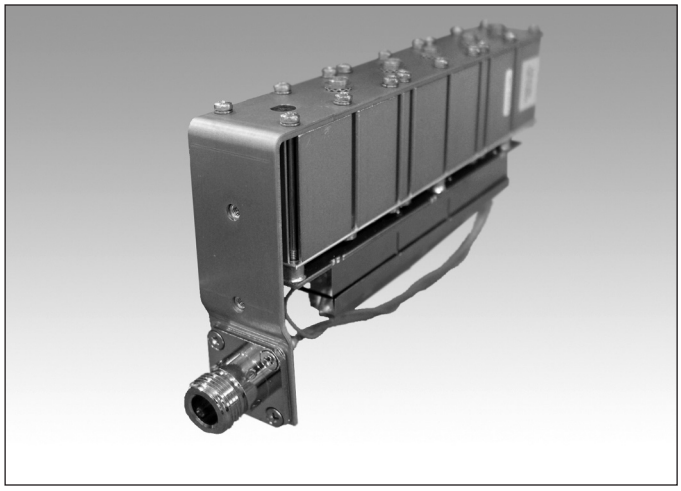
DANIELS™
ELECTRONICS LTD.



FE3H040 ENHANCED PRESELECTOR INSTRUCTION MANUAL

FE3H 29 – 50 MHZ

Covers Models:

A10-FE3H035

A10-FE3H045

Document Number: IM10-FE3H040
Revision: 1-0-2
Revision Date: Nov 2010

Daniels Electronics Ltd.
Victoria, BC
PRINTED IN CANADA

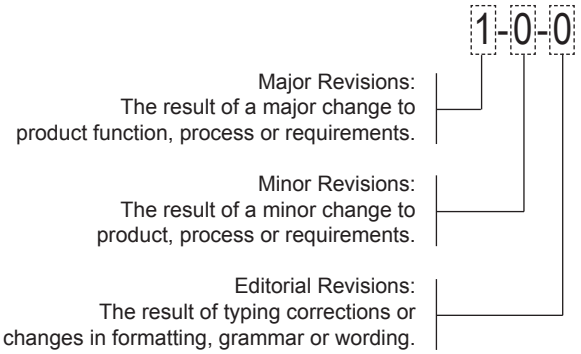
DOCUMENT CONTROL

This document has been produced, verified and controlled in accordance with Daniels Electronics' Quality Management System requirements.

Please report any errors or problems to Daniels Electronics' Customer Service Department.

DOCUMENT REVISION DEFINITION

Daniels Electronics Ltd. utilizes a three-level revision system. This system enables Daniels to identify the significance of a revision. Each element of the revision number signifies the scope of change as described in the diagram below.



Three-level revision numbers start at 1-0-0 for the first release. The appropriate element of the revision number is incremented by 1 for each subsequent revision, causing any digits to the right to be reset to 0.

For example:
If the current revision = 2-1-1 Then the next major revision = 3-0-0
If the current revision = 4-3-1 Then the next minor revision = 4-4-0
If the current revision = 3-2-2 Then the next editorial revision = 3-2-3

The complete revision history is provided at the back of the document.

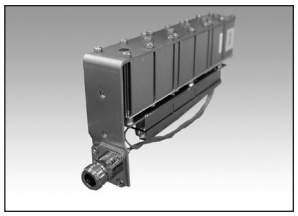
NOTE

The user's authority to operate this equipment could be revoked through any changes or modifications not expressly approved by Daniels Electronics Ltd.

The design of this equipment is subject to change due to continuous development. This equipment may incorporate minor changes in detail from the information contained in this manual.

Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Contents



GENERAL INFORMATION

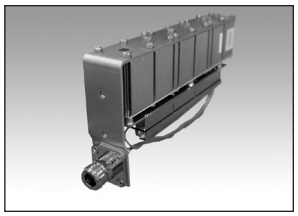
INTRODUCTION

The FE3H040 Enhanced Preselector is a highly integrated, frequency selective, down converter used in Daniels Electronics standard MT-3 Low Band VHF FM Receiver product line.

The Enhanced Preselector connects to the 21.4 MHz IF / Audio Mainboard and the Enhanced Synthesizer to form a complete receiver.

PERFORMANCE SPECIFICATIONS

Frequency Range:	29.0 MHz – 38.5 MHz (FE3H035) 37.5 MHz – 50.0 MHz (FE3H045)
IF Frequency:	21.4 MHz
3 dB Bandwidth:	> 5 MHz (Preselector Filter)
Conversion Gain:	12.5 dB
Third Order Intercept Point:	> +18 dBm
Image Rejection:	> 100 dB
Impedance:	50 Ω at RF, LO and IF ports
Temperature Range:	-30˚C to +60˚C (optional -40˚C to +60˚C)
Power Requirements:	+9.5 VDC @ 160 mA



THEORY OF OPERATION

GENERAL

The FE3H040 Preselector amplifies and down converts the RF signal to the IF frequency of 21.4 MHz. The FE3H035 and FE3H045 Preselectors use high-side injection. Power is supplied by a regulated +9.5 volts and draws typically 160 mA.

The FE3H040 Preselector consists of the following:

- Five-Section L-C Coupled Bandpass Filter
- Single Stage Low Noise RF Amplifier
- Image Rejection Filter
- Local Oscillator Low Pass Filter
- Double Balanced Active Mixer

All terminations are 50 Ω impedance.

POWER AND INTERCONNECTION

The FE3H Enhanced Preselector operates from +9.5 VDC applied via a short red wire connected to supply point J6-2 on the receiver main IF / audio board. Ground return is supplied via direct mounting to the receiver chassis and coaxial cable interconnections. The FE3H Preselector draws approximately 160 mA from the IF / audio board's +9.5 VDC supply.

The RF input signal connected to the receiver front panel Type-N connector is fed to the Preselector SMB input connector J1 by a short coaxial cable. The FE3H Preselector's local oscillator input and IF output are respectively routed by coaxial cable from the local oscillator module and to SMB connector J7 on the main IF / audio board.

PRESELECTOR FILTER

The received RF signal is filtered by a five-section L-C coupled band pass filter. This filter provides Preselector selectivity and attenuates any potential internally generated spurious signals. The filter has an operational bandwidth of 5 MHz and a typical insertion loss of 2 dB. The filter is tunable (L1 through L5) in the following ranges :

- FE3H035 29.0 MHz – 38.5 MHz
- FE3H045 37.5 MHz – 50.0 MHz

Every Enhanced Preselector has an identification label indicating one of the two operating frequency bands.

RF AMPLIFIER

The output from the Enhanced Preselector filter is coupled through DC blocking capacitor C8 to the base of RF amplifier Q2. The RF amplifier stage is supplied by the regulated +9.5 VDC line and typically draws 60 mA of collector current. It provides a high third-order intercept point and low noise figure. Transistor Q1 actively regulates the bias to RF transistor Q2. The output signal is coupled to an image rejection filter via DC blocking capacitor C10. Typically, the RF amplifier stage has a gain of 16 dB.

IMAGE REJECTION FILTER

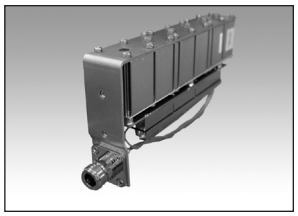
The amplified RF signal is followed by an image rejection filter. This filter rejects image noise after amplification. The low pass filter consists of C11 through C14 and L3 through L5. It is a low pass filter designed to pass the desired frequency range of 29.0 MHz – 50.0 MHz and reject the image band of 71.8 MHz – 92.8 MHz. Typical insertion loss is 1.5 dB.

LOCAL OSCILLATOR FILTER

The local oscillator filter is a low pass filter consisting of C34 through C37 and L10 through L12. Typical insertion loss is 1.5 dB. Input level to the local oscillator filter is typically +5 dBm. Following the filter is an attenuation network with an insertion loss of 7.5 dB.

DOUBLE BALANCED MIXER

The double balanced mixer consists of active mixer M1. The received RF signal in the 29.0 MHz – 50.0 MHz range is down converted to the 21.4 MHz first conversion IF frequency by the use of high-side injection. The mixer is driven by an LO signal of typically -4 dBm. Typical current draw for the mixer is 100 mA. Typical conversion loss is 0 dB.



ENHANCED PRESELECTOR ALIGNMENT

REPAIR NOTE

The Enhanced Preselector is mainly made up of surface mount devices that should not be removed or replaced using an ordinary soldering iron. Removal and replacement of surface mount components should be performed only with specifically designed surface mount rework and repair stations complete with Electrostatic Discharge (ESD) protection.

When removing Surface Mount Solder Jumpers, the recommendation is to use solder braid in place of manual vacuum type desoldering tools. This will help prevent damage to the circuit boards.

GENERAL

Alignment for the Enhanced Preselector consists of tuning the five section bandpass filter only. No tuning is required for frequency changes within the 3 dB bandwidth (5 MHz) of its originally tuned frequency. However, without tuning at the 3 dB band edges, the receivers sensitivity will be degraded. Normally, no tuning is required for small frequency changes. For large frequency changes, use the tuning procedure below.

RECOMMENDED TEST EQUIPMENT

Alignment of the Enhanced Preselector requires the following test equipment or its equivalent:

Power Supply:	Regulated +9.5 VDC at 1 A Phillips PM 2811
Spectrum Analyzer with Tracking Generator	
Alignment Tool:	Coilcraft 37-1409

CHECK POINTS

Vsupply:	+ 9.5 VDC @ 160 mA
Bandpass Filter Loss:	2 dB
RF Amplifier Gain:	16 dB
Image Rejection Filter Loss:	1.5 dB
First Mixer Conversion Loss:	0 dB
Vb of Q1:	+ 7 VDC
Vc of Q2:	+ 7.5 VDC
Vp of M1:	+ 9.3 VDC
Local Oscillator Frequency:	RF Frequency + 21.4 MHz
Local Oscillator Filter Loss:	1.5 dB
Local Oscillator Attenuator Loss:	7.5 dB

PREFERRED TUNING PROCEDURE

The preferred method of tuning the Enhanced Preselector is to use a Spectrum Analyzer with a Tracking Generator. With the Local Oscillator absent, the frequency response of the Preselector filter can be seen at the IF port.

Use the following procedure for swept frequency tuning:

1. Supply +9.5 VDC to the Enhanced Preselector.
2. Connect the Tracking Generator output with -10 dBm or less to the RF input.
3. Connect the IF output to the Spectrum Analyzer input.
    a. Center the spectrum analyzer at the desired RF frequency.
    b. Adjust L1 through L5 for a uniformly flat response at a level typically -30 dBc; centered at the desired RF frequency. *See the Enhanced Preselector Tuning Diagram in the Illustrations section of this manual.*

ALTERNATE TUNING PROCEDURE

The alternate method of tuning the Enhanced Preselector is to use a complete receiver and monitor receiver SINAD. Use the following procedure for tuning:

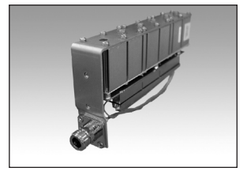
1. Inject the desired RF signal to the RF IN connector at a level of -20 dBm.
2. Inject the desired LO signal to the LO IN cable at a level of +5 dBm (LO freq = RF + 21.4 MHz).
3. Connect the IF OUT to the IF / RF IN connector on the IF / Audio Board.
4. Adjust L1 through L5 and tune for best receiver SINAD (> -118 dBm).

ENHANCED PRESELECTOR REMOVAL AND INSTALLATION

The Enhanced Preselector is fastened to the mainboard (MT-3 Receiver IF / Audio Board) with a single Phillips screw and fastened to the front panel with two countersunk Phillips screws. Remove these screws and disconnect the IF, LO and power cables to remove the Enhanced Preselector. Installation of the Enhanced Preselector is the reverse of the above procedure.

CIRCUIT BOARD REMOVAL

Removal of the circuit boards is accomplished by removing all 18 Phillips screws and lockwashers. To separate the two circuit boards from each other, the small piece of semi-rigid coax must be desoldered. Follow a reverse procedure to re-assemble.



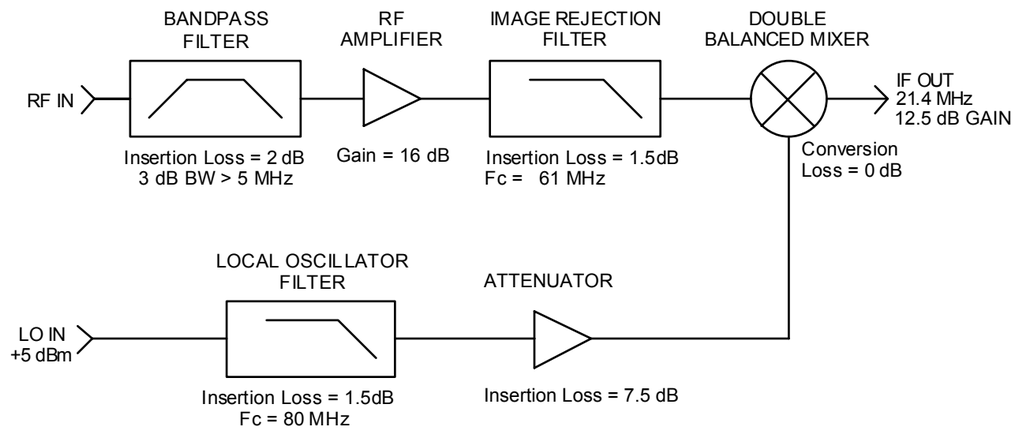
ILLUSTRATIONS AND SCHEMATICS

PRINTED CIRCUIT BOARD NUMBERING CONVENTION

Daniels Electronics Ltd. has adopted a printed circuit board (PCB) numbering convention in which the last two digits of the circuit board number represent the circuit board version. All PCBs manufactured by Daniels Electronics Ltd. are identified by one of the following numbering conventions:

PCB number	43-912010 Indicates circuit board version 1.0
PCB number	50002-02 Indicates circuit board version 2 (no decimal version)

ENHANCED PRESELECTOR BLOCK DIAGRAM



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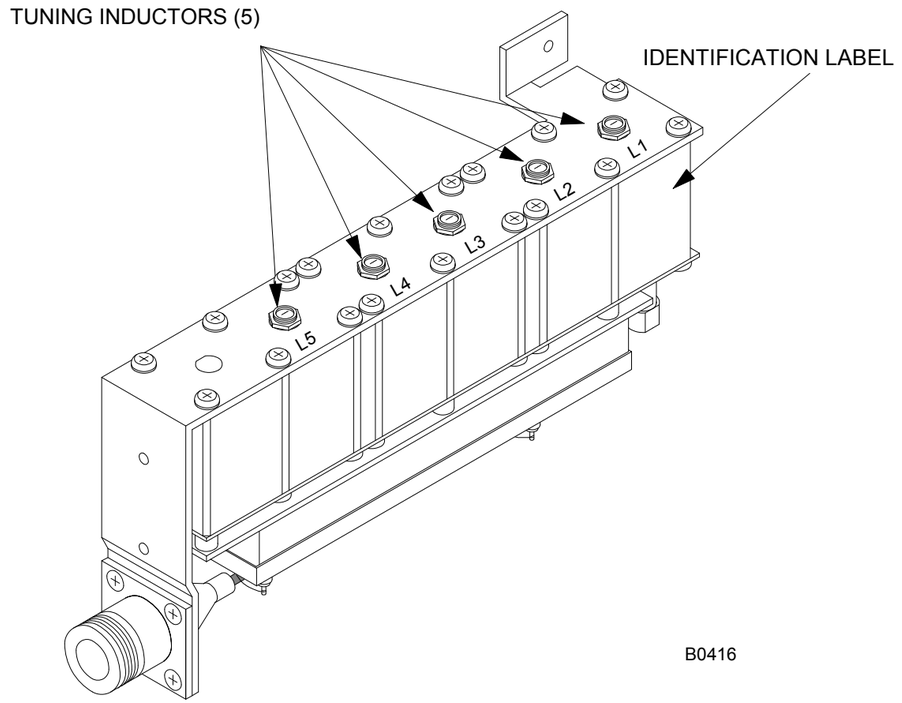
ENHANCED PRESELECTOR TUNING DIAGRAM



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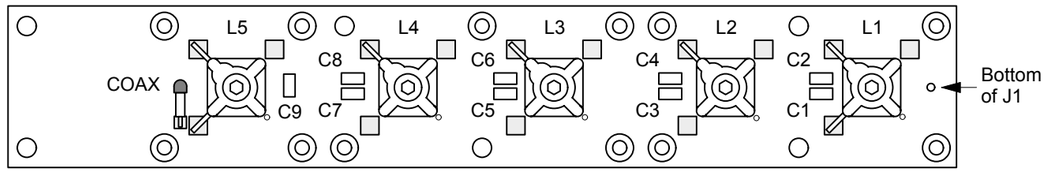
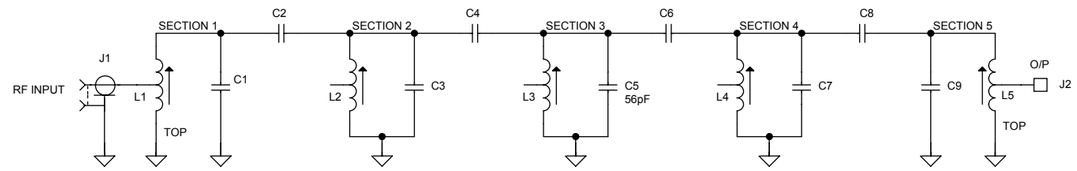
BANDPASS FILTER COMPONENT LAYOUT



Designator	FE3H035 29.0 - 38.5 MHz	FE3H045 37.5 - 50.0 MHz
C1	82 pF	68 pF
C2	15 pF	10 pF
C3	68 pF	56 pF
C4	12 pF	8.2 pF
C5	82 pF	68 pF
C6	12 pF	8.2 pF
C7	68 pF	56 pF
C8	15 pF	10 pF
C9	82 pF	68 pF

Designator	Low Band (Blue)	High Band (Green)
L1	193-306 nH (Tapped)	162-252 nH (Tapped)
L2	193-306 nH	162-252 nH
L3	193-306 nH	162-252 nH
L4	193-306 nH	162-252 nH
L5	193-306 nH (Tapped)	162-252 nH (Tapped)

BANDPASS FILTER SCHEMATIC DIAGRAM



Designator	FE3H035 29-38.5 MHz	FE3H045 37.5-50 MHz
C1	82 pF	68 pF
C2	15 pF	10 pF
C3	86 pF	56 pF
C4	12 pF	8.2 pF
C5	82 pF	68 pF
C6	12 pF	8.2 pF
C7	68 pF	56 pF
C8	15 pF	10 pF
C9	82 pF	68 pF
L1	193-306 nH	162-252 nH
L2	193-306 nH	162-252 nH
L3	193-306 nH	162-252 nH
L4	193-306 nH	162-252 nH
L5	193-306 nH	162-252 nH

HIGHEST REFERENCE DESIGNATORS		
C9	L5	-----
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UNUSED REFERENCE DESIGNATORS		
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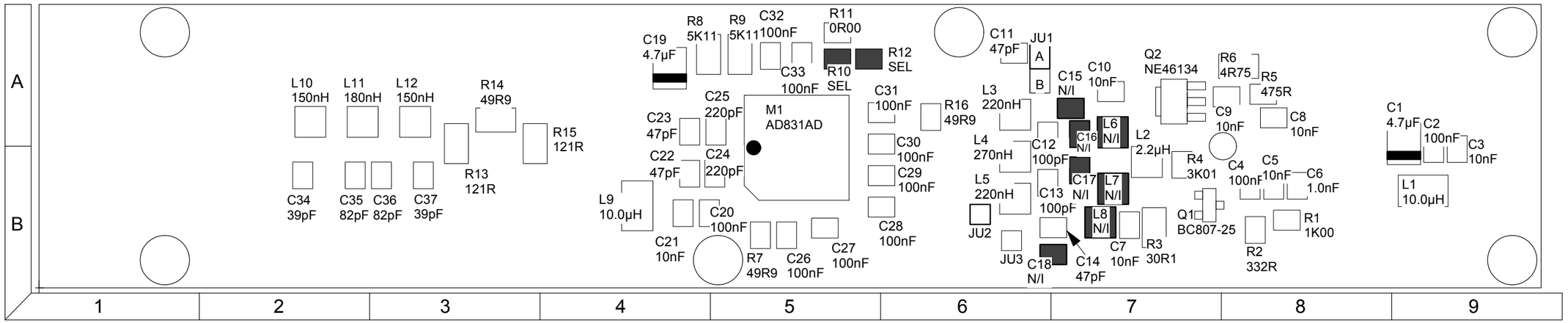
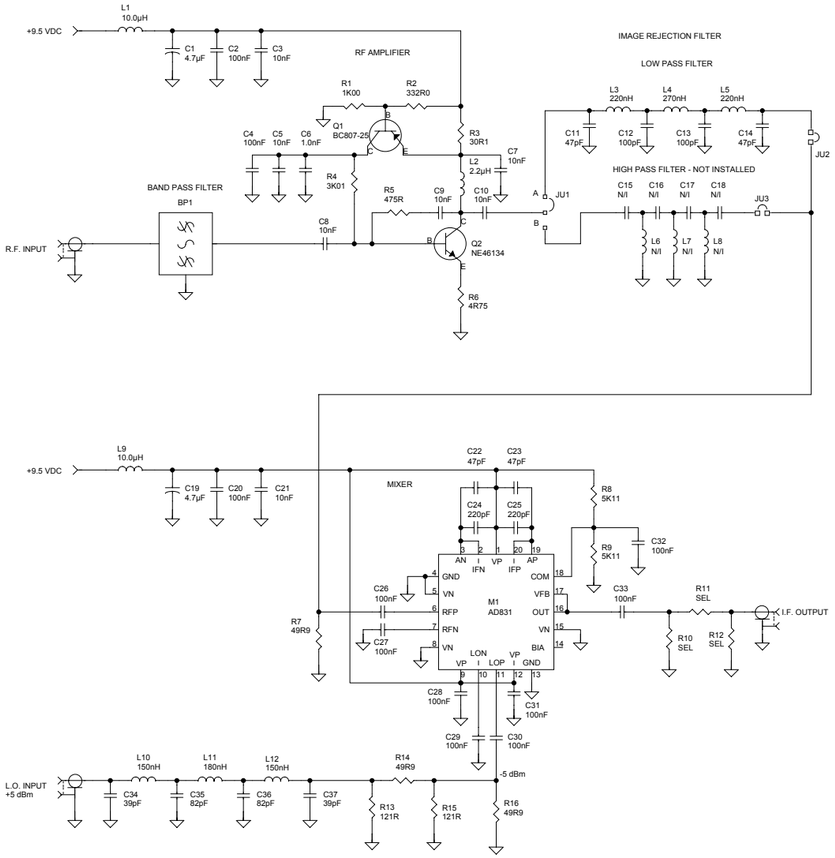
ENHANCED PRESELECTOR COMPONENT LAYOUT



COMPONENT LOCATION TABLE							
DES	LC	DES	LC	DES	LC	DES	LC
C1	A9	C21	B4	JU3	B6	R1	B8
C2	B9	C22	B4			R2	B8
C3	B9	C23	A4	L1	B9	R3	B7
C4	B8	C24	B5	L2	B7	R4	B7
C5	B8	C25	A5	L3	A6	R5	A8
C6	B8	C26	B5	L4	B6	R6	A6
C7	B7	C27	B5	L5	B6	R7	B5
C8	A8	C28	B6	L6	A7	R8	A4
C9	A8	C29	B6	L7	B7	R9	A5
C10	A7	C30	A6	L8	B7	R10	A5
C11	A6	C31	A6	L9	B4	R11	A5
C12	A6	C32	A5	L10	A2	R12	A5
C13	B6	C33	A5	L11	A2	R13	A3
C14	B7	C34	B2	L12	A3	R14	A3
C15	A7	C35	B2			R15	A3
C16	A7	C36	B3	M1	A5	R16	A6
C17	B7	C37	B3				
C18	B7			Q1	B7		
C19	A4	JU1	A6	Q2	A7		
C20	B4	JU2	B6				

- INSTALL JUMPERS
- NOT INSTALLED

ENHANCED PRESELECTOR SCHEMATIC DIAGRAM



COMPONENT LOCATION TABLE

DES	LC	DES	LC	DES	LC	DES	LC	DES	LC	DES	LC	DES	LC	DES	LC
BP1	C4	C14	G3	C29	E8	JU1	E4	L12	C8	Q1	D2	R13	D8
		C15	F4	C30	E8	JU2	G3			Q2	E3	R14	D8
C1	C2	C16	F4	C31	E7	JU3	G4	M1	E6			R15	E8
C2	C2	C17	G4	C32	F6					R1	D3	R16	E8
C3	C2	C18	G4	C33	F7	L1	B2	Q1	D3	R2	D3		
C4	C3	C19	C6	C34	B8	L2	E3	Q2	E4	R3	E3		
C5	C3	C20	C6	C35	C8	L3	F3			R4	D3		
C6	D3	C21	C6	C36	C8	L4	F3	L19	F3	R5	D4		
C7	E3	C22	E6	C37	D8	L5	G3	L20	G3	R6	E4		
C8	D4	C23	E6			L6	F4	L21	G3	R7	D7		
C9	E4	C24	E6	J1	B4	L7	F4	L22	B3	R8	F6		
C10	E4	C25	E6	J2	G7	L8	G4	L23	B3	R9	F6		
C11	F3	C26	D7	J3	B8	L9	B6	L24	C3	R10	F7		
C12	F3	C27	D7	J4	B6	L10	B8	L25	C3	R11	G7		
C13	G3	C28	E7	J5	B2	L11	C8	L26	C3	R12	G7		

HIGHEST REFERENCE DESIGNATORS		
C37	JU3	L12
M1	Q2	R16
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UNUSED REFERENCE DESIGNATORS		
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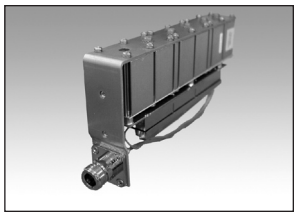
DANIELS™ ELECTRONICS LTD — VICTORIA BC.

TITLE:	VR-3H040 ENHANCED FRON END BOARD SCHEMATIC DIAGRAM		
DATE:	19 MARCH 1997	DWN BY: BRAD KOSIANCE	APRVD:
DWG No.:	01-S-01-01	REVISED BY:	NIKKI B
BOARD No.:	50041-01 REV: 01	DWG REV DATE:	6 APRIL 2004



PARTS LIST

ENHANCED PRESELECTOR BOARD ELECTRICAL PARTS

Reference Designator	Description	Part Number
C1	CAP., SM, 4.7uF TANT., 10%,16V	1055-5B475K16
C2	CAP., SM,100nF CER,0805,X7R,50	1008-5A104K5R
C3	CAP., SM,10nF CER,0805,X7R,50V	1008-4A103K5R
C4	CAP., SM,100nF CER,0805,X7R,50	1008-5A104K5R
C5	CAP., SM,10nF CER,0805,X7R,50V	1008-4A103K5R
C6	CAP., SM, 1nF CER,0805,X7R,50V	1008-3A102K5R
C7	CAP., SM,10nF CER,0805,X7R,50V	1008-4A103K5R
C8	CAP., SM,10nF CER,0805,X7R,50V	1008-4A103K5R
C9	CAP., SM,10nF CER,0805,X7R,50V	1008-4A103K5R
C10	CAP., SM,10nF CER,0805,X7R,50V	1008-4A103K5R
C11	CAP., SM, 47pF CER., 0805, C0G	1008-1A470J1G
C12	CAP., SM, 100pF CER., 0805,C0G	1008-2A101J1G
C13	CAP., SM, 100pF CER., 0805,C0G	1008-2A101J1G
C14	CAP., SM, 47pF CER., 0805, C0G	1008-1A470J1G
C19	CAP., SM, 4.7uF TANT., 10%,16V	1055-5B475K16
C20	CAP., SM,100nF CER,0805,X7R,50	1008-5A104K5R
C21	CAP., SM,10nF CER,0805,X7R,50V	1008-4A103K5R
C22	CAP., SM, 47pF CER., 0805, C0G	1008-1A470J1G
C23	CAP., SM, 47pF CER., 0805, C0G	1008-1A470J1G
C24	CAP., SM, 220pF CER., 0805,C0G	1008-2A221J1G
C25	CAP., SM, 220pF CER., 0805,C0G	1008-2A221J1G
C26	CAP., SM,100nF CER,0805,X7R,50	1008-5A104K5R
C27	CAP., SM,100nF CER,0805,X7R,50	1008-5A104K5R
C29	CAP., SM,100nF CER,0805,X7R,50	1008-5A104K5R
C30	CAP., SM,100nF CER,0805,X7R,50	1008-5A104K5R
C31	CAP., SM,100nF CER,0805,X7R,50	1008-5A104K5R

Enhanced Preselector Board Electrical Parts (Continued)

Reference Designator	Description	Part Number
C32	CAP., SM,100nF CER,0805,X7R,50	1008-5A104K5R
C33	CAP., SM,100nF CER,0805,X7R,50	1008-5A104K5R
C34	CAP., SM, 39pF CER., 0805, C0G	1008-1A390J1G
C35	CAP., SM, 82pF CER., 0805, C0G	1008-1A820J1G
C36	CAP., SM, 82pF CER., 0805, C0G	1008-1A820J1G
C37	CAP., SM, 39pF CER., 0805, C0G	1008-1A390J1G
L1	INDUCTOR, SM, 10.0uH, 10%,1812	1255-4G10000K
L2	INDUCTOR,SM,2.2uH CER,10%,1008	1256-3B2R200K
L3	INDUCTOR,SM,220nH CER,10%,1008	1256-2BR2200K
L4	INDUCTOR,SM,270nH CER,10%,1008	1256-2BR2700K
L5	INDUCTOR,SM,220nH CER,10%,1008	1256-2BR2200K
L9	INDUCTOR, SM, 10.0uH, 10%,1812	1255-4G10000K
L10	INDUCTOR,SM,150nH CER,10%,1008	1256-2BR1500K
L11	INDUCTOR,SM,180nH CER,10%,1008	1256-2BR1800K
L12	INDUCTOR,SM,150nH CER,10%,1008	1256-2BR1500K
M1	IC, AD831AP, MIXER-L/D, PLCC20	2360-83100P20
PCB	PCB, FRONT END AMP/MIX.,LB VHF	4310-72500411
Q1	TRANSISTOR, BC807-25,PNP,SOT23	2120-BC807025
Q2	TRANSISTOR, NE46134, RF,SOT-89	2127-NE461340
R1	RES., SM, 1K00 0805, 1%,100ppm	1150-3A1001FP
R2	RES., SM, 332R 0805, 1%,100ppm	1150-2A3320FP
R3	RES., SM, 30R1 1206, 1%,100ppm	1150-1B30R1FP
R4	RES., SM, 3K01 0805, 1%,100ppm	1150-3A3011FP
R5	RES., SM, 475R 0805, 1%,100ppm	1150-2A4750FP
R6	RES., SM, 4R75 1206, 1%,400ppm	1150-0B4R75FG
R7	RES., SM, 49R9 0805, 1%,100ppm	1150-1A49R9FP
R8	RES., SM, 5K11 1206, 1%,100ppm	1150-3B5111FP
R9	RES., SM, 5K11 1206, 1%,100ppm	1150-3B5111FP
R11	RES., SM, ZERO OHM JUMPER,0805	1150-0A0R0000
R13	RES., SM, 121R 1206, 1%,100ppm	1150-2B1210FP
R14	RES., SM, 49R9 1206, 1%,100ppm	1150-1B49R9FP
R15	RES., SM, 121R 1206, 1%,100ppm	1150-2B1210FP
R16	RES., SM, 49R9 0805, 1%,100ppm	1150-1A49R9FP

BANDPASS FILTER BOARD ELECTRICAL PARTS

A10-FE3H035 Model

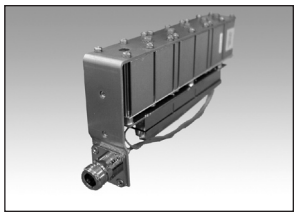
Reference Designator	Description	Part Number
C1	CAP, 82pF CER,0805,5%,100V,C0G	1008-1A820J1G
C2	CAP, 15pF CER,0805,5%,100V,C0G	1008-1A150J1G
C3	CAP, 68pF CER,0805,5%,100V,C0G	1008-1A680J1G
C4	CAP, 12pF CER,0805,5%,100V,C0G	1008-1A120J1G
C5	CAP, 82pF CER,0805,5%,100V,C0G	1008-1A820J1G
C6	CAP, 12pF CER,0805,5%,100V,C0G	1008-1A120J1G
C7	CAP, 68pF CER,0805,5%,100V,C0G	1008-1A680J1G
C8	CAP, 15pF CER,0805,5%,100V,C0G	1008-1A150J1G
C9	CAP, 82pF CER,0805,5%,100V,C0G	1008-1A820J1G
L1	INDUCT/VAR.,193-306uH,TAP4+3/8	1263-10C06U35
L2	INDUCTOR/VAR.,193-306nH,UNSHLD	1262-110C250U
L3	INDUCTOR/VAR.,193-306nH,UNSHLD	1262-110C250U
L4	INDUCTOR/VAR.,193-306nH,UNSHLD	1262-110C250U
L5	INDUCT/VAR.,193-306uH,TAP4+3/8	1263-10C06U35
PCB	PCB, FRONT END/COIL MTG,LB VHF	4310-75500341

A10-FE3H045 Model

Reference Designator	Description	Part Number
C1	CAP, 68pF CER,0805,5%,100V,C0G	1008-1A680J1G
C2	CAP, 10pF CER,0805,5%,100V,C0G	1008-1A100J1G
C3	CAP, 56pF CER,0805,5%,100V,C0G	1008-1A560J1G
C4	CAP, 8p2 CER, 0805,5%,100V,C0G	1008-0A829J1G
C5	CAP, 68pF CER,0805,5%,100V,C0G	1008-1A680J1G
C6	CAP, 8p2 CER, 0805,5%,100V,C0G	1008-0A829J1G
C7	CAP, 56pF CER,0805,5%,100V,C0G	1008-1A560J1G
C8	CAP, 10pF CER,0805,5%,100V,C0G	1008-1A100J1G
C9	CAP, 68pF CER,0805,5%,100V,C0G	1008-1A680J1G
L1	INDUCT/VAR.,162-252uH,TAP3+3/8	1263-10C05U27
L2	INDUCTOR/VAR.,162-252nH,UNSHLD	1262-110C207U
L3	INDUCTOR/VAR.,162-252nH,UNSHLD	1262-110C207U
L4	INDUCTOR/VAR.,162-252nH,UNSHLD	1262-110C207U
L5	INDUCT/VAR.,162-252uH,TAP3+3/8	1263-10C05U27
PCB	PCB, FRONT END/COIL MTG,LB VHF	4310-75500341

MECHANICAL PARTS

Description	Part Number	Qty.
BRACKET, CAP. MTG,V/UHF 5P F/E	3702-65001005	1
CABLE, CONFORM., 30mm/8mm/8mm	7489-C1070200	1
CABLE,SMB PLUG-OPEN,RG316,15CM	7910-WP007015	1
CABLE,SMB PLUG-OPEN,RG316,19CM	7910-WP008019	1
CABLE,SMB STR/PL-N(CSK)JK,21CM	7910-WS7NJ021	1
CASE, LB VHF, RF AMP/HELICAL	3702-65801050	1
CONN., SMB, JACK,BULKHEAD,REAR	5121-J1SC01BG	1
LOCKWASHER,M2.5,SPLIT,A2 STEEL	5814-2M5LK00S	18
NUT, PRESS,M2.5,5.6mmOD,PC MNT	5833-T2M55615	12
SCREW, M2.5 x 25 PAN/PHIL., A2	5812-2M5PP25S	18
SCREW, M3 X 6, FLAT/PHIL., A2	5812-3M0FP06S	4
SHIELD, V/UHF F/E AMP-LO DIVDR	3702-67401412	1
SHIELD, V/UHF F/E AMP-RF DIVDR	3702-67401413	1
SHIELD, V/UHF F/END AMP - LID	3702-67401411	1
SHIELD, V/UHF F/END AMP - WALL	3702-67401410	1
STANDOFF,5.56mmOD,4mmL,M2.5,SW	5927-5S4BM25T	6
WIRE, TFE/STRANDED, 24AWG, RED	7121-24S19362	20 cm



REVISION HISTORY

Revision	Date	Action #	Description
1	July 97		First Issue
1-0-1	Apr 2004		Updated document to new format
1-0-2	Nov 2010	---	• Preselector Tuning Diagram was captioned with 5 capacitors; changed to 5 inductors [Task 3622]. • “Front End” is now “Preselector” • updated logos and trademark information • applied Daniels Style Guide