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FXi 60/250 Exciter

FXi to OEM Transmitter Interface Application Guide

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1 Prepare to Install the FXi Exciter

1.1 Overview

This document describes the procedure for connection and setup of a Broadcast Electronics' Exciter with an OEM transmitter.

1.2 Tools / Items Needed

Supplied By Customer:

- FXi 60/250 Exciter
- 1/4" Nut Driver
- 5/16" Nut Driver
- No. 2 Phillips Screwdriver
- Digital Multimeter

Supplied By B.E.

- 979-0191 Kit, FXi to OEM Transmitter Interface

1.3 Estimated Time for Installation

Providing that you have the tools and items listed above, it will take approximately 45 - 60 minutes to install the FXi to OEM Transmitter Interface Kit.

2 Record the Output Power Level of the OEM Exciter

3 Turn the OEM Transmitter's RF Output to OFF

4 OEM Transmitter Mute Logic

Ensure that the OEM Transmitter is set for NEGATIVE Mute logic (low to un-mute).



5 Set FXi's Mute Logic Jumper

Remove the cover of the FXi and set the Mute Logic Jumper (P17) on the Control Board of the FXi to Pins 2 and 3 for POSITIVE Control.

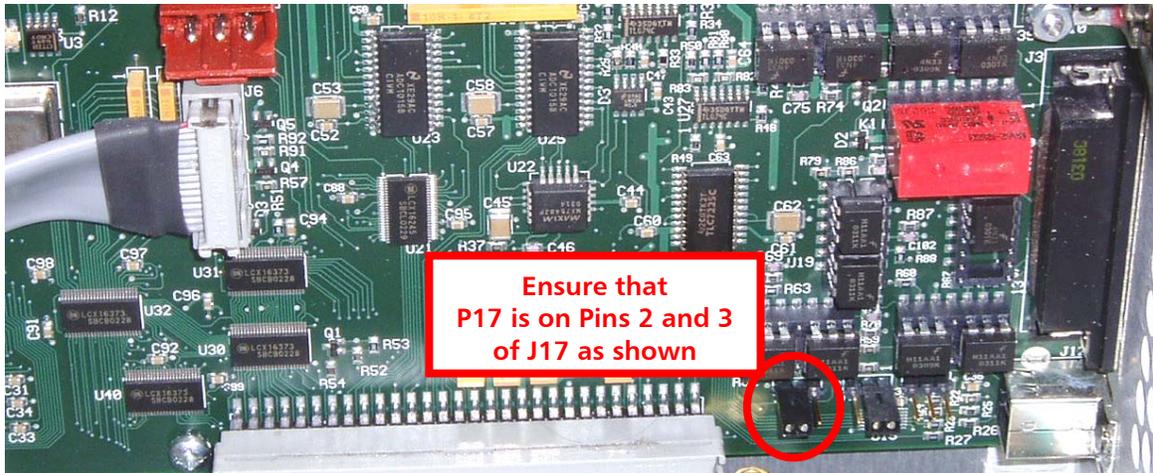


Figure 1 – FXi 60/250 Mute Logic Jumper P17

6 Install FXi 60/250 Exciter

Install the FXi 60/250 Exciter into the OEM transmitter or ancillary equipment rack (the FXi may not fit into some OEM transmitters).

7 Install Interface Box (959-1191)

Install the Interface Box (959-1191) into the transmitter using supplied hardware. Be sure to locate the Interface Box in a position in which access may be made to the potentiometers and testpoints.

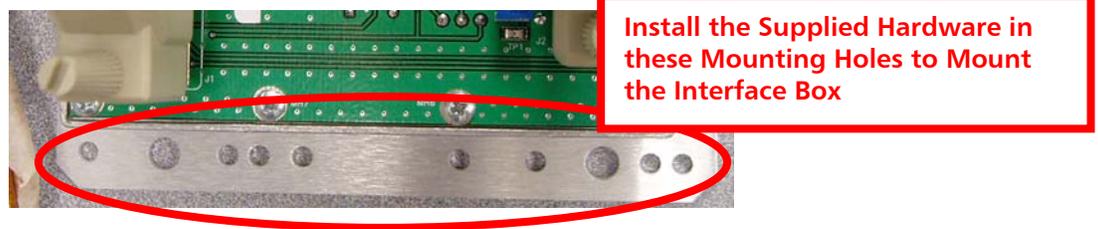


Figure 2 – FXi 60/250 to OEM Transmitter Interface Box

8 FXi 60/250 to OEM Transmitter Connections

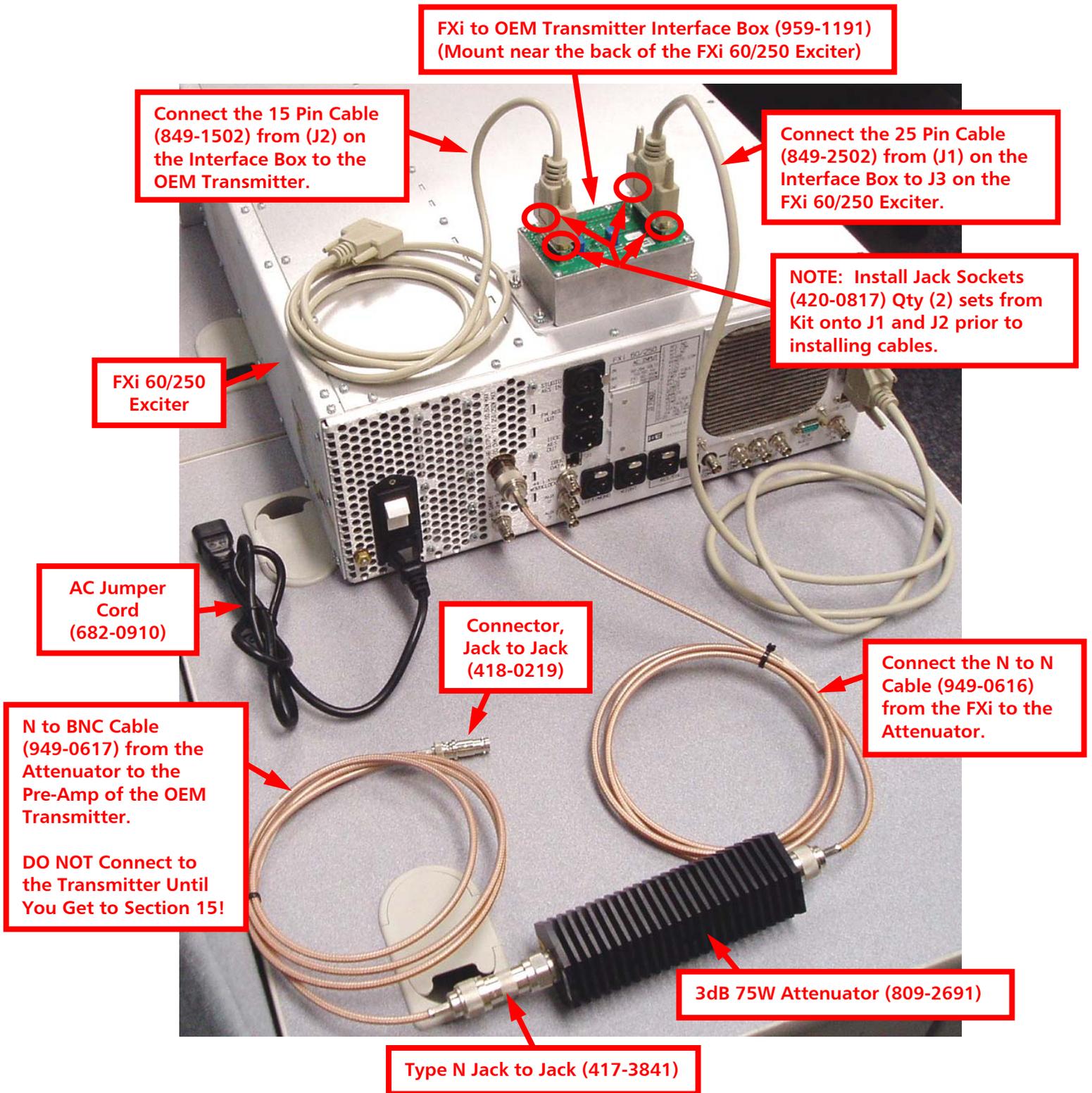


Figure 3 – FXi 60/250 to OEM Transmitter Connections

9 Turn the FXi's AC Power Switch to ON

10 Verify the Frequency of the FXi

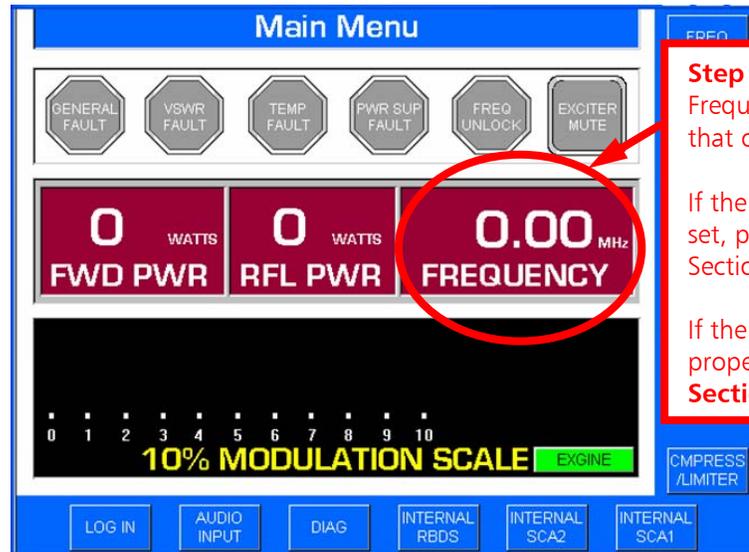


Figure 4 – FXi 60/250 Main Menu

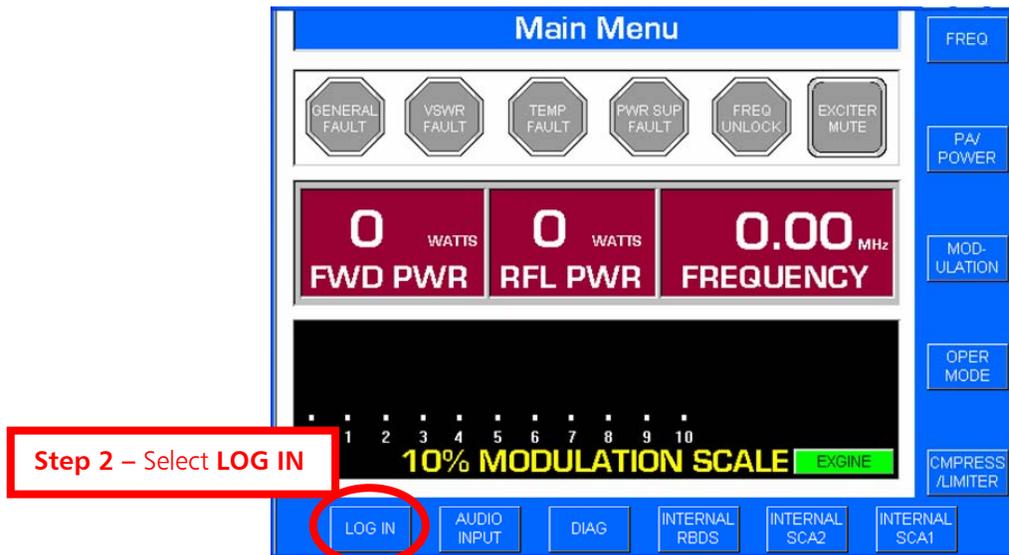


Figure 5 – FXi 60/250 Main Menu

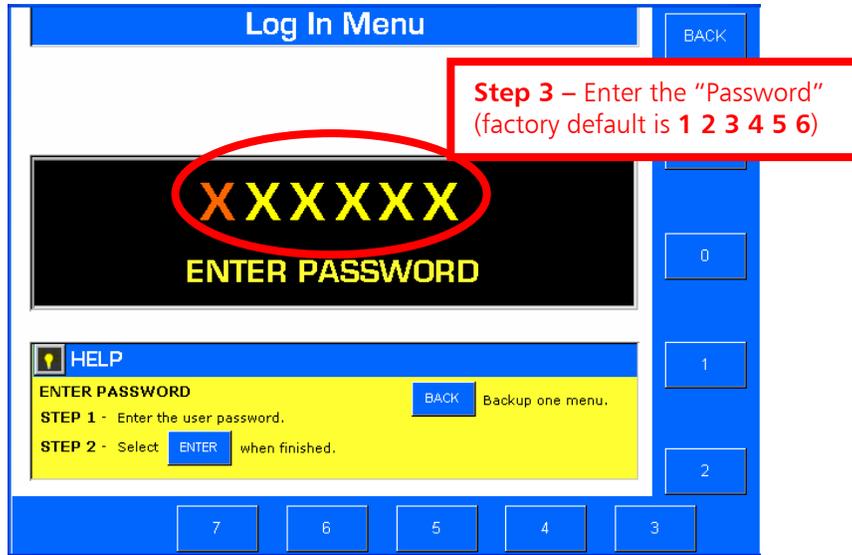


Figure 6 – FXi 60/250 Login Menu

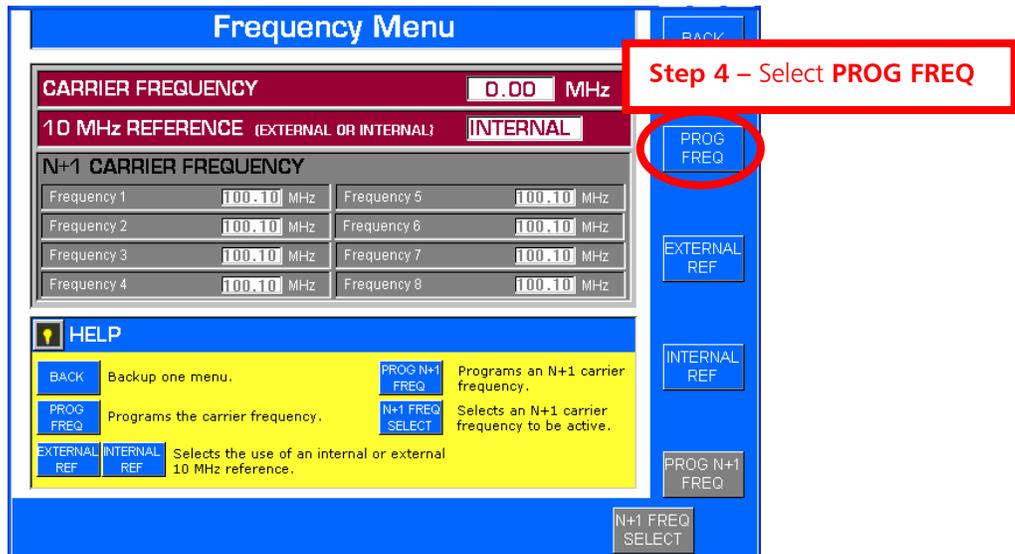


Figure 7 – FXi 60/250 Frequency Menu



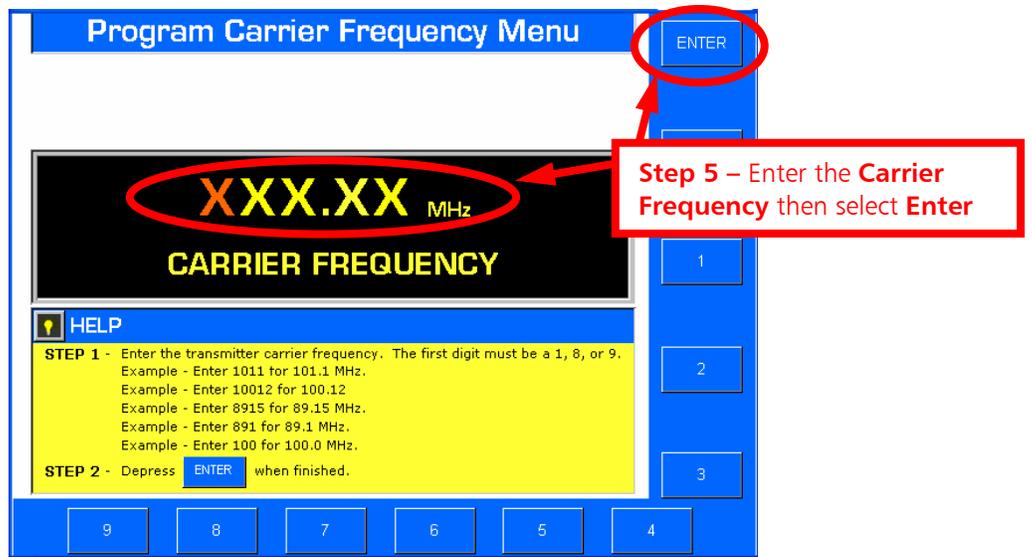


Figure 8 – FXi 60/250 Program Carrier Frequency Menu

11 Set the FXi to Standalone Mode

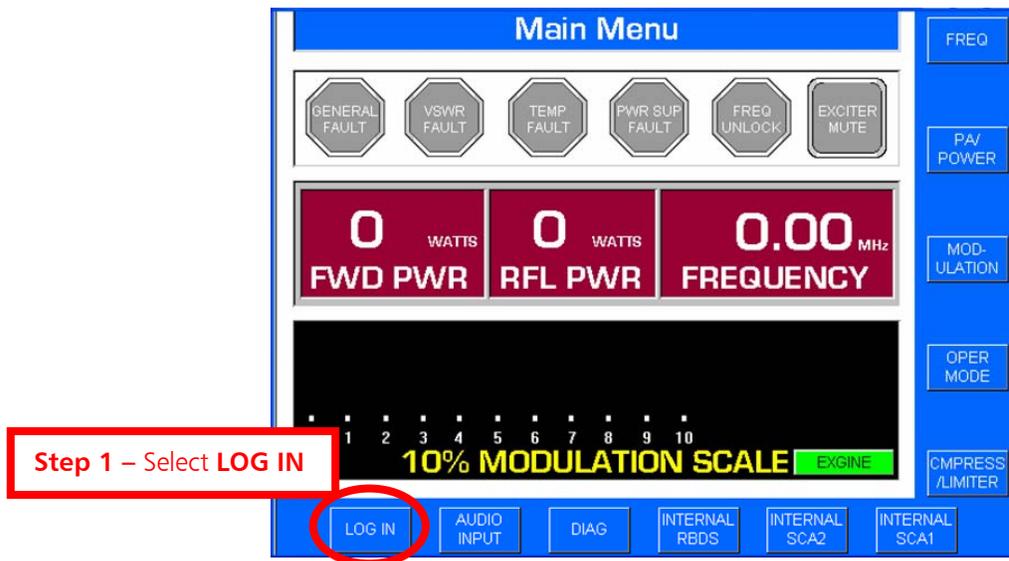


Figure 9 – FXi 60/250 Main Menu

12 Set P3 and S1

Select the proper position for P3. Note: Position 1-2 requires TX provided mute logic on J2-9, while Position 2-3 requires TX provided mute logic on J2-14. See the attached schematic.

Select the proper position for S1. Note: Position 1 requires a low to unmute, while Position 2 requires a high to unmute. See the attached schematic.





Figure 10 – FXi 60/250 Login Menu

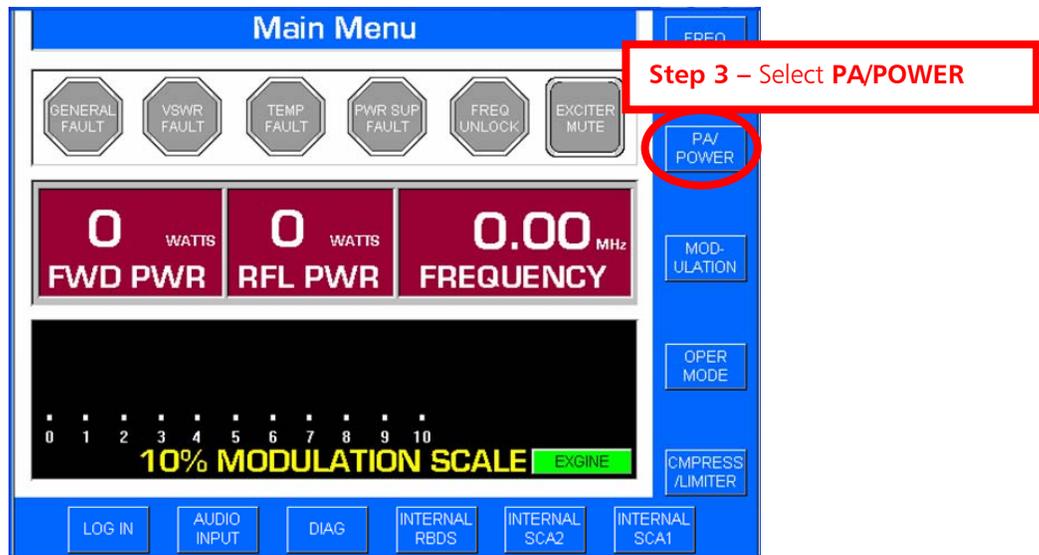


Figure 11 – FXi 60/250 Main Menu



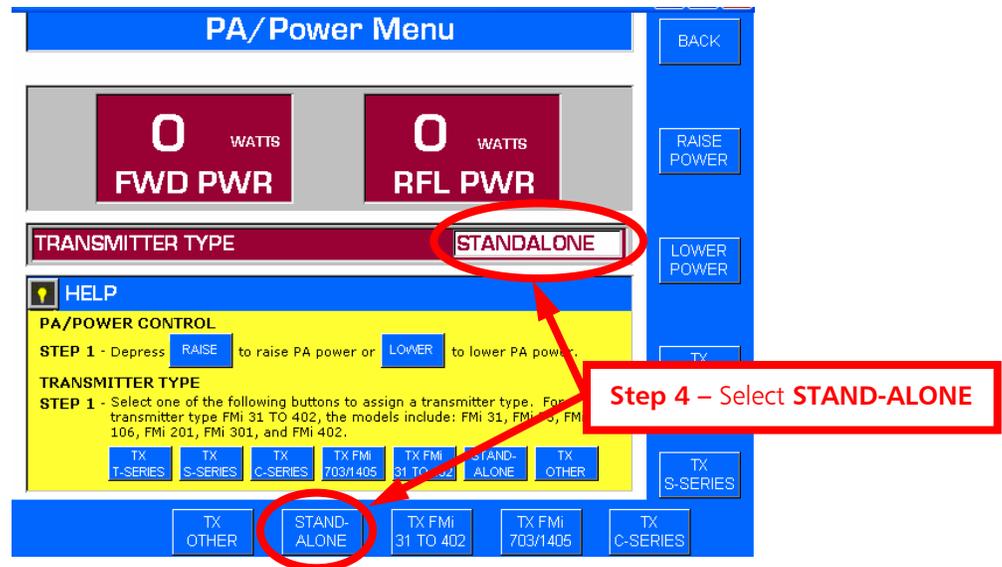


Figure 12 – FXi 60/250 PA/Power Menu

13 Un-mute the FXi

NOTE: Ensure that the output of the 3dB attenuator is **NOT** connected to the transmitter's RF input at this time.

Use the transmitter to un-mute the Exciter while the RF Output of the transmitter remains OFF. Please note that on a B.E. tube transmitter this would be accomplished by turning the Filament ON while keeping the High Voltage OFF.

14 Set the FXi Output Power

Adjust the FXi Exciter's forward power to equal the level of the previously installed exciter (captured in Step 2).

15 Adjust R5 to Obtain 3V on TP1

16 Adjust R7 to Obtain 3V on TP7

17 Mute the FXi

Use the transmitter to mute the Exciter.

18 Connect the 3dB Attenuator to the Transmitter

19 Turn the Transmitter's RF Output to ON

The FXi 60/250 Exciter should now un-mute. DS1 should also illuminate. If the Exciter does not un-mute, adjust R5 to increase the voltage slightly on TP1.



20 Adjust Power Detector Circuits

Adjust R1 (FWD_PWR_ADJ) for the proper remote exciter forward power meter deflection on the transmitter.

Adjust R3 (RFL_PWR_ADJ) for the proper remote exciter reflected power meter deflection on the transmitter.

21 Setup the Exciter Fault Output

Select the proper position for S2. Note: Position 1 provides a low to exciter fault, while Position 2 provides a high to exciter fault. See the attached schematic.

22 RF Customer Service Contact Information

RF Customer Service -

Telephone: (217) 224-9617

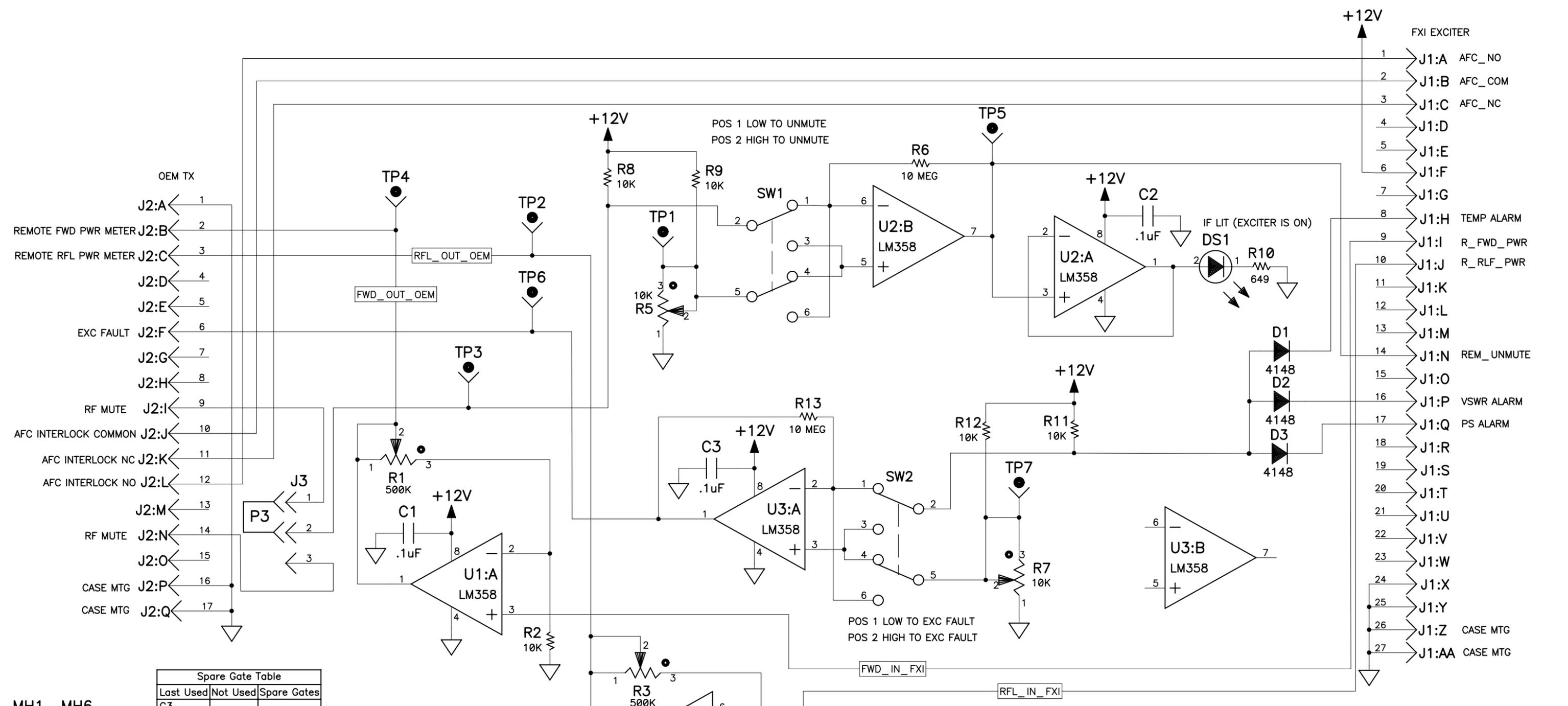
E-Mail: rfservice@bdcast.com

Fax: (217) 224-6258

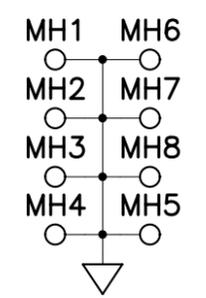
23 Schematics



REV			DATE			DESCRIPTION			DFTSMN	ENGR	ECN
A			5-18-07			RELEASE TO PRODUCTION			JTB		----
B			9-26-07			ADD SW2,TP2-TP7,D1-3,J3,P3			JTB		----



Spare Gate Table		
Last Used	Not Used	Spare Gates
C3		
D3		
DS1		
J3		
MH8		
P3	P1, P2	
R13		
SW2		
TP7		
U3		



DESIGNER	JTB	MATERIAL	
ENGINEER		FINISH	
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TITLE				INTERFACE BRD. FXI60/250			
TYPE S	SIZE B	DWG. NO. 919-0191				REV B	
MODEL	FXI60/250			SCALE	NONE	SHEET	1 OF 1