



Broadcast Devices, Inc.

RFT-100 RF Switch Transfer Panel

Technical Reference Manual

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The RFT-100 RF Transfer Panel

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I. Introduction

The RFT-100 Series RF Transfer Panels are designed to perform four port switching for low power broadcast applications such as STL transmitter switching or exciter switching. They can be used in any low power application where two RF sources need to be switched between up to two loads. The RFT-100 series was developed to interface directly to the BDI SWP-200 RF Switch Controller series but will work with any standard dry contact remote control system. There are two versions available. The RFT-100 is designed for momentary remote control and the RFT-100M is designed to accept maintained closure for transfer.

A. Unpacking and Inspection

Carefully unpack the unit after receipt and inspect for damage that may have occurred during shipping. If damage is noted, contact the shipper immediately and file a damage claim. The contents of the package have been insured to cover total replacement cost. Make certain that the package contents are the same as noted on the packing slip. If not, contact Broadcast Devices, Inc. Check to make sure all mechanical parts are secure. Units are delivered from the factory configured for 120 volts A.C. 60 Hz. Operation. Check to make sure that the power source is correct for proper operation. Units are field configurable for 240 Volt operation. See initial configuration section of part III, installation section for different power configuration.

B. General Description

The RFT-100 series consist of a four port N female coaxial switch and remote connector both mounted to a three rack unit high EIA rack panel. The remote control connector is a 9 position DB male connector. When used in conjunction with a BDI SWP-200 RF Switch Controller BDI SWP-OPT 11 optional interface cable is available. Remote control connections are depicted in the "Installation" section of this technical reference manual.

II. Specifications

Input Impedance:	50 ohms
Output Impedance:	50 ohms
R.F. Connector Type:	N Female throughout
Remote Control:	Momentary
Remote Control Connector Type:	DB-19M
Power Requirements:	12 or 28 VDC – Order Specific
Temperature Range:	0 - 60° Celsius
Physical Dimensions:	5.25 H X 19 W X 6 D (inches)

III. Installation

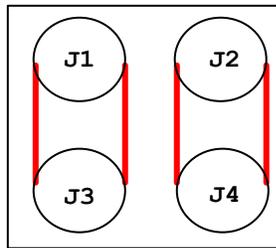
A. Location and Hookup Considerations

Locate the RFT-100 in a 19-inch E.I.A. standard rack enclosure in close proximity to the equipment that it is going to interface between. Allow sufficient airflow space between equipment to allow for proper cooling. It is important that the cables being fed from R.F. sources be kept as short as is practical.

B. RF Connection Considerations

The RFT-100 should be installed as close the RF sources as possible to minimize losses. Make all R.F. connections to the four port switch portion of the panel using the convention below.

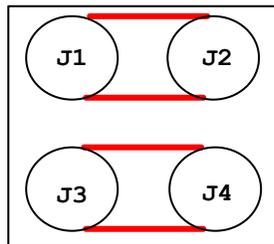
Position 1:



J1 and J3 connected

J2 and J4 connected

Position 2:



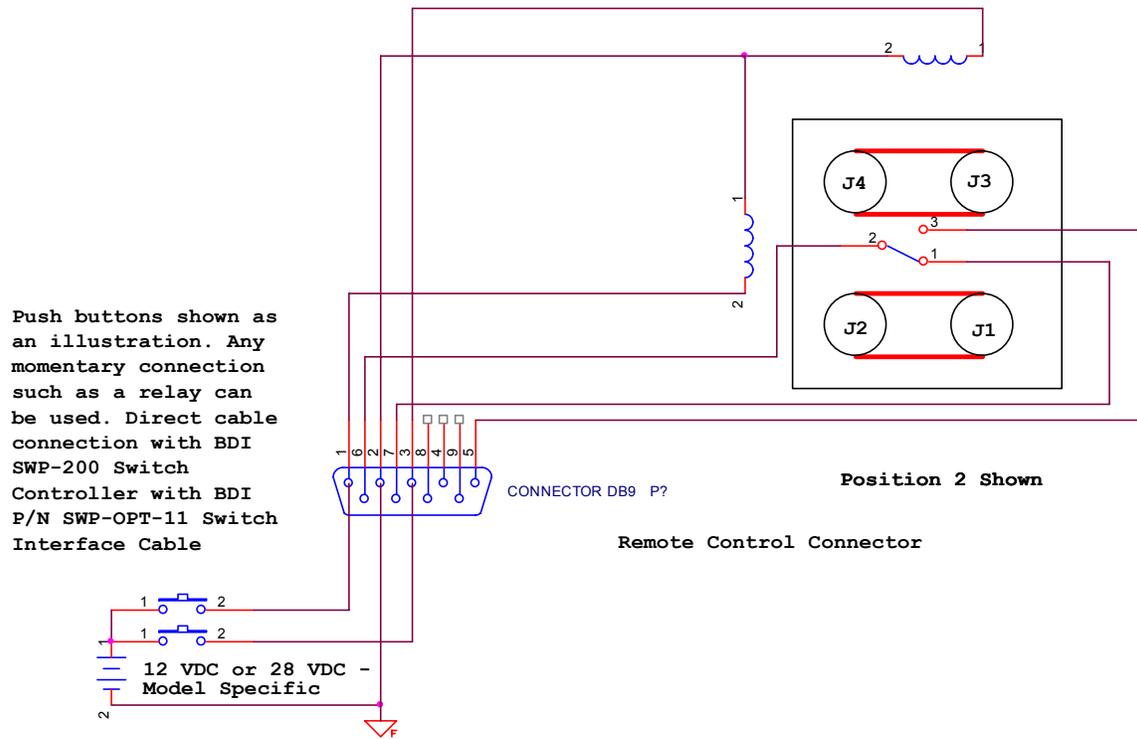
J1 and J2 connected

J3 and J4 connected

C. Remote Control/Status Connections

When used in conjunction with the BDI SWP-200 series of RF switch controllers a single interface cable is connected from the DB-15 male connector on the RFT-100 to a single DB-15 female connector on the SWP-200 marked "Switch 1". Interface cables are available from BDI or can be made by the user. The cable consists of the connections below straight through. When interfacing an RFT-100 to a standard remote control or relay control follow the wiring convention depicted in the chart below:

R/C Connector	DB Pin #/Function
1	Command Position 1
2	Command Common
3	Command Position 2
4	NC
5	Position 1 Status
6	Position Status Common
7	Position 2 Status
8	NC
9	NC



D. Theory of Operation

The RFT-100 RF Transfer Panel uses simple closures for command and provides position status via dry contact connection. See the schematic below for illustration of connection information. Note that for connection to external supply and relays that positive voltage must be applied to the command pins and power supply common must be connected to command common as shown.

Note: When used in conjunction with a BDI SWP-200 Automatic Antenna Switch Controller plug provided connector into port marked "Switch 1"

By applying positive voltage to each command line the switch will be commanded to that position. The switch is a latching type so a momentary closure can be used to command the switch to the desired position. For maintained switch closure command use the RFT-100M maintained switch type panel available from BDI Dry contact status is provided as shown. If the RFT-100 panel is used in conjunction with a BDI SWP-200 controller no external power is required as it is provided by the SWP-200.

IV. Warranty

Broadcast Devices, Inc. products are warranted against failure due to faulty materials or workmanship for a period of one year from the date of shipment to the ultimate user. The warranty covers repair or replacement of defective parts at the factory, provided the unit has been returned prepaid by the user. All shipments to the factory shall have affixed to the outside of the container an R. A. number obtained from the factory. The above warranty is void if the unit has been modified by the user outside of any recommendations from the factory or if the unit has been abused or operated outside of its electrical or environmental specifications. If customer conducted field tests suggest that the unit may be faulty, whether or not the unit is in warranty, a full report of the difficulty should be sent to Broadcast Devices, Inc. factory at Cortlandt Manor, New York. The office may suggest further tests or authorize return for factory evaluation.

Units sent to the factory should be well packed and shipped to Broadcast Devices, Inc. 2066 E. Main Street, Cortlandt Manor, NY 10567. Remember to affix the R.A. number to the outside of the carton. Any packages received without such R.A. number will be refused. Note: freight collect shipments will also be refused. When the unit has been received, inspected and tested, the customer will receive a report of the findings along with a quotation for recommended repairs, which are found falling outside of the standard warranty. Units returned for in-warranty repairs which are found not to be defective will be subject to an evaluation and handling charge. In-warranty units will be repaired at no charge and returned via prepaid freight.

Out-of-warranty units needing repair require a purchase order and will be invoiced for parts, labor, and shipping charges.

When ordering replacement part, always specify A) Part number or Description, and Quantity; B) Date of Purchase, Where Purchased; C) Any Special Shipping Instructions. Always specify a street address, as shipping companies cannot deliver to a postal box.

Broadcast Devices, Inc. is not responsible for any other manufacturer's warranty on original equipment. Nor are we responsible for any failure, damage, or loss of property that may occur due to the installation or operation of our equipment outside of recommended specifications.