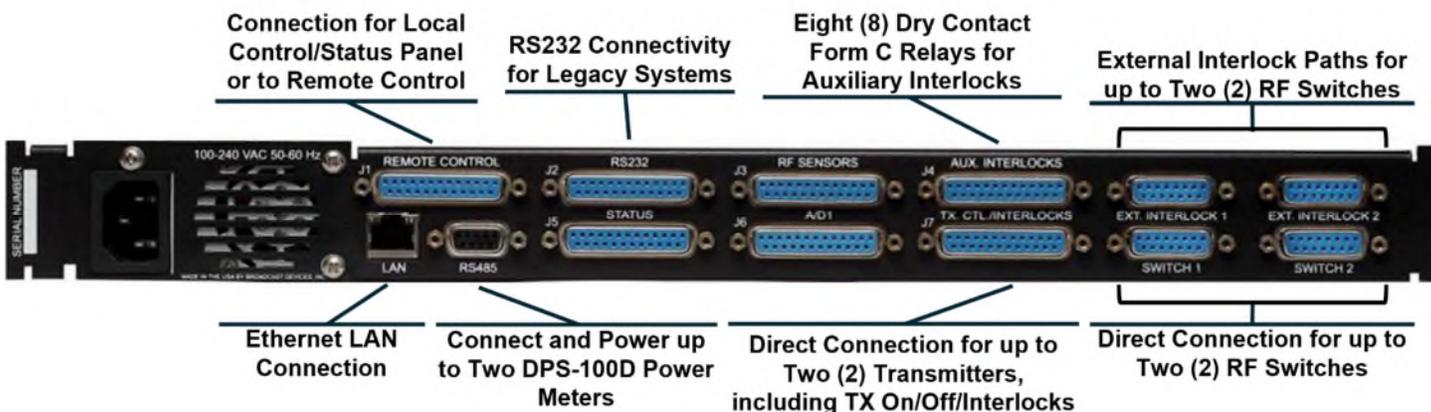# SWP-200 RF Switch Controller

Single and Dual Motorized RF Switch Controllers with SNMP

bdi

SWP-200 Motorized Switch Controller, front panel

SWP-200 Motorized Switch Controller, rear panel

Features

- Compatible with all major manufacturers' RF transfer switches
- One (1) switch and two (2) switch controller models available
- Management/Control of up to two (2) four-port switches and interlocks
- Easily integrates with up to two (2) DPS-100D RF power meters using an Ethernet cable for a complete intelligent RF switch controller with proprietary 3 strike counter

- RF power display for up to two (2) DPS-100D RF power meters
- Automatic transmitter changeover sensing loss of RF power
- Dual power redundant supply models available
- Built-in LAN Port Provides Remote Control via Free BDI Windows App GUI and SNMPv2, MIB file provided
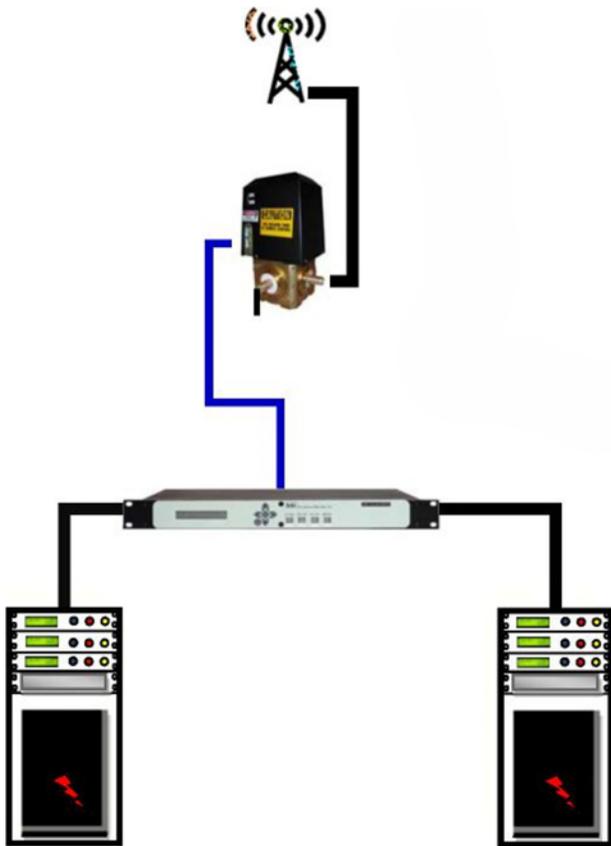- Optional RF Switch Interconnection Cables available for most manufacturers' RF switches

Product Description

The SWP-200 is a standalone one (1) rack unit RF switch controller that can control most brands of motorized RF switches. In addition, the SWP-200 manages transmitter interlocks and simplifies interlock-path connections. When installed as part of a system with a BDI DPS-100D power meter, the SWP-200 provides complete Hot Switch protection by preventing switch movement when RF is present. The SWP-200 also doubles as a rack-mounted RF power output display and phantom power source for up to two (2) DPS-100D True RMS Power Monitors, and acts as an SNMPv2 agent (MIB file included) for quick integration with SNMP-based remote-control systems and software.

The SWP-200 is a motorized RF switch controller that automatically "steers" the interlock connections to the transmitters based on the RF switches' positions. When installed with a DPS-100D series power meter, the power meter section of the system provides RMS forward and reflected power indications suitable for analog FM and digital power measurement, such as that needed for in-band, on-channel broadcasting, DAB, and digital television 8 VSB/DVB modulation techniques.
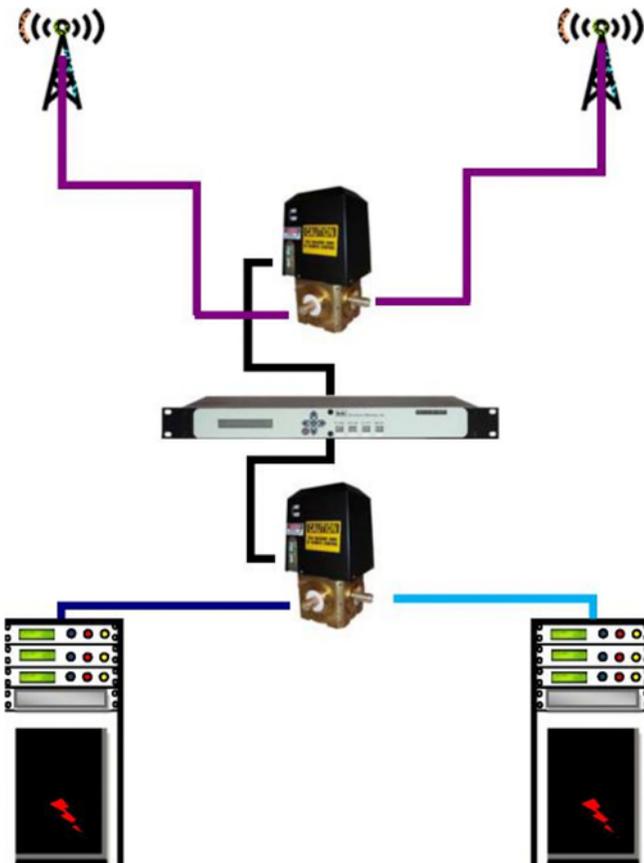
The addition of the IOX-24 Expansion Panel provides additional control and status inputs for general remote-control functions. Remote control of relays and input of status and analog voltages can be added to the system by adding the IOX-24 Expander Panel available from BDI. The IOX-24 provides twenty-four (24) relay outputs, twenty-four (24) status inputs, and eight (8) analog inputs.

SWP-200 RF Switch Controller

SWP-200-1T One-Switch Controller Functional Block Diagram

The SWP-200-1T is a simple, easy-to-use single-motorized switch controller that controls two transmitters and one RF switch. Interlock and transmitter on/off functions are handled by the SWP chassis, providing simple one-button control for transmitter transfers. Interfaced with the optional DPS-100D Power Measurement System, the SWP series chassis provides complete automatic operation of transmitter transfer in the event of an RF failure, while at the same time offering 3 strike VSWR protection of the transmission system and "hot switch" protection.

SWP-200-2T Two-Switch Controller Functional Block Diagram

The SWP-200-2T series provides a single-rack-unit solution for dual motorized switch control. This configuration allows for Main/Aux antenna selection and Main/Aux transmitter selection. When equipped with optional DPS-100D Power Sensors, the SWP-200-2 T becomes a fully automatic system for antenna and transmitter changeover in the event of a VSWR Fault and/or transmitter failure. User-configurable thresholds allow for fault detection and corrective action within seconds of a failure. BDI's exclusive 3-strike VSWR protection algorithm, along with our other exclusive feature, hot switch protection, keeps you on the air and protects your equipment investment.

SWP-200 RF Switch Controller

Technical Specifications	SWP-200
Switch Control Voltage:	12 or 24 VDC-Selectable for Each Switch
Number of Switches Supported:	SWP-200-1T One (1) / SWP-200-2T Two (2)
Switch Manufacturers supported:	Delta (Requires use of Delta Low Voltage Interface-Contact Delta Electronics for more information), Delta Meccanica, Dielectric 50/60K, DowKey, ERI, Kintronics, Mega/MCI, Myat, Spinner
Transmitter and Interlock Control:	Both models control up to two (2) transmitters, providing transmitter ON/OFF and Interlock Management
Remote Control Interface SWP-200-1T:	General Purpose I/O Control of Air Selected transmitter ON/OFF, Motorized Switch Position, Fault Reset
Remote Control Interface SWP-200-2T: (Additional Items)	Antenna 1/2 Command/Status, Antenna Auto/Manual Command/Status, Switch position of the second switch
Status Available:	Motorized Switch position, Fault Status, TX1,2 Interlock, Air Transmitter ON/OFF
Transmitter Interface:	Form C dry contact relays
GPIO Remote Control interface:	TX On/Off, TX EXT., Interlock Input, TX On/Off Status, Switch Position
Remote Control Input:	Momentary contact to ground or SNMP v2
Remote Status Output:	Open collector output – Active Low pulled up to 5 VDC
AC Power Loss Monitor:	Monitors for the presence of AC Power loss to transmitter(s) to prevent switch operation in auto mode if AC power is lost to transmitters Logic input requires external circuitry
Drive Output to Switch:	Dry relay form C contact closure Contact Rating 24VDC @3A.
Communications Interface:	RS232/485, Ethernet TCP/IP, SNMPv2 Agent (MIB file supplied), and Supplied BDI Graphical User Interface Windows App
LAN connection	RJ45 TCP/IP – SNMP v2 Agent
Electrical Requirements:	100-240 VAC 50/60 Hertz @ 0.5 ampere
Operating Ambient Temperature:	32 to 122 degrees, F (0 to 50 degrees, C)
Humidity:	95%, Non-condensing
Mechanical Dimensions:	19 in W x 10 in D x 1.75 in H (483 mm W x 254 mm D x 44 mm H) Standard One (1) EIA Rack Unit Enclosure with Four (4) Mounting Holes
Shipping Dimensions:	22 in W x 14 in D x 7 in H (559 mm W x 356 mm D x 178 mm H)
Shipping Weight:	15 lbs (7 kg)

SWP-200 Ordering Information

SWP Series Motorized Switch Controllers are available in single- and dual-switch versions. In addition, they can be ordered with or without RF power measurement capability. All SWP series controllers can be interfaced with BDI DPS-100D Power Measurement systems at the time of order or later, making the SWP series a flexible solution for transmitter site management. Refer to the chart below for ordering information.

Part Number	Description
Without Power Metering	
SWP-200-1T	Single Switch Controller. Motorized RF Switch Controller for controlling one (1) motorized switch. Main/Alt TX function. Complete switch operation management controls, including interlock steering and transmitter On/Off functions. Includes a free Windows App. SNMP agent equipped for direct interface to all SNMP software and remote controls.

SWP-200 RF Switch Controller

Part Number	Description
SWP-200-2T	Dual Switch Controller. Motorized RF Switch Controller for controlling two (2) motorized switches. Main/Alt TX, Main Alt. Antenna function. Complete switch operation management controls, including interlock steering and transmitter On/Off functions. Includes a free Windows App. SNMP agent equipped for direct interface to all SNMP software and remote controls.
SWP-200-1TR	Single Switch Controller with Redundant Power Input. Same as SWP-200-1T but with a redundant power supply input. Requires RPSC-PS Redundant Power Supply Chassis, purchased separately.
SWP-200-2RTR	Dual Switch Controller with Redundant Power Input. Same as SWP-200-2T but with redundant power input. Requires RPSC-PS Redundant Power Supply Chassis, purchased separately.
RPSC-PS	Redundant Power Supply Chassis for Use with All R-Suffix Switch Controllers. Includes 3-foot (1 Meter) Cable.
SWP-200-1T Single Switch Controller with One (1) DPS-100D Power Meter	
SWP-200-1R1- N	One (1) SWP-200-1T Switch Controller, with One (1) DPS-100D Power Meter with Type N Directional Coupler
SWP-200-1R1- 7/8	One (1) SWP-200-1T Switch Controller, with One (1) DPS-100D Power Meter with 7/8-inch Directional Coupler
SWP-200-1R1-7/16	One (1) SWP-200-1T Switch Controller, with One (1) DPS-100D Power Meter with 7-16 DIN Directional Coupler
SWP-200-1R1-1 5/8	One (1) SWP-200-1T Switch Controller, with One (1) DPS-100D Power Meter with 1-5/8-inch Directional Coupler
SWP-200-1R1-3 1/8	One (1) SWP-200-1T Switch Controller, with One (1) DPS-100D Power Meter with 3-1/8-inch Directional Coupler
SWP-200-1R1-4-1/16-D	One (1) SWP-200-1T Switch Controller, with One (1) DPS-100D Power Meter with 4-1/6-inch Dielectric Inner Conductor Directional Coupler
SWP-200-1R1-4 1/16	One (1) SWP-200-1T Switch Controller, with One (1) DPS-100D Power Meter with 4-1/6-inch MYAT/ERI Inner Conductor Directional Coupler
SWP-200-1R1-6 1/8	One (1) SWP-200-1T Switch Controller, with One (1) DPS-100D Power Meter with 6-1/8-inch Directional Coupler
SWP-200-1R1-8-3/16	One (1) SWP-200-1T Switch Controller, with One (1) DPS-100D Power Meter with 8-3/16-inch Directional Coupler
SWP-200-1T Single Switch Controller with Two (2) DPS-100D Power Meters	
SWP-200-1R2-N	One (1) SWP-200-1T Switch Controller, with Two (2) DPS-100D Power Meters with Type N Directional Coupler
SWP-200-1R2-7/8	One (1) SWP-200-1T Switch Controller, with Two (2) DPS-100D Power Meters with 7/8-inch Directional Coupler
SWP-200-1R2-7/16	One (1) SWP-200-1T Switch Controller, with Two (2) DPS-100D Power Meters with 7-16 DIN Directional Coupler
SWP-200-1R2-1-5/8	One (1) SWP-200-1T Switch Controller, with Two (2) DPS-100D Power Meters with 1-5/8-inch Directional Coupler
SWP-200-1R2-3-1/8	One (1) SWP-200-1T Switch Controller, with Two (2) DPS-100D Power Meters with 3-1/8-inch Directional Coupler
SWP-200-1R2-4-1/16	One (1) SWP-200-1T Switch Controller, with Two (2) DPS-100D Power Meters with 4-1/6-inch MYAT/ERI Inner Conductor Directional Coupler

SWP-200 RF Switch Controller

Part Number	Description
SWP-200-1R2-6-1/8	One (1) SWP-200-1T Switch Controller, with Two (2) DPS-100D Power Meters with 6-1/8-inch Directional Coupler
SWP-200-1R2-8-3/16	One (1) SWP-200-1T Switch Controller, with Two (2) DPS-100D Power Meters with 8-3/16-inch Directional Coupler
SWP-200-2T Dual Switch Controller with One (1) DPS-100D Power Meter	
SWP-200-2R1-N	One (1) SWP-200-2T Switch Controller, with One (1) DPS-100D Power Meter with Type N Directional Coupler
SWP-200-2R1-7/8	One (1) SWP-200-2T Switch Controller, with One (1) DPS-100D Power Meter with 7/8-inch Directional Coupler
SWP-200-2R1-7/16	One (1) SWP-200-2T Switch Controller, with One (1) DPS-100D Power Meter with 7-16 DIN Directional Coupler
SWP-200-2R1-1-5/8	One (1) SWP-200-2T Switch Controller, with One (1) DPS-100D Power Meter with 1-5/8-inch Directional Coupler
SWP-200-2R1-3-1/8	One (1) SWP-200-2T Switch Controller, with One (1) DPS-100D Power Meter with 3-1/8-inch Directional Coupler
SWP-200-2R1-4-1/16-D	One (1) SWP-200-2T Switch Controller, with One (1) DPS-100D Power Meter with 4-1/6-inch Dielectric Inner Conductor Directional Coupler
SWP-200-2R1-4/16	One (1) SWP-200-2T Switch Controller, with One (1) DPS-100D Power Meter with 4-1/6-inch MYAT/ERI Inner Conductor Directional Coupler
SWP-200-2R1-6-1/8	One (1) SWP-200-2T Switch Controller, with One (1) DPS-100D Power Meter with 6-1/8-inch Directional Coupler
SWP-200-2R1-8-3/16	One (1) SWP-200-2T Switch Controller, with One (1) DPS-100D Power Meter with 8-3/16-inch Directional Coupler
SWP-200-2T Dual Switch Controller with Two (2) DPS-100D Power Meters	
SWP-200-2R2-N	One (1) SWP-200-2T Switch Controller, with Two (2) DPS-100D Power Meters with Type N Directional Coupler
SWP-200-2R2-7/8	One (1) SWP-200-2T Switch Controller, with Two (2) DPS-100D Power Meters with 7/8-inch Directional Coupler
SWP-200-2R2-7/16	One (1) SWP-200-2T Switch Controller, with Two (2) DPS-100D Power Meters with 7-16 DIN Directional Coupler
SWP-200-2R2-1-5/8	One (1) SWP-200-2T Switch Controller, with Two (2) DPS-100D Power Meters with 1-5/8-inch Directional Coupler
SWP-200-2R2-3-1/8	One (1) SWP-200-2T Switch Controller, with Two (2) DPS-100D Power Meters with 3-1/8-inch Directional Coupler
SWP-200-2R2-4/16	One (1) SWP-200-2T Switch Controller, with Two (2) DPS-100D Power Meters with 4-1/6-inch MYAT/ERI Inner Conductor Directional Coupler
SWP-200-2R2-6-1/8	One (1) SWP-200-2T Switch Controller, with Two (2) DPS-100D Power Meters with 6-1/8-inch Directional Coupler
SWP-200-2R2-8-3/16	One (1) SWP-200-2T Switch Controller, with Two (2) DPS-100D Power Meters with 8-3/16-inch Directional Coupler

SWP-200 RF Switch Controller

SWP-200 Accessories

Part Number	Description
SWP Option #2	Direct CAT5 connection to all ERI Motorized Switches and ISC-200, PCC-300, PDC-300, and SWP Series Controllers. Includes DSUB15-to-RJ-45 adapter, 25-foot (7.6-meter). Shielded CAT5 cable, and RJ45 to Spade Lug wire harness to connect to the ERI switch internally.
SWP Option #3	Dielectric 50,000 series Retrofit 25-foot (7.6-meter) interface cable for use with BDI SWP-200 series switch controllers and Dielectric 50000 Series motorized switches.
SWP Option #4	Dielectric 60,000 Series Retrofit includes a 25-foot (7.6-meter) interface cable for interconnection with BDI SWP-200 series switch controllers and Dielectric 60,000 series motorized switches.
SWP Option #5	ERI Transfer Switch Pre-wired cable with connectors. 25-foot (7.6-meter) interface cable for use with all SWP-200 series switch controllers and ERI motorized RF switches
SWP Option #6	MCI Transfer Switch Cable – 25-foot (7.6-meter) interface cable for use with all SWP-200 series switch controllers and MCI/RYMSA motorized RF switches
SWP Option #7	MYAT Model 301-180-1 and 301-180-3 25-foot (7.6-meter) interface cable for use with all BDI SWP-200 series switch controllers and MYAT motorized RF switches.
SWP Option #8	SPINNER Contact factory with model number 25-foot (7.6-meter) interface cable for use with all BDI SWP-200 series switch controllers and Spinner motorized RF switches
SWP Option #9	Delta Switch Interface cable, 25-foot (7.6-meter) interface cable. Requires use of the Delta Low Voltage Interface-Contact Delta Electronics for more information.
SWP Option #15	DB25 Breakout to Terminal Block Panel for SWP-200 or SWP-206 Chassis 19" EIA Rack Mount Panel providing DB25 to terminal block breakout of three (3) DB25 Connectors for SWP-200 and SWP-206 chassis, includes 3-foot (one-meter) interconnection cable.
SWP Option #19	GatesAir FLX/FAX Series SWP TX CTL Interface Cable for use with ISC-200, PCC-300, PDC-300, and SWP Series Controllers. One kit is required for each transmitter.
SWP Option #20	Nautel NV/GV Series SWP TX CTL Interface Cable For Use with all ISC-200, PCC-300, PDC-300, and SWP Series Controllers. One kit is required for each transmitter.
SWP-Option #21	Generic Transmitter Interface Kit for All BDI Switch Controllers -Two Transmitters Supplied with two (2) DSUB25 Adapters, two (2) 25-foot (7.6-meter) shielded CAT5 cables, and two (2) interface PC boards to be mounted inside each of two transmitters. The PC board provides the following closure connections: External Interlock, TX ON, TX OFF, and TX ON Status input from the transmitter. For use with transmitters that have older barrier-terminal interfaces, it provides a completely modular, connectorized interface for the basic transmitter controls found in all BDI motorized switch controllers and remote-control products.
SWP-Option #22	8 Push Button Panel for ISC-200, PCC-300, PDC-300, and SWP Series Remote Control Connector provides up to 8 pushbuttons and status for direct interface to the controller and remote controls when plugged into these controllers. Includes 6-foot (2-meter) DSUB M/M interface cable.
SWP Option #23	Auxiliary Interlock Relay Board for SWP-200 Series and SWP-206 Series Chassis. An optional relay board for use in all SWP-200 and SWP-206 products, providing additional interlock closures
IOX-24S	SNMP Remote Control and Expansion Panel provides Twenty-Four (24) Control Relays, Twenty-Four (24) Status Inputs, and Eight (8) Analog Metering Inputs. Includes Windows App with graphical user interface or can connect to the serial port of the ISC-200, PCC-300, PDC-300, or SWP Series Switch Controllers.
ICP-800	Interlock Consolidation Panel for Master Antenna Applications with RF Presence Indication: A two-rack-unit panel that consolidates up to 16 DPS-100D series power meter interlock connections, along with SWP-206D chassis, into a single interlock connection for each station on a master antenna system.
RLY-120-12	Utility Relay Module– 12 Individual Relays or 12 Relay T-Bar Style Output - 12 VDC Relays 12 – 12 VDC relays that can be individually controlled or bussed together to form a T-BAR all relay control from a single closure
RLY-120-24	Utility Relay Module– 12 Individual Relays or 12 Relay T-Bar Style Output - 24 VDC Relays 12 – 24 VDC relays that can be individually controlled or bussed together to form a T-BAR all relay control from a single closure
RLY-120-12P	Same as RLY-12 but mounted on a Two (2) Rack Unit EIA Rack Panel
RLY-120-24P	Same as RLY-24 but mounted on a Two (2) Rack Unit EIA Rack Panel