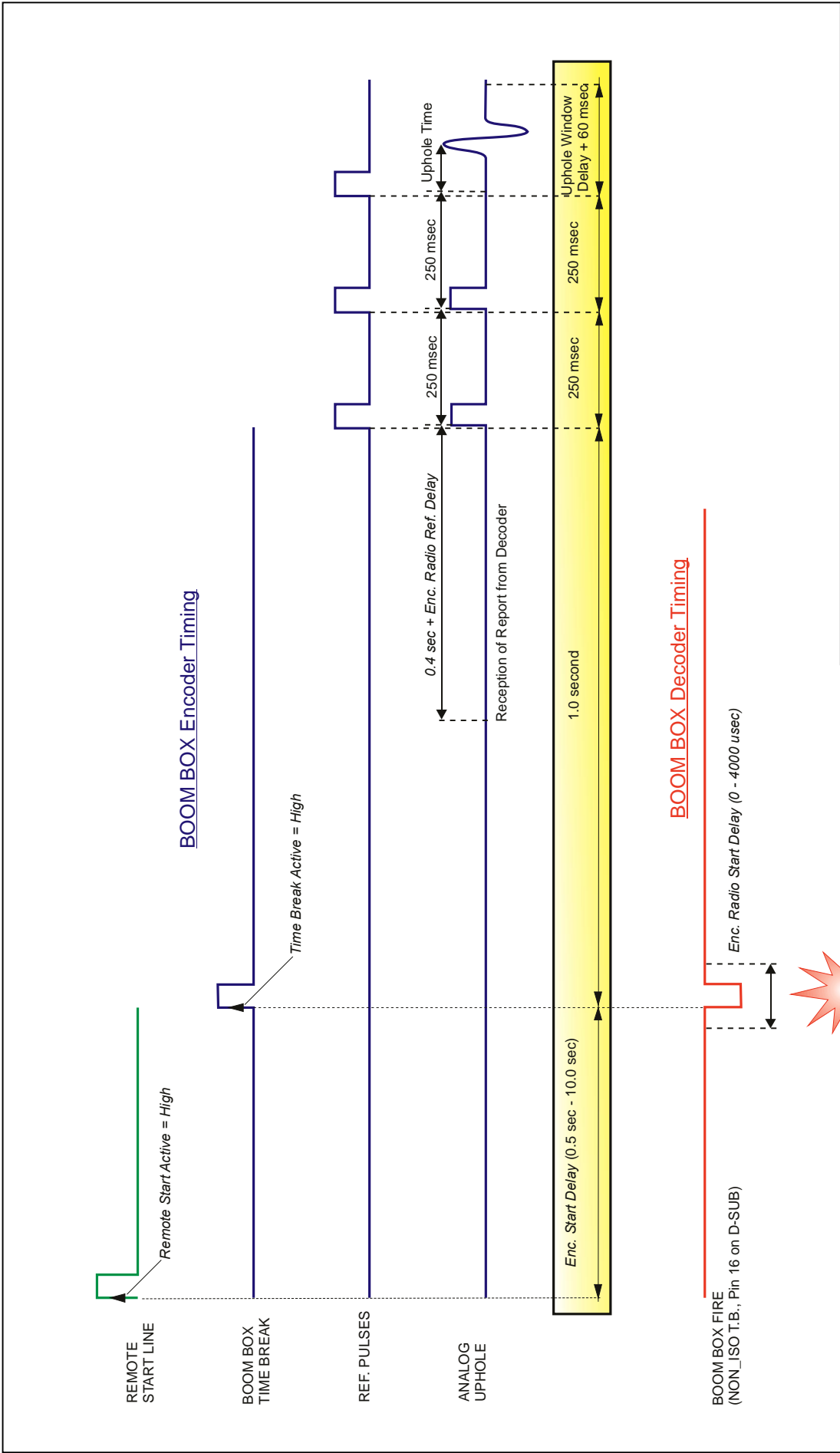



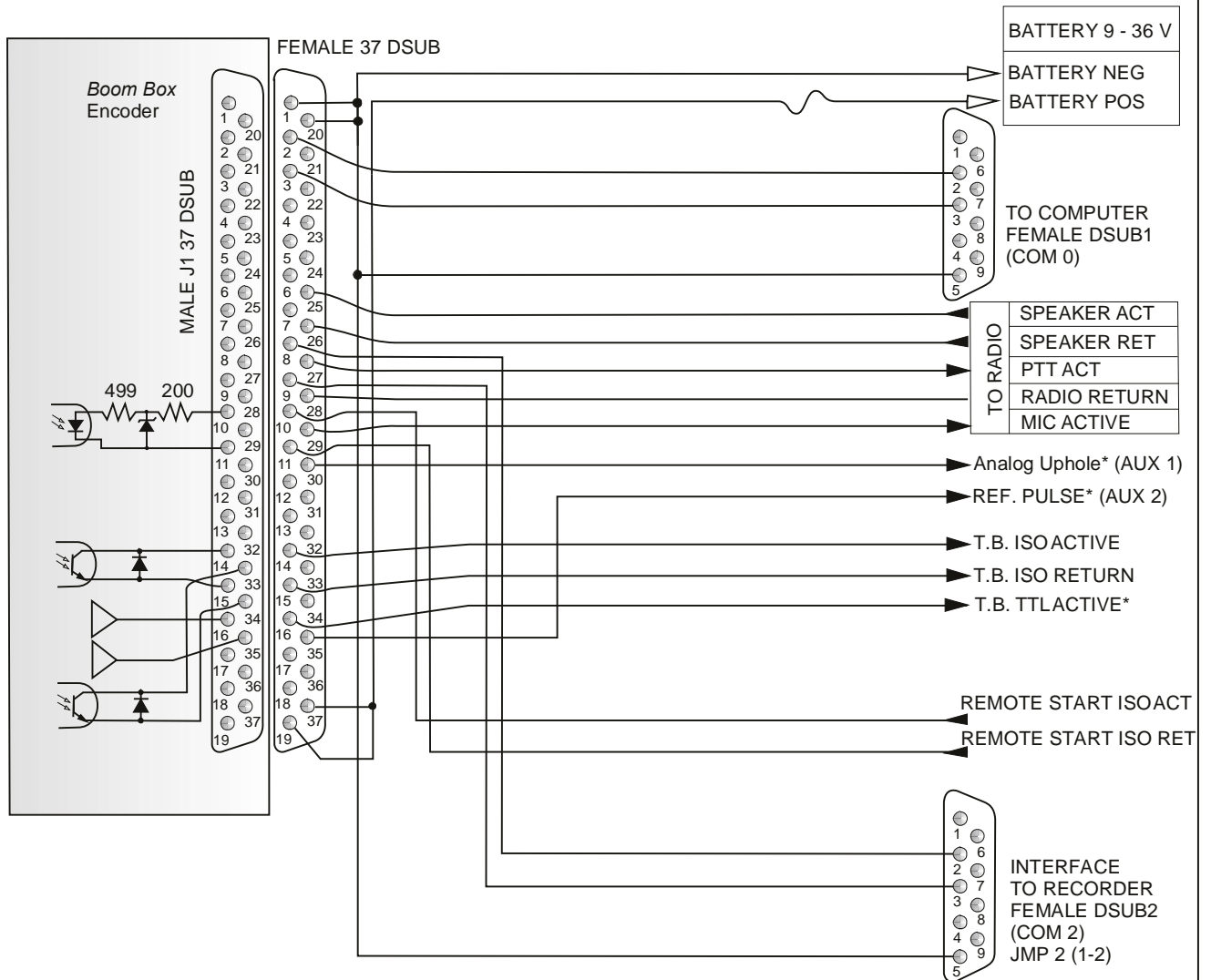
BOOM BOX MANUAL APPENDIX DRAWINGS

- * A-1 BOOM BOX TIMING DIAGRAM
- * A-2 BOOM BOX ENCODER CABLE
- * A-2-1 BOOM BOX TO SERCEL 388 SERIAL INTERFACE CABLE
- * A-2-2 BOOM BOX ENCODER CABLE FOR SERCEL 408
- * A-3-1 BOOM BOX DECODER CABLE
- * A-3-2 BOOM BOX DECODER CABLE CAB10MS88RD
- * A-4-1 BOOM BOX EXTERNAL GPS SETUP
- * A-4-2 BOOM BOX INTERNAL GPS SETUP
- * A-5 BOOM BOX FRONT PANEL WIRING
- * A-6-1 BOOM BOX BACK PACK OPTION 60175
- * A-6-2 BOOM BOX BACK PACK OPTION 60180



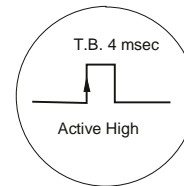
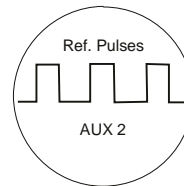
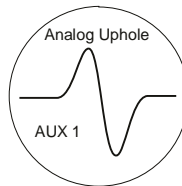


Seismic Source Co			
Boom Box Timing Diagram			
SCALE:	DATE: FEB 14 2002	REV: 2	
DRAWN BY: VVM	APVD. BY:		SHEET 1 OF 1



* NOTE:

1. Analog Uphole (AUX1) range is +/- 3.3V (+/- 5V Max)
2. All TTL level outputs are 3.3V



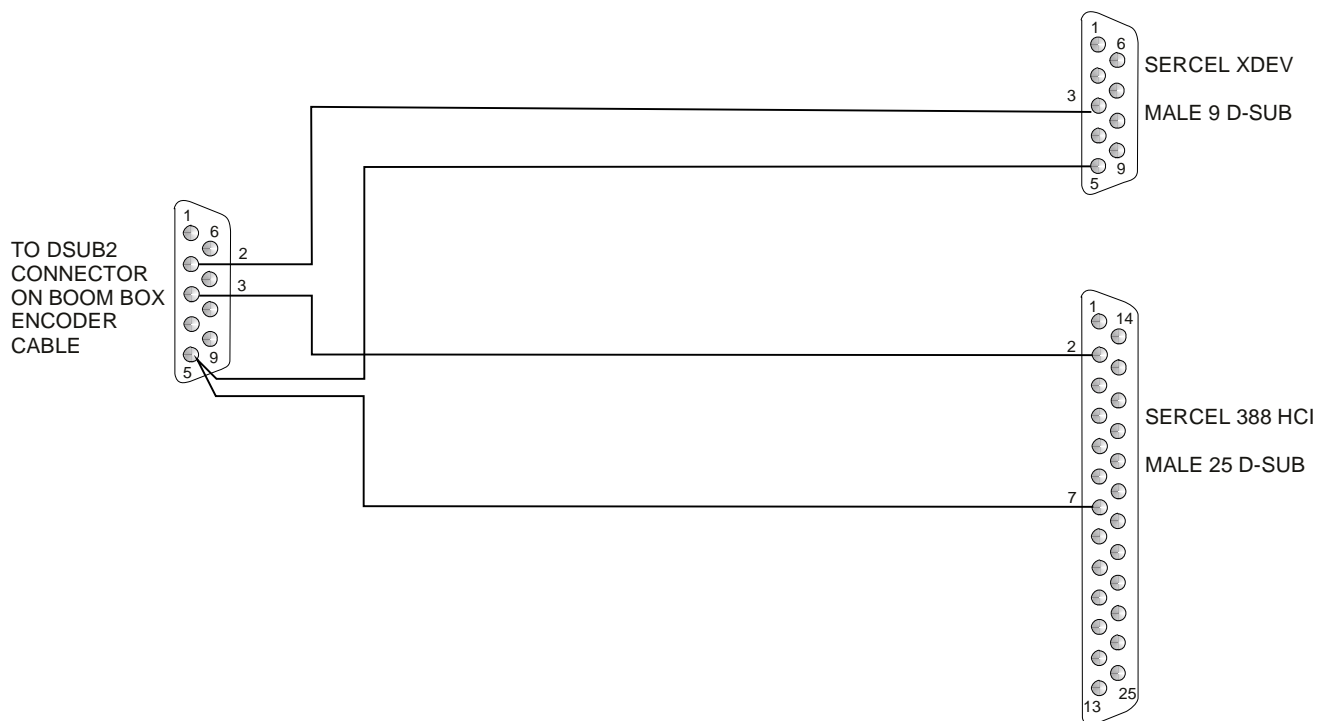
Appendix A-2

Seismic Source Co



Boom Box Encoder Cable

SCALE:	DATE: JAN 7 2002	REV:
DRAWN BY: VVM	APVD. BY:	SHEET 1 OF 1



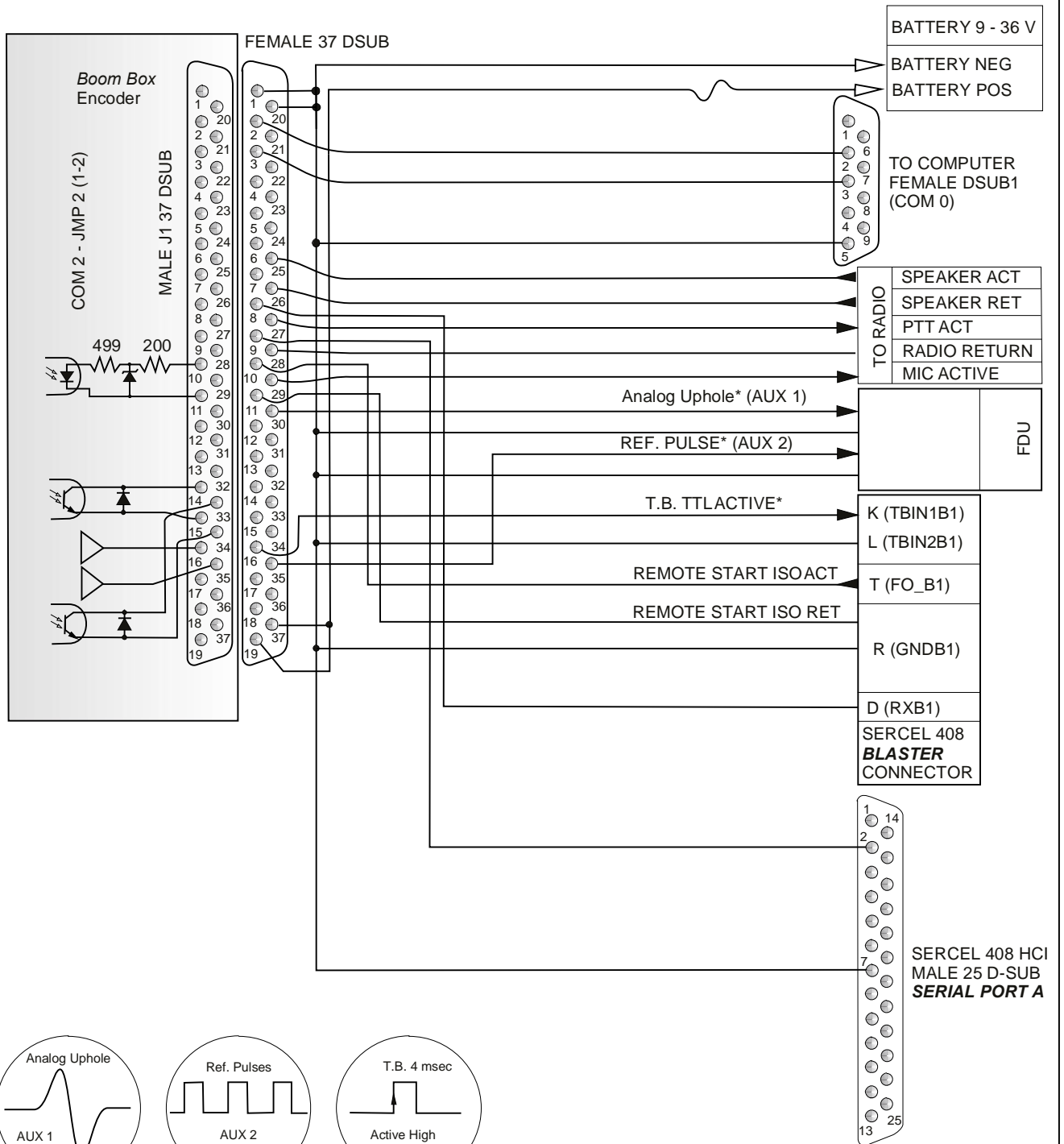
Appendix A-2-1

Seismic Source Co



Boom Box To Sercel 388 Serial Interface Cable

SCALE:	DATE: JAN 7 2002	REV:
DRAWN BY: VVM	APVD. BY:	SHEET 1 OF 1



* NOTE:

1. Analog Uphole (AUX1) range is +/- 3.3V (+/- 5V Max)
2. All TTL level outputs are 3.3V

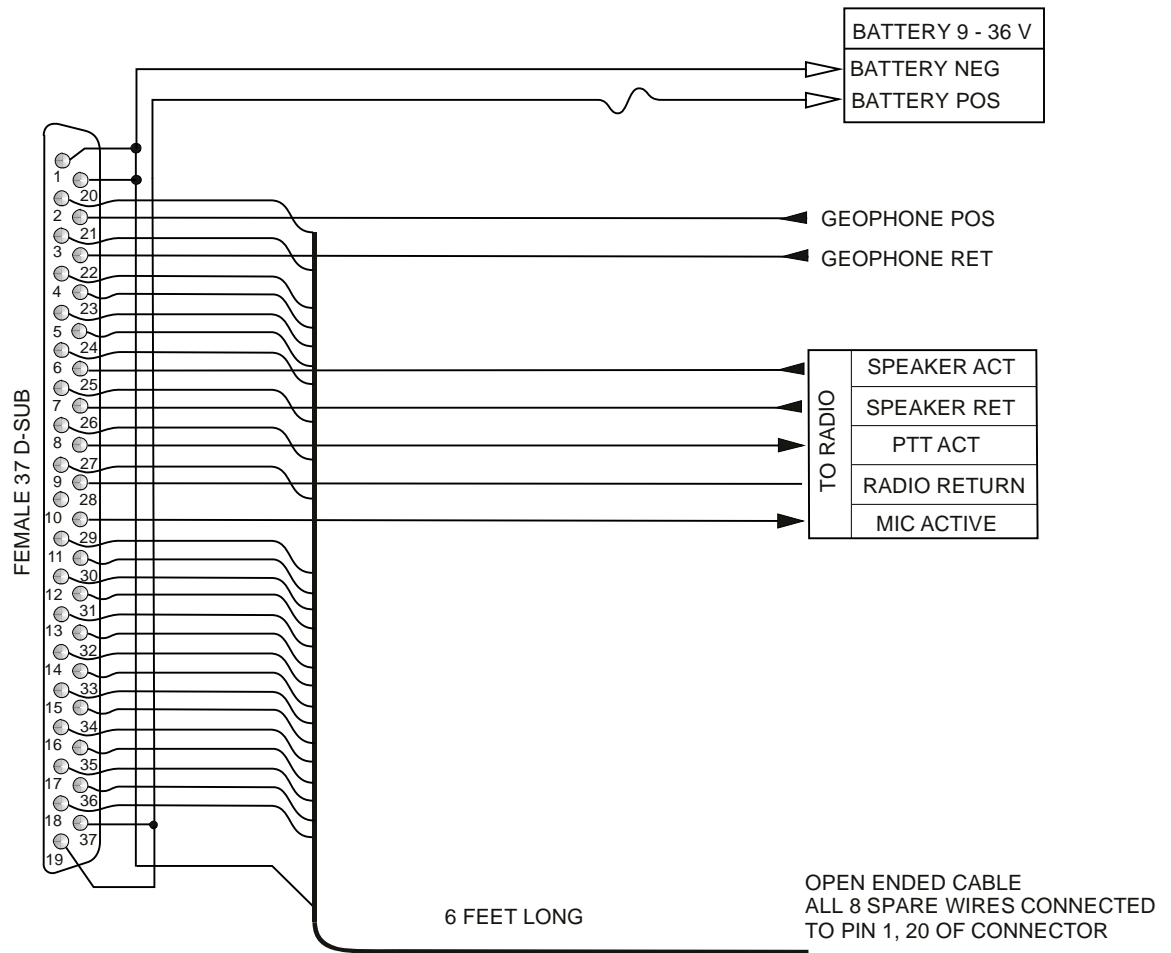
Appendix A-2-2

Seismic Source Co



Boom Box Encoder Cable for Sercel 408 Recorder

SCALE:	DATE: JAN 7 2002	REV:
DRAWN BY: VVM	APVD. BY:	SHEET 1 OF 1



Appendix A-3-1

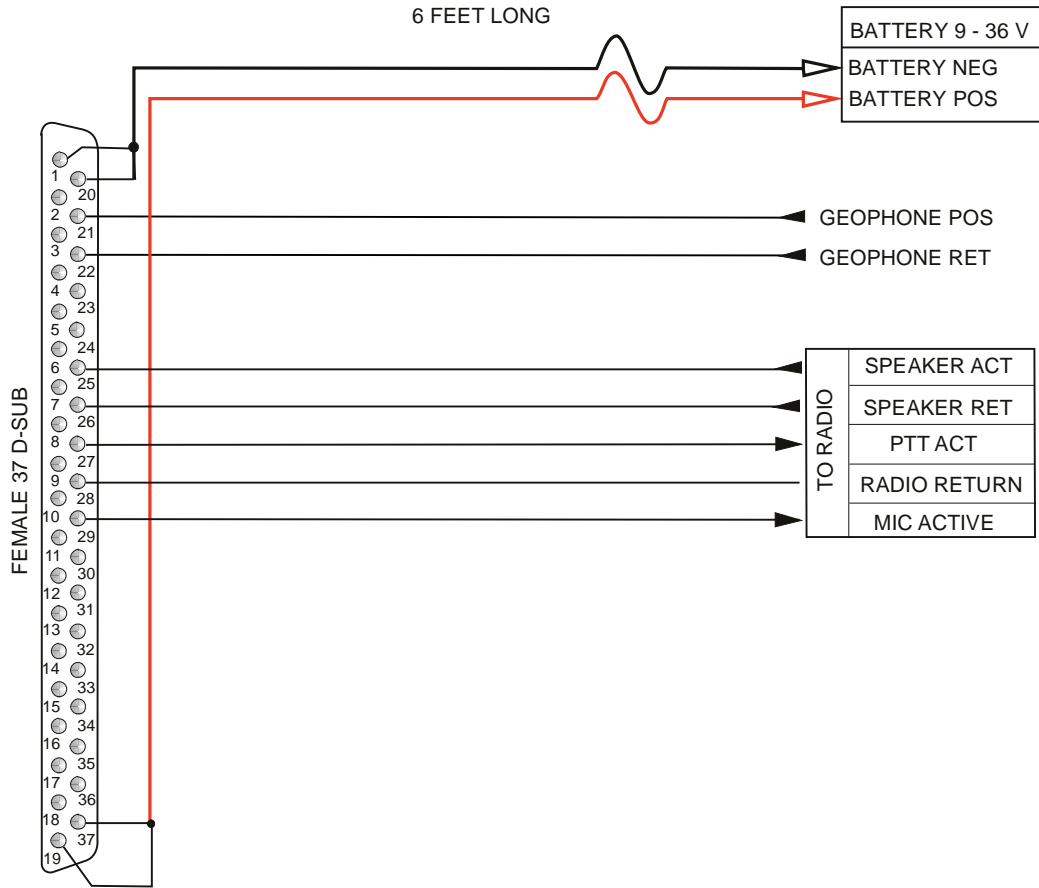
Seismic Source Co



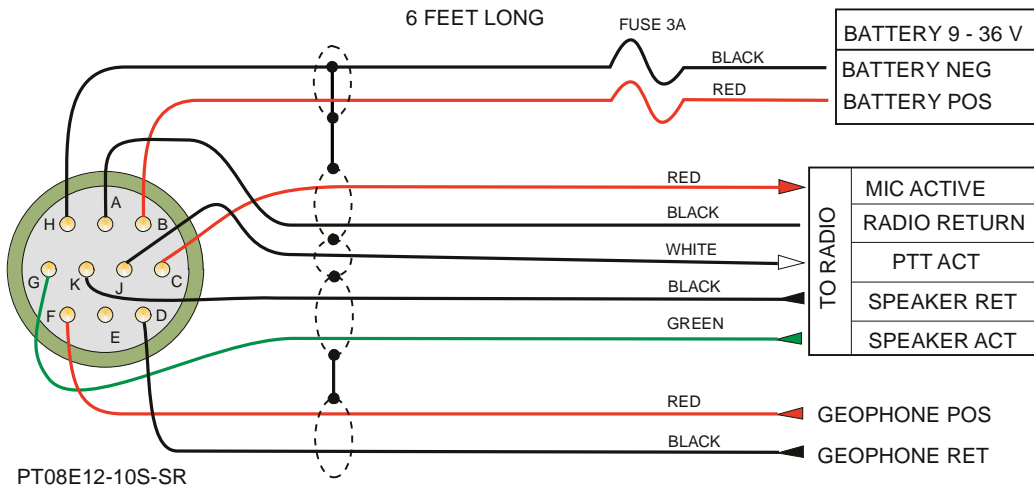
Boom Box Decoder Cable

SCALE:	DATE: JAN 7 2002	REV:
DRAWN BY: VVM	APVD. BY:	SHEET 1 OF 1

D-SUB CONNECTOR CABLE OPTION - CAB37DSUB88RD



MS CONNECTOR CABLE OPTION - CAB10MS88RD



Appendix A-3-2

Seismic Source Co



Boom Box Decoder Cable CAB10MS88RD

SCALE:

DATE: MAR 21 2002

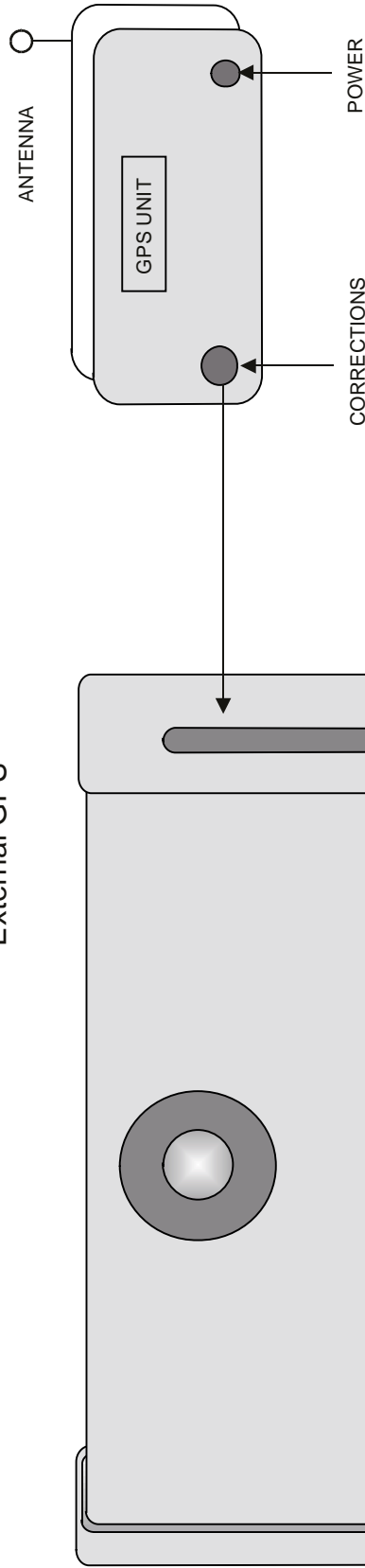
REV: 2

DRAWN BY: VVM

APVD. BY:

SHEET 1 OF 1

External GPS



REMOVE JMP1

BOOM BOX INTERFACE CONNECTOR:

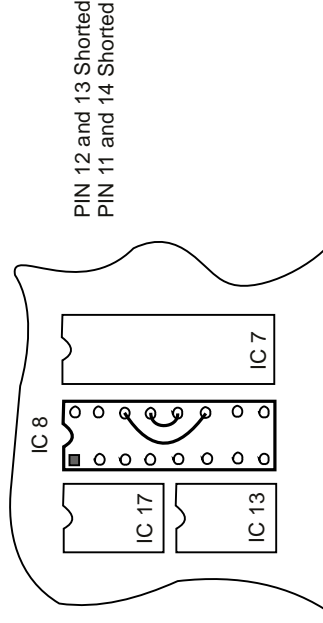
PIN 5 - GPS TX (NMEA to Boom Box) NMEA GPS position output from External GPS Receiver
 PIN 1,20 - GND
 PIN 24 - PPS Signal from internal GPS Receiver (Not used)

RECEIVER SETUP:

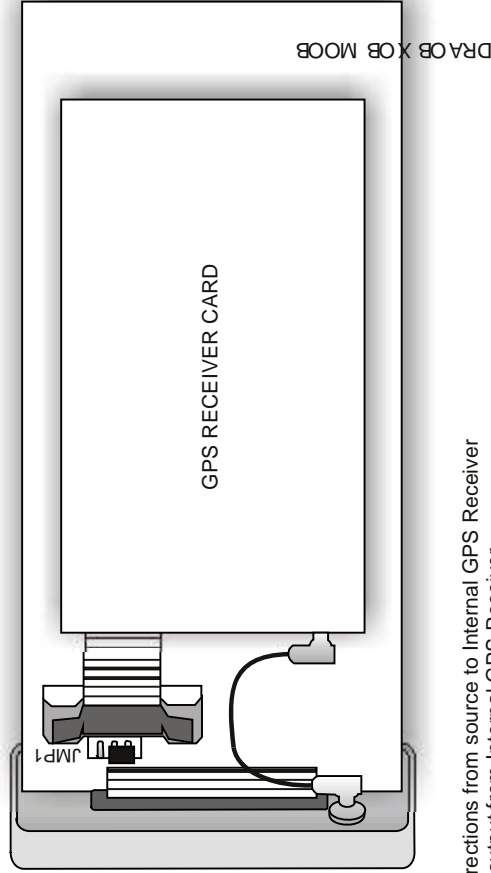
BAUD RATE - 4800
 NMEA MESSAGES - \$GPGGA,..., \$GPGSA...
 UPDATE RATE - 1 HZ

NOTE: By default, all serial line levels are set to RS-232.
 If GPS Receiver is TTL ONLY, then following modification must be made:
 1. Remove IC 8 (MAX3232 or ADM3202) from the socket on the Boom Box board.
 2. Place header in the IC 8 socket. For the header wiring, see picture on the right:

TTL GPS HEADER WIRING:



Internal GPS (Decoder)



EXTERNAL DIFF. CORRECTIONS

INSTALL JMP1 (2 - 3) ON

RECEIVER SETUP:

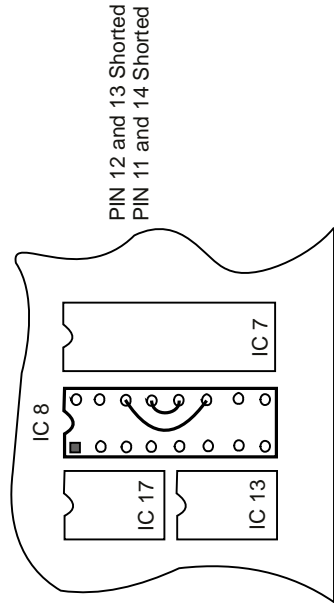
BAUD RATE - 4800
NMEA Messages - \$GPGGA..., \$GPGSA...
UPDATE RATE - 1 HZ

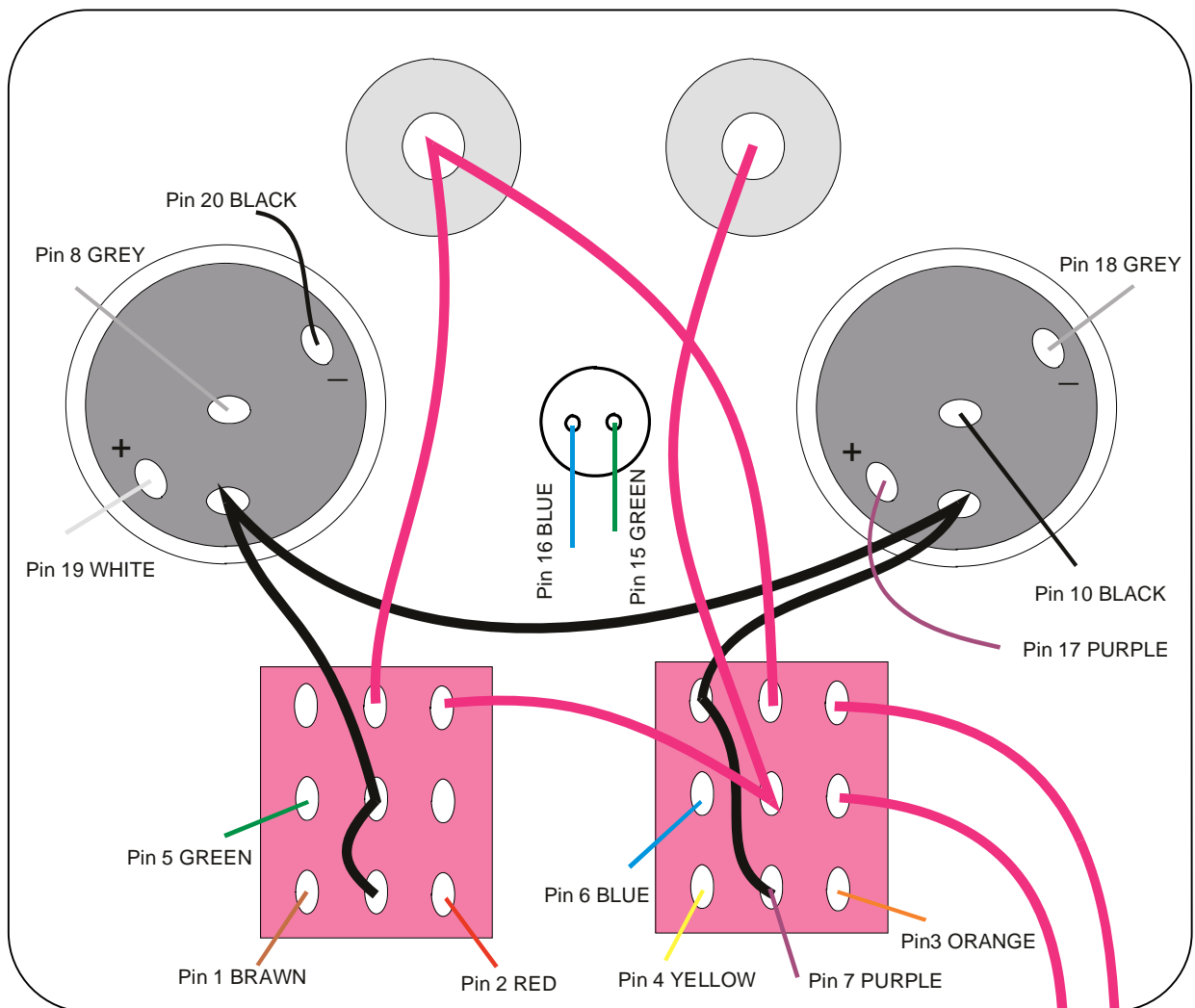
BOOM BOX INTERFACE CONNECTOR:

- PIN 4 - GPS A RX (RTCM to Receiver) RTCM differential corrections from source to Internal GPS Receiver
- PIN 5 - GPS A TX (NMEA to Boom Box) NMEA GPS position output from Internal GPS Receiver
- PIN 7 - GPS B RX (Setup RX) Serial Setup line to Internal GPS Receiver
- PIN 6 - GPS B TX (Setup TX) Serial Setup line from Internal GPS Receiver
- PIN 1,20 - GND
- PIN 24 - PPS Signal from internal GPS Receiver (Not used)

NOTE: By default, all serial line levels are set to RS-232. If GPS Receiver is TTL ONLY, then following modification must be made:

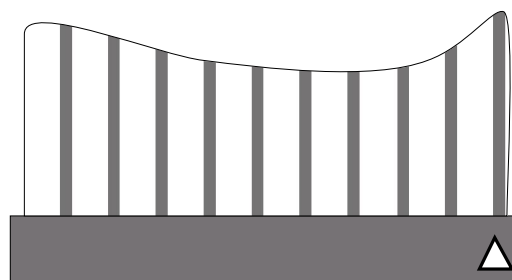
1. Remove IC 8 (MAX3232 or ADM3202) from the socket on the Boom Box board.
2. Place header in the IC 8 socket. For the header wiring, see picture below:





NOT USED PINS:

9, 11, 12, 13, 14



LENGTH 10"

Pin 1 BROWN

High Voltage
POS NEG

LENGTH 10"

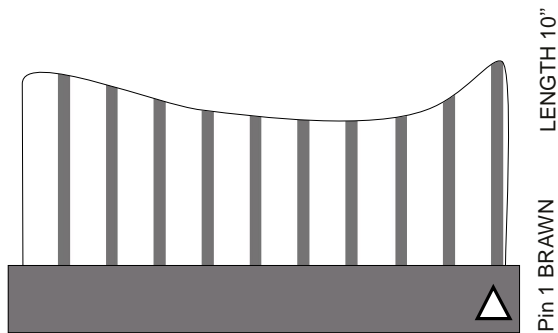
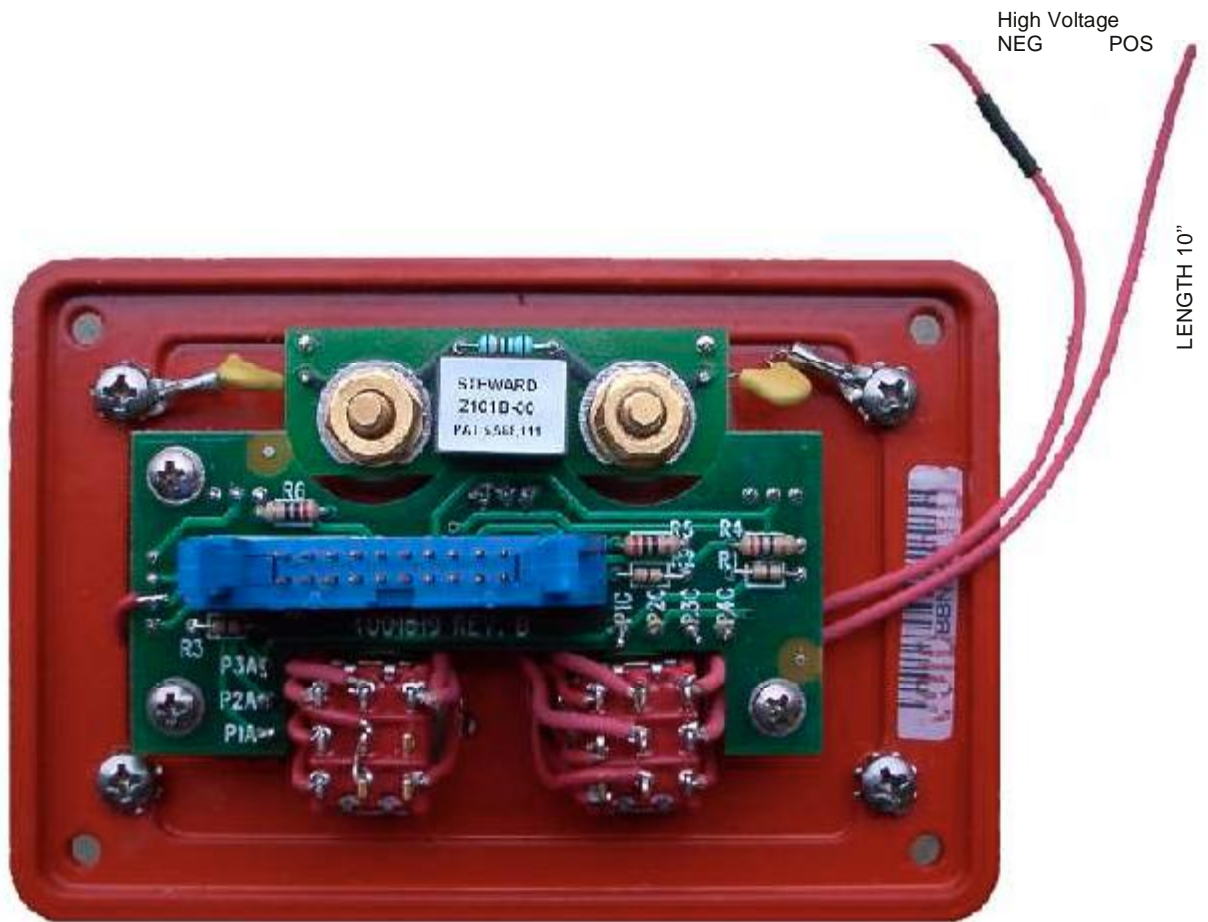
Appendix A-5

Seismic Source Co



Boom Box Front Panel Wiring

SCALE:	DATE: JAN 25 2002	REV: 1
DRAWN BY: VVM	APVD. BY:	SHEET 1 OF 1



Appendix A-5-1

Seismic Source Co



Boom Box New Front Panel Wiring

SCALE:	DATE: FEB 18 2003	REV: 1
DRAWN BY: VVM	APVD. BY:	SHEET 1 OF 1



Appendix A-6-1

Seismic Source Co



Boom Box Back Pack 60175 Option

SCALE:

DATE: Feb 14 2002

REV:

DRAWN BY: VVM

APVD. BY:

SHEET 1 OF 1



Appendix A-6-2

Seismic Source Co



Boom Box Back Pack 60180 Option

SCALE:	DATE: Feb 14 2002	REV:
DRAWN BY: VVM	APVD. BY:	SHEET 1 OF 1