

RDX Series

RF Module Service Manual



Read in conjunction with
Motorola XTS3000 manuals
68P81083C85 & 68P81083C90

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OVERVIEW OF RDX MODULE OPERATION

RDX Series modules are based on standard production VHF, UHF & 800MHz Motorola XTS3000 Model 1 radios. The RDX module is created by taking an unmodified XTS3000 radio and then removing the radio circuit boards from the plastic case, chassis and Controller flex. The boards are then refitted in a unique shielded enclosure, connecting to an RDX interface board. The interface board provides external connectivity of power, audio, PTT, Squelch, BCD channel selection and Data line access. Finally a SMA socket provides antenna connectivity.

ALIGNMENT PROCEDURE

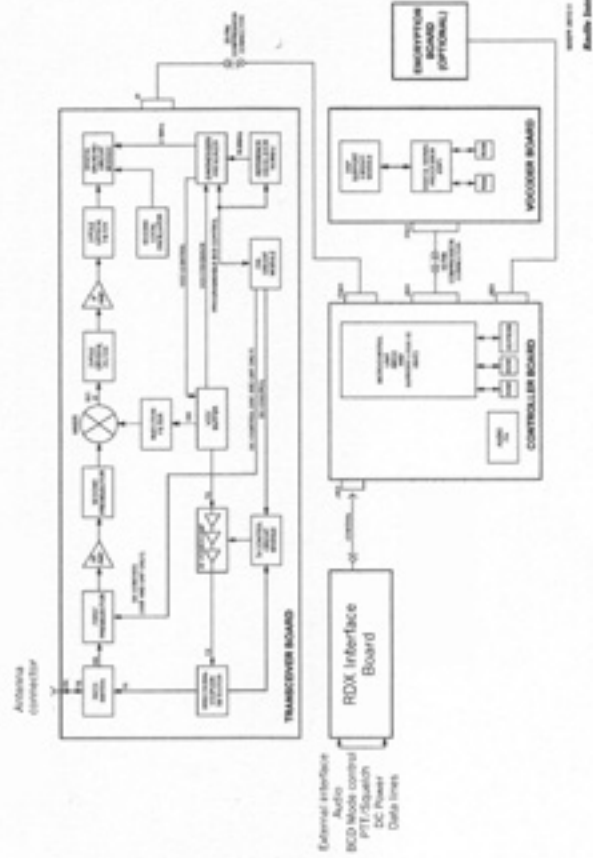
Use the standard XTS3000 Basic and Detailed service manuals for all alignment procedures. Note: Only sixteen channels/modes are accessible. All frequency, deviation, squelch and power settings are pre-programmed into the unit by use of a standard Motorola XTS3000 series Radio Service Software (RSS) run on a PC together with a Radio Interface Box (RIB) and associated programming cables. Please ensure all radio parameter settings are in accordance with FCC system licensing regulatory requirements

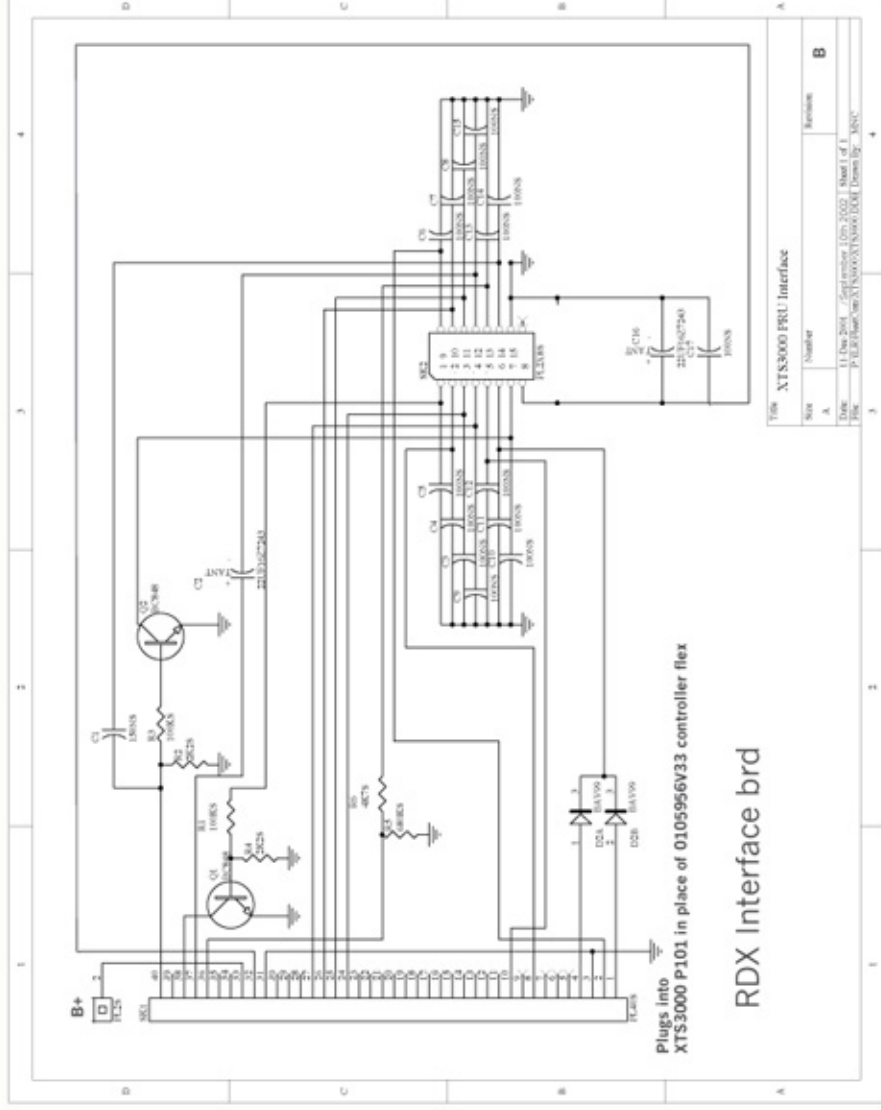
INSTALLATION

The RDX series RF modules are designed for integration into various radio systems products. The module has no user controls as such and is designed for use in applications such as low power control stations and mobile relay / mobile repeater stations. The modules interface connector provides standard input/output audio interfaces, logic indication of squelch conditions, and logic level selection of the pre-programmed channels/personality modes, in addition to serial bus control.

The radio modules operate either in Analog or Digital mode in accordance with the description found in the Motorola XTS3000 service manuals.
Motorola part Numbers: 68P81083C85 & 68P81083C90-A

RDX Module Block Diagram





RDX Interface Board layout/Parts List

Part Type	Designator	Footprint	Description
2K2S	R2, R4	805	RES 2K2 5% CHIP 0805
4K7S	R6	805	RES 4K7 5% CHIP 0805
22UF16Z7243	C2,C16	7243	CAP 22U 16V 10% TANT SMD CHIP EIA 7243 293D
100KS	R1,R3	805	RES 100K 5% CHIP 0805
100NS	C3-C15	805	CAP 100N X7R CHIP 0805
150NS	C1	805	CAP 150N CHIP 0805
680KS	R5	805	RES 680K 5% CHIP 0805
BAV99	D1,D2	SOT-23	DIODE BAV70 DUAL COMM CATHODE GEN SWITCH SOT-23
BC848	Q1,Q2	SOT-23	TRANSISTOR BC848 NPN AF SMALL SIG SOT-23
PL2S	PL2	PL2S(PACK)	HEADER PLUG 2WAY 1ROW TOP ENTRY 13MM LONG
PL2X8S	SK2	PL2X8S(PACK)	HEADER PLUG 16WAY 2X8 TOP ENTRY 13MM LONG
PL40S	P101	AXN-40	
TERM2	PL1	TERM2(PACK)	TERMINAL BLOCK 2WAY RIACON 0200.0101

