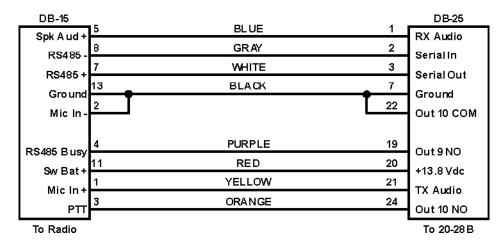**E.F. Johnson 5300 Interface**

This document contains instructions for interfacing the 20-28B to the EFJ 5300 radio. The following items are included in the EFJ 5300 interface kit (IDA Part Number 105-28EF5300).

1. EFJ 5300 to 20-28B interface cable assembly (106-28EF5300).
2. 20-28B RS-485 conversion board (101-28RS485).
3. Instruction sheet.

The following steps outline the procedure for interfacing the E.F. Johnson 5300 radio to the 20-28B:

1. Configure the following 20-28B base board jumpers as indicated:
   - JP3: Shorted
   - JP11: Shorted
   - JP12: Not shorted

2. Install the RS-485 conversion board into the 20-28B panel by removing jumpers JP6, JP7, JP8, JP9, and JP10 on the 20-28B base board. Insert the RS-485 conversion board into those jumper posts and into J2 on the 20-28B base board.

3. Connect the DB-25 end of the EFJ 5300 interface cable to the DB-25 connector on the back of the 20-28B.

4. Connect the DB-15 end of the EFJ 5300 interface cable to the DB-15 connector on the radio accessory cable.

5. Configure the remaining jumpers based upon the system requirements. Jumpers JP6, JP7, and JP8 on the 20-28B base board are covered by the RS-485 conversion board. These jumpers can be set by changing the jumper with the same number on the RS-485 board. The audio level adjustments will also need to be checked.

EFJ 5300 Interface Cable (106-28RS485)

DB-15				DB-25
Spk Aud +	5	BLUE	1	RX Audio
RS485 -	8	GRAY	2	Serial In
RS485 +	7	WHITE	3	Serial Out
Ground	13	BLACK	7	Ground
Mic In -	2		22	Out 10 COM
RS485 Busy	4	PURPLE	19	Out 9 NO
Sw Bat +	11	RED	20	+13.8 Vdc
Mic In +	1	YELLOW	21	TX Audio
PTT	3	ORANGE	24	Out 10 NO
To Radio				To 20-28B

20-28B RS-485 Conversion Board
101-28RS485

Item	Reference	Description	Part No.	Qty.
1		PC BD, 2028 CVTR	900-0285	1
2	C1	Cap Mono .1uF	362-0001	1
3	J6, 7, 8, 11	2 Pos .100 Connector	234-0032	4
4	J4	Conn, F5P-HVQ	231-3316	1
5	JP 6, 7, 8	Conn, 2 Pos Gold Post	231-1002	3
6	Q1	Trnstr MPS8098	180-0009	1
7	R1, 2, 3	Res 10K 5% 1/4 W	312-0011H	3
8	R4	Res 301 Ohm 1% 1/4W	311-0005H	1
9	U1	IC, DS1487N	130-0373	1
10	U1	8 Pin DIP Socket	220-0003	1

EFJ 5300 Interface Cable Kit
106-28EF5300

Item	Description	Part No.	Qty.
1	DB25 Connector Male	231-0005	1
2	DB15 Connector Male	231-0035	1
3	Screw/Clip Kit	231-0014	2
4	4-40 X 1/2 SCREW	199-4035	1
5	DB25 Cover Assembly	231-0015	1
6	DB15 Cover Assembly	231-0036	1
7	CBL, 10C 24AWG Shield	800-1115	1'