Technical Bulletin

Controller with E.F. Johnson Radio
Evolution or DX2 Controllers
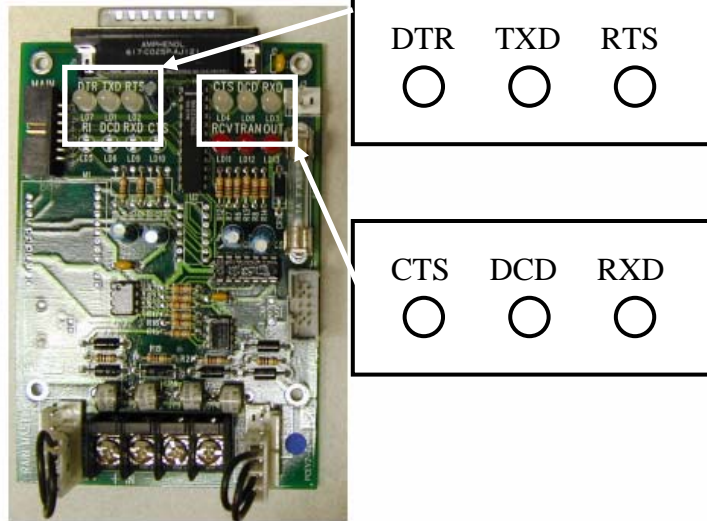
1)   Is Submaster power on? _____.

2)   Re-enter Submaster address and radio communication mode. The keys to press are shown below for Evolution and Evolution DX2 Controllers.

      A)   **QUIT**   =   Pressing QUIT key will ensure you are starting at the base screen.

      B)   **F1**   =   Main Menu

      C)   **F5**   =   Set Up

      D)   **F4**   =   Controller

      E)   **F4**   =   Configuration

      F)   **F2**   =   Acts As Submaster

      G)   You must now select the appropriate "Submaster Communication Type" for your Satellite , $\boxed{F\,1}$ = Radio/Wire, $\boxed{F\,2}$ = Phone, $\boxed{F\,3}$ = Trunk. _____.

      H)   You must now enter the appropriate "Address" for your Satellite. Enter an address in the range of (0-255) and then press $\boxed{\text{ENTER}}$ The base screen will be displayed. _____.

RAIN MASTER IRRIGATION SYSTEMS

Technical Bulletin 015   **Sheet 1 of 4**
3910-B Royal Avenue   Tel: (805) 527-4498
Simi Valley, CA 93063   Fax: (805) 527-2813

3) Verify ALL component connections.

    A) Antenna to radio, items (1- 4) on attached drawing DXRAD20B (figure 1 of this document). _____.

    B) 12 Volt DC transformer (EV-PS), items (5- 6) on attached drawing DXRAD20B (figure 1 of this document). _____.

    Do you measure +12VDC at the COMM Board J2 connector? Item #6 of DXRAD20B (figure 1 of this document). _____.

    C) Radio connections, items (7– 13) on attached drawing DXRAD20B (figure 1 of this document). _____.

    D) Does your COMM Board have a fuse? _____.

- With Satellite power off, perform a continuity check on the fuse. Does the fuse check OK? _____.

- With Satellite power off, does the fuse seat properly in the holder? _____.

- Be sure to turn Satellite power on when finished. _____.

4) Monitor DX-RF Board LED activity indicators per Figure 2 of this document.

- From the Rain Master Central PC, "Blue Panel operation", select the Satellite you wish to test.
- Press the "down arrow" key.
- Does the Controller Base Screen appear? _____.
Does an Error Code message appear? _____.
- Repeat several times. Does it consistently communicate? _____.
Does it consistently fail? _____. Make note of the Error Code Message.
- IF YOU ARE STILL UNABLE TO COMMUNICATION WITH THE SATELLITE, STOP. PLEASE CONTACT RAIN MASTER TECHNICAL SUPPORT AT (800) 777-1477.

RAIN MASTER
IRRIGATION SYSTEMS

Technical Bulletin 015
3910-B Royal Avenue
Simi Valley, CA 93063

Sheet 2 of 4
Tel: (805) 527-4498
Fax: (805) 527-2813

Figure 1

DWG DXRAD20B

RAIN MASTER IRRIGATION SYSTEMS • 1825-103 Surveyor Avenue, Simi Valley, CA 93063 • 805-527-4498

Antenna Cable 417-1001

Mating Connector 415-0202

Radio EV-RADIO

Mating connector 415-0201

Antenna EV-ANT1

TO DX MAIN J8
TO EV MAIN J1
NOT SHOWN

Interface Cable 417-2110

Serial Ribbon Cable 417-0025

DX-HW

J1 Serial Input Port

- Black wire to neg.
+ Red wire to pos.

Radio Power Cable 417-0010 connected to J4 OF DX-RF

12 Volt DC Transformer EV-PS Plug into 117 VAC.

DC Power Cable 417-2130 Connect red wire to Positive (+) terminal and black wire to Negative (-) terminal

USE TOP RECEPTACLE

Technical Bulletin 015   **Sheet 3 of 4**
3910-B Royal Avenue   Tel: (805) 527-4498
Simi Valley, CA 93063   Fax: (805) 527-2813

RAIN MASTER
IRRIGATION SYSTEMS

<table>
<tr><td>

PCDX2-COMR
Communications Board
for E.F. Johnson Radios

**LED
CONDITIONS**

</td></tr>
</table>

DTR	TXD	RTS
○	○	○

CTS	DCD	RXD
○	○	○

LED conditions with NO RADIO and/or NO EV-PS connected:

SIGNAL	CONDITION
DTR*	GREEN
TXD	RED
RTS	RED
CTS	WHITE
DCD	WHITE
RXD	WHITE

LED conditions with radio connected:

SIGNAL	CONDITION
DTR*	GREEN
TXD	RED
RTS	RED
CTS	RED
DCD	RED
RXD	RED

When communications are in process, the sequence is as follows:

SIGNAL	FROM	TO	THEN
DTR*	GREEN	GREEN	GREEN
TXD	RED	GREEN	RED
RTS	RED	GREEN	RED
CTS	RED	GREEN	RED
DCD	RED	GREEN	RED
RXD	RED	GREEN	RED

* DTR (Data Terminal Ready) is always asserted - GREEN

Figure 2

RAIN MASTER
IRRIGATION SYSTEMS

Technical Bulletin 015
3910-B Royal Avenue
Simi Valley, CA 93063

Sheet 4 of 4
Tel: (805) 527-4498
Fax: (805) 527-2813