
PK-232/PSK/UNIVERSAL

Sound Card Interface Upgrade Kit A.06219

Installation Manual



WARRANTY

TIMEWAVE TECHNOLOGY INC. LIMITED ONE YEAR WARRANTY

WHO IS COVERED

This warranty is extended only to the original purchaser of the A.06219.

WHAT WE WILL DO

If your A.06219 fails in normal use because of a defect in workmanship or materials within one year of the date of purchase, we will repair or replace (at our option) the equipment at our factory without charge to you. Timewave will pay for the return of the warranty-repaired unit to you.

WHAT YOU MUST DO

First, double check your connections and operating procedure. If you're certain that the unit is faulty, notify Timewave Customer Service immediately. If Timewave is unable to resolve the problem by telephone or email, we will give you an RMA number and ask you to return the unit. You must pay all shipping and insurance charges for returning the unit to our factory.

WHAT IS NOT COVERED

We cannot be responsible for damage caused by accidents, abuse, misuse, improper installation, or unauthorized attempts to repair the unit. This warranty does not cover any parts of the PK-232 except the A.06219.

SERVICE WARRANTY

Timewave service work performed in connection with this warranty is warranted to be free from defects in materials and workmanship for 30 days from the date of repair. All other terms of the limited warranty apply to the service warranty.

HOW TO CONTACT TIMEWAVE

Contact Timewave Customer Service by telephone at (651) 489-5080 or by FAX at (651) 489-5066.

Mailing and shipping address is 501 W. Lawson., St. Paul, MN 55117

email: sales@timewave.com
techsupport@timewave.com
service@timewave.com

web: www.timewave.com

TIMEWAVE MAKES NO OTHER WARRANTY, EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

©2001 by Timewave Technology Inc., St. Paul, MN USA

Please read before installing this upgrade kit.

Be sure to review how to order information at <http://www.timewave.com> to be certain that you have received the correct upgrade kit.

1. If your PK-232 is equipped with a 2400-baud modem or other modification that uses the external modem port, it must be removed.
2. Be sure to download the latest upgrade for ModemSwitch™ from <http://www.timewave.com>
3. Check your radio cable to be certain the black wire (Squelch) is NOT connected to pin 3 of the Radio 1 or Radio 2 connector on the back of the PK-232).
4. Place the enclosed sticker (PSK) between the words “STATUS” and “MODE” on the bottom edge of the front of the PK-232.

Thank you for purchasing the PSK Soundcard Interface upgrade kit for the PK-232MBX and PK-232/DSP. The Timewave part number of this kit is A.06219.

This manual has six sections:

1. PSK Sound Card Interface Board Installation
2. A.06216 Installation
3. A.06217 Installation
4. A.06218 Installation
5. PSK Sound Card Interface Board Settings
6. PSK Sound Card Interface Connections

NOTE: First determine the mother board type used in your PK-232 by matching the board picture in sections 2 (page 7), 3 (page 9) or 4 (page 11) to your equipment. Install the correct cable on your PSK board and then follow the instructions in the proper section. Then go to section 5 of this manual to complete the installation.

PSK Sound card Interface Board cable Installation.

1. Attaching the correct wiring harness to the PSK board:

_____ If you have an A.06216 board, use the 7 pin connector

_____ If you have an A.02617 board, use the 5 pin connector

_____ If you have an A.06218 board, clip the 3 wires from the 5 pin connector and save them for step 2.

2. Solder the correct harness (or individual wires) to the PSK board:

_____ Yellow wire to J8 on the PSK board

_____ Green wire to J9 on the PSK board

_____ Brown wire to J10 on the PSK board

Section 1

PSK Sound Card Interface Board Installation

You will need the following tools to complete this upgrade:

Solder pencil and solder

Needle nose pliers

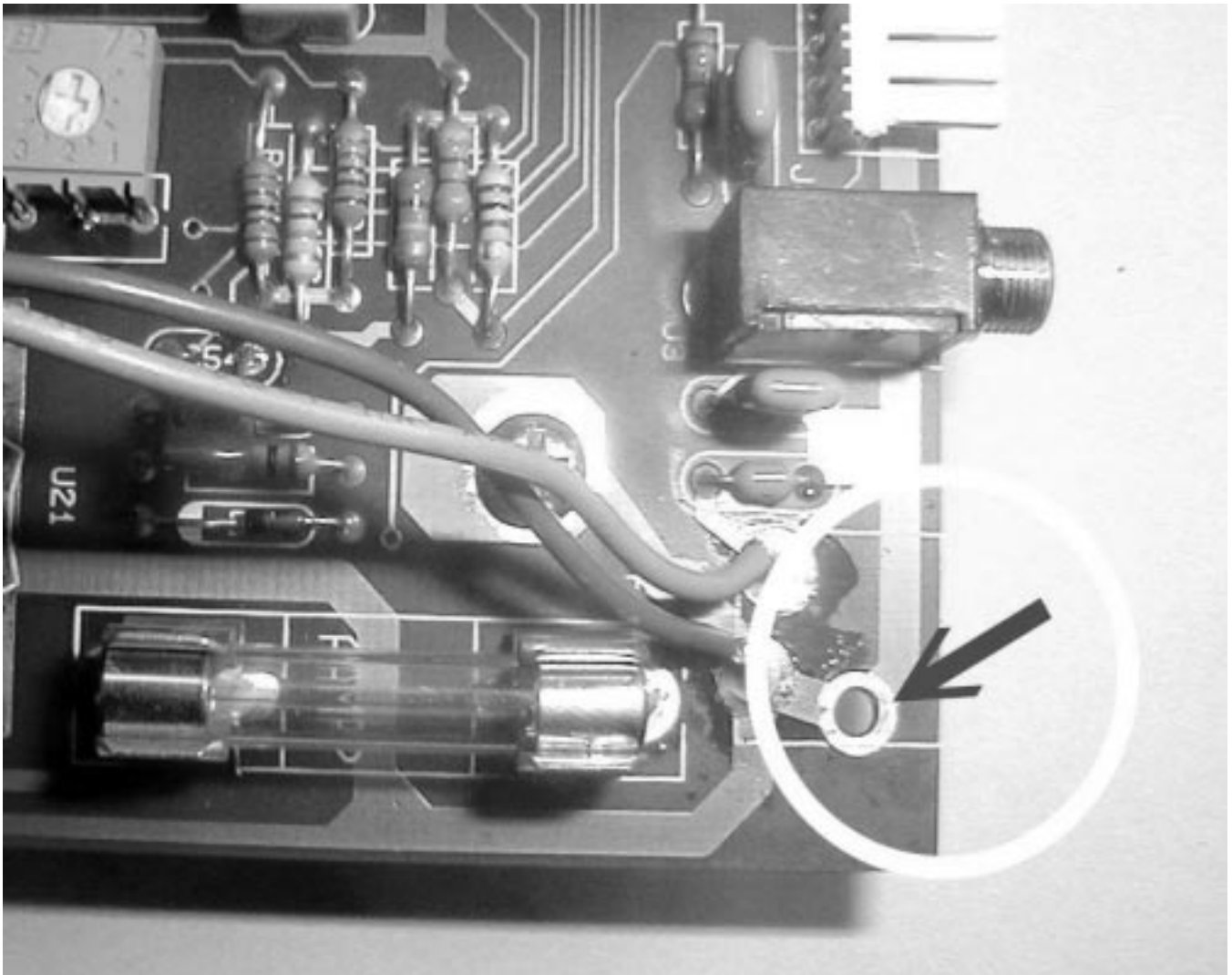
Phillips Screw driver

√ Installation steps

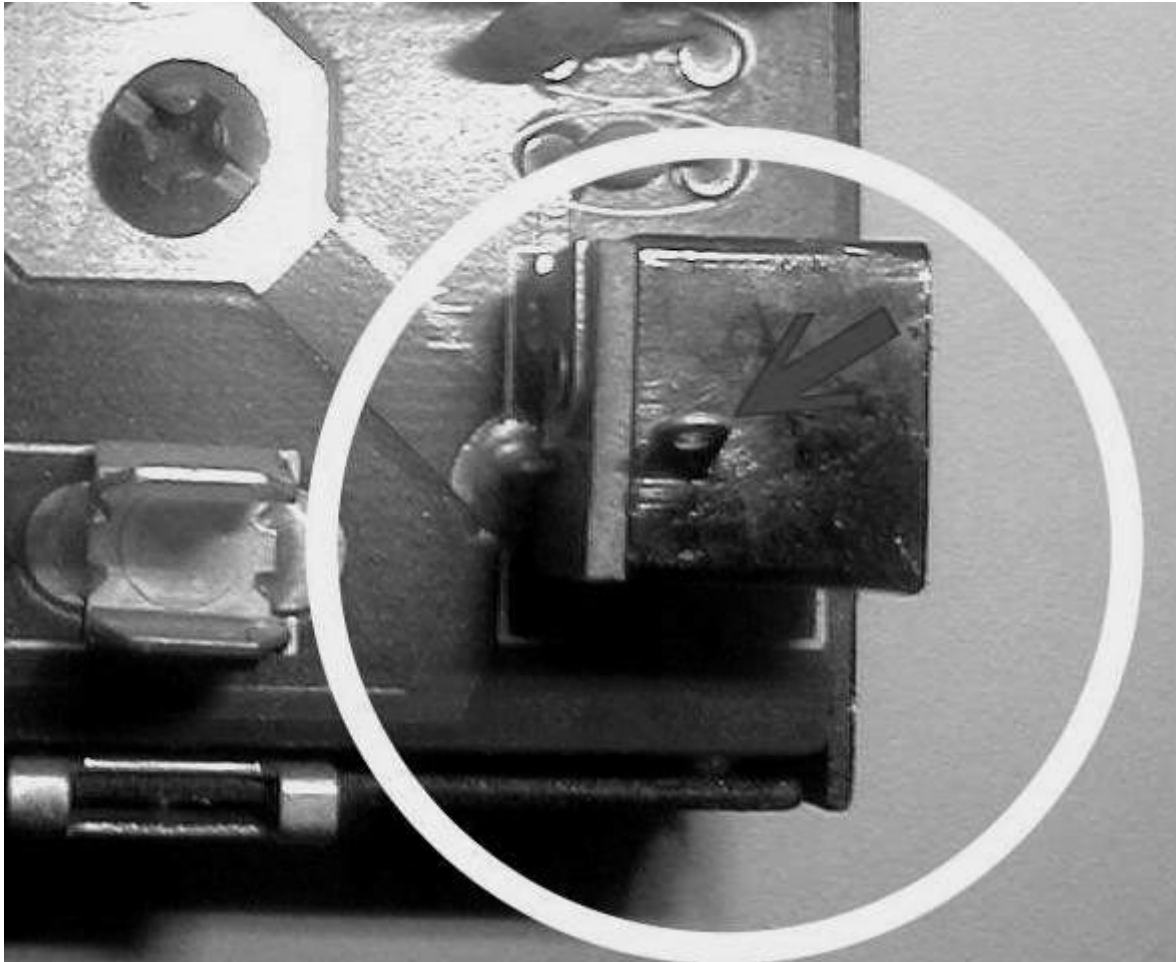
- ___ 1) Remove all cables and power from unit.
- ___ 2) Remove the six screws holding the top cover on the unit.
- ___ 3) Remove the top cover
- ___ 4) Do this step only on the A.06216 installation. Remove jumpers JP4 and JP5. On the A.06217 and A.06218 kits do not remove any jumpers.
- ___ 5) Remove resistor R-160 (orange-orange-red) located behind the front panel just below Q10 (Use needle nose pliers to avoid burning your fingers!)
- ___ 6a) If your PK232 is equipped with a DSP board go to step 7.
- ___ 6b) If your PK232 has no DSP board, remove C-54 located located near the fuse.
- ___ 7) Remove the 2 screws from the main board (Center back and right back) and install the standoffs in their place.
- ___ 8) Secure the PSK upgrade board (Position transformers to the left) with the screws just removed.

Solder the wires (J1 through J10 on the PSK board) as follows:

- ___ 9) If your PK-232 has no power jack mounted directly on the board, solder J6 (Black) to ground pad



If your PK-232 Board has a power jack installed on the board, solder the black wire to the lug on the top of the jack as shown below:



____ 10) Solder J1 (Red) to front side of D10

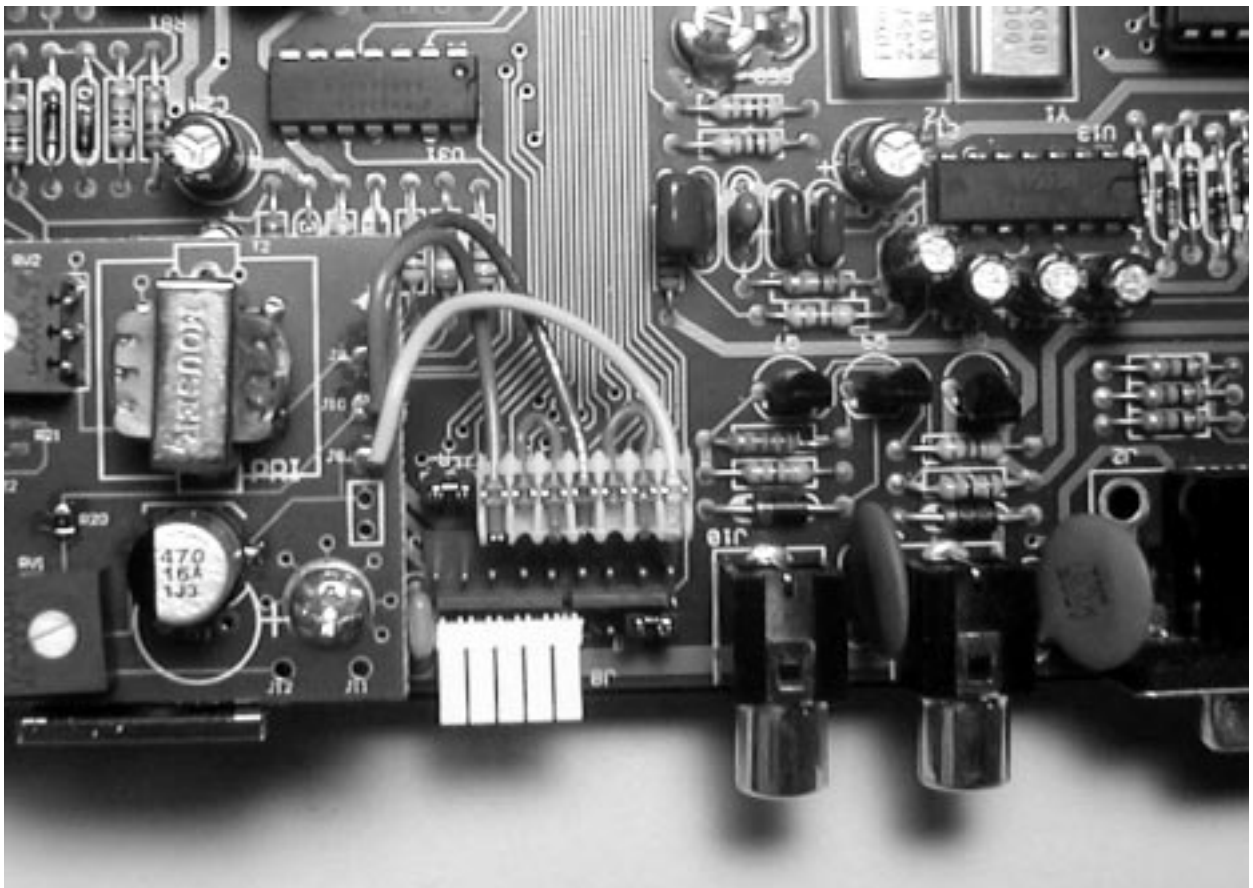
____ 11a) If your PK-232 has a DSP board remove the wire from the DSP IN to the main board. Solder J2 (Orange) to back pad of C-54.
Go to Step 12.

____ 11b) If your PK232 has NO DSP board, Solder J2 (Orange) to back pad of C-54.

NOTE: Depending on your board type, complete section 2, 3 or 4 then advance to section 5.

Section 2 A.06216 Installation Instructions

- ___ 12) Solder J4 (Violet) to back pad of R-160
- ___ 13a) Solder J3 (Blue) If you have a DSP board installed, connect to the “IN” pad on the DSP board. Go to step 14.
- ___ 13b) If no DSP board is installed, solder J3 (blue) to the C54 front pad (located by the fuse).
- ___ 14) Solder J7 to the (White) front pad of R-160 (removed in step 5)
- ___ 15) Solder J5 (Grey) to the rear pad of R-149 (yellow-violet-red, right of Q6)
- ___ 16) Plug the remaining cable with connector on the “A” side of JP-4, JP-5 and 1 pin of JP-6 with the Yellow wire to the left (JP-4).
- ___ 17) If you do NOT have a DSP board installed remove the jumper on JH-1 (Center of board) on the PSK board.
- ___ 18) Replace the top and six retaining screws.



BACK

Step 4. NEW Boards with 9-pin header: Remove jumpers JP4, JP5. Yellow wire to JP4(left)

Step 11a & 11b. Solder wire from J2 on SCI board to BACK pad.

Step 13b. J3 connection to front pad of C54.

Step 9. Solder wire from J6 on SCI board to ground pad.

Step 12. Solder wire from J4 on SCI board to rear pad of R160

LEFT

RIGHT

Step 13A.

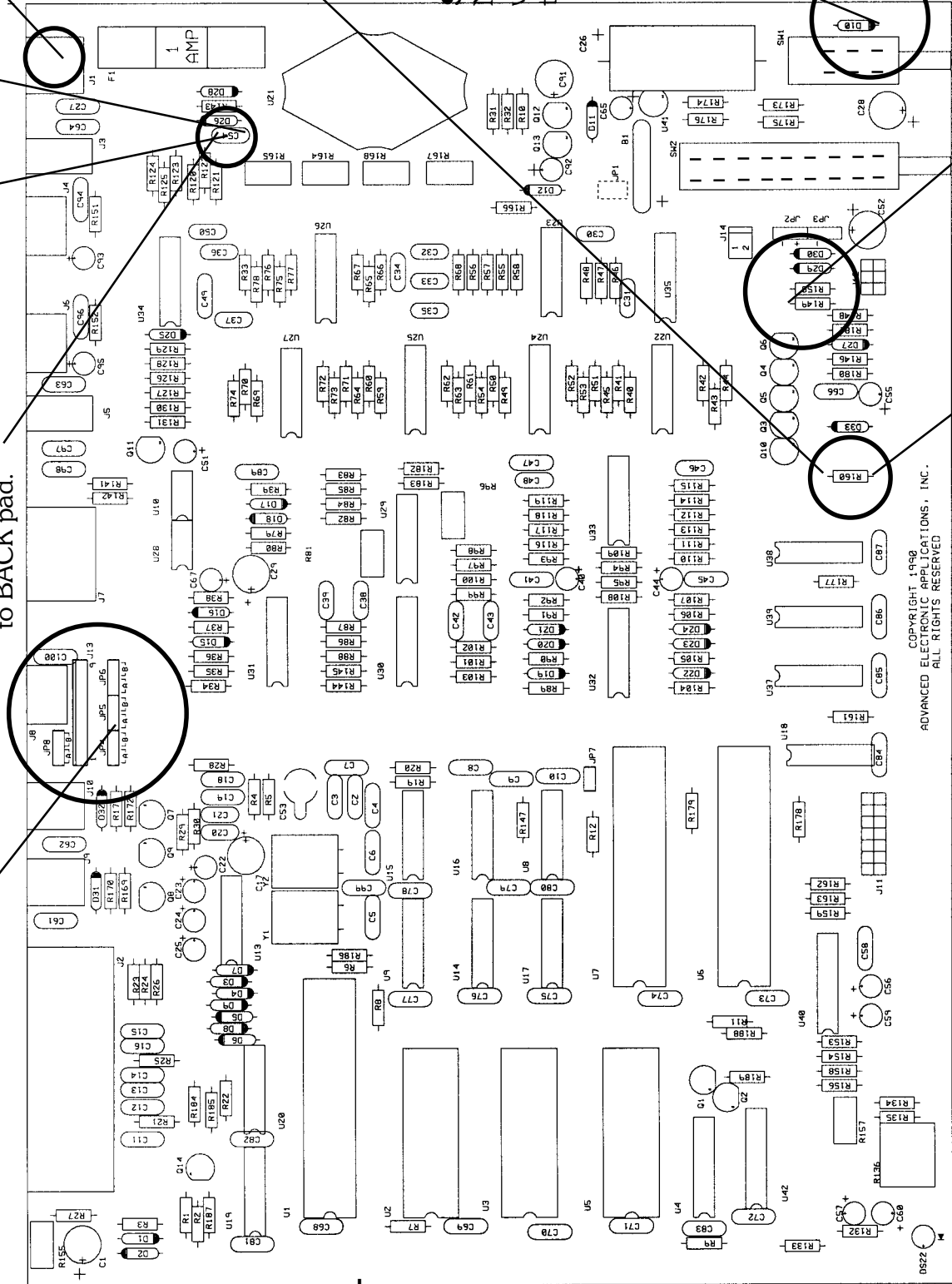
NOT SHOWN! Solder wire from J3 on SCI board to DSP board IN.

Step 10. Solder wire from J1 on SCI board to front side of D10

Step 5 & 14. Remove R160.

Solder wire from J7 on SCI board to FRONT pad.

Step 15. Wrap lead from J5 on SCI board around lead at back of R149. Solder. (Do not re-move R149!)



COPYRIGHT 1990
ADVANCED ELECTRONIC APPLICATIONS, INC.
ALL RIGHTS RESERVED

PK-232/PSK Sound Card Interface (SCI) board connections to PK-232MBX main board.

FRONT

Section 3 A.06217 iNSTALLATION

___ 12) J4 (Violet) to back pad of R-160

___ 13a) J3 (Blue) If you have a DSP board installed, connect to the “IN” pad on the DSP board. Go to step 14.

___ 13b) If no DSP board is installed, connect J3 (blue) to the C54 front pad (located by the fuse).

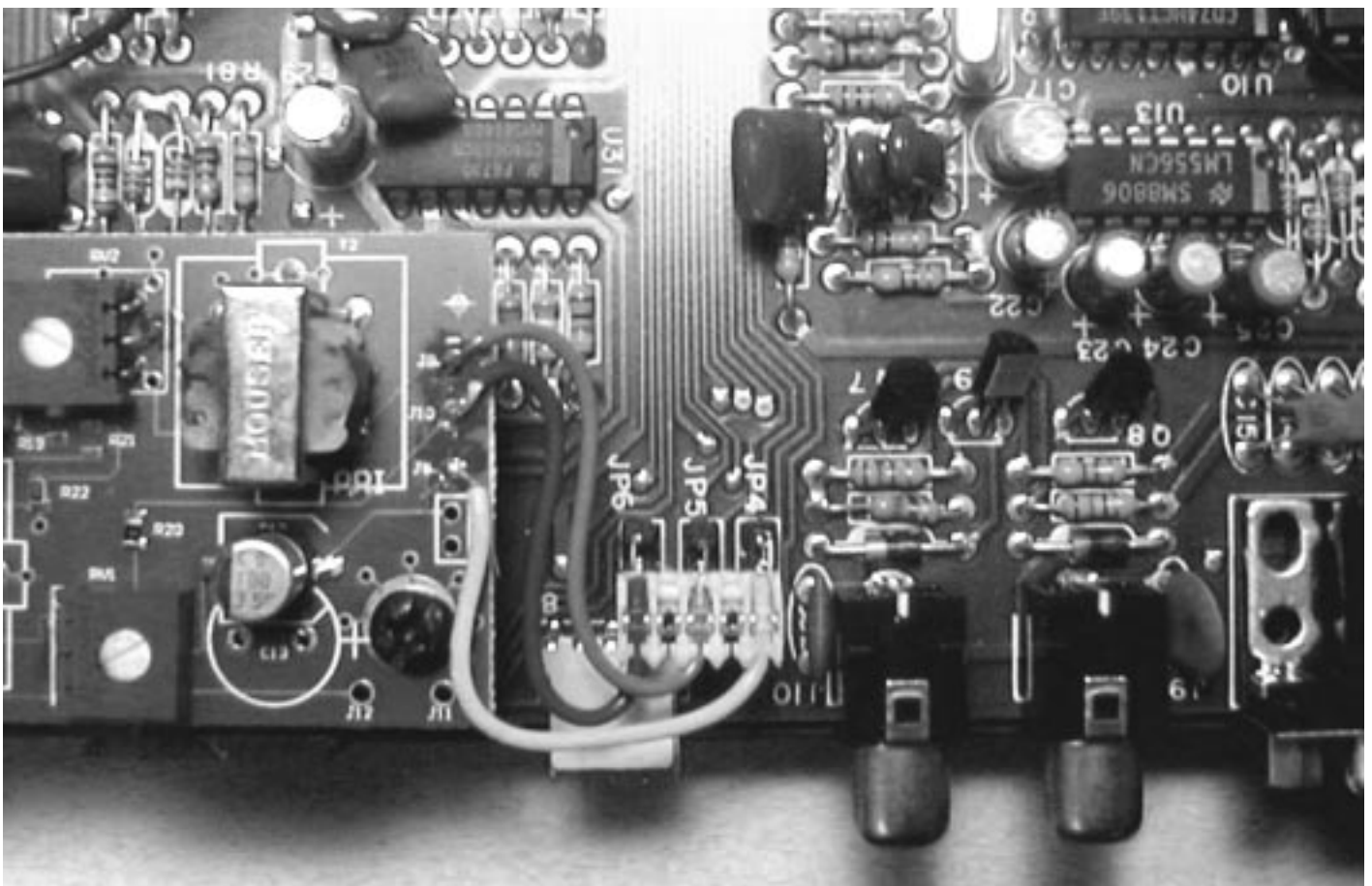
___ 14) J7 (White) front pad of R-160 (removed in step 5)

___ 15) J5 (Grey) rear pad of R-149 (yellow-violet-red, right of Q6)

___ 16) Plug the remaining cable with connector on the “A” side of JP-4, JP-5 and JP-6 with the Yellow wire to the left (JP-4).

___ 17) If you do NOT have a DSP board installed remove the jumper on JP-1 (Center of board) on the PSK board.

___ 18) Replace the top and six retaining screws.



BACK

Step 4. Older Boards with 3 3-pin headers: Connect plug with yellow to JP4(left). Do NOT remove jumpers on front two pins of JP4, JP5, JP6!

Step 11a & 11b. Solder wire from J2 on SCI board to BACK pad.

Step 6b. Remove C54.

Step 13b. J3 connection to front pad of C54.

Step 9. Solder wire from J6 on SCI board to ground pad.

Step 12. Solder wire from J4 on SCI board to rear pad of R160

RIGHT

Step 13A. NOT SHOWN! Solder wire from J3 on SCI board to DSP board IN.

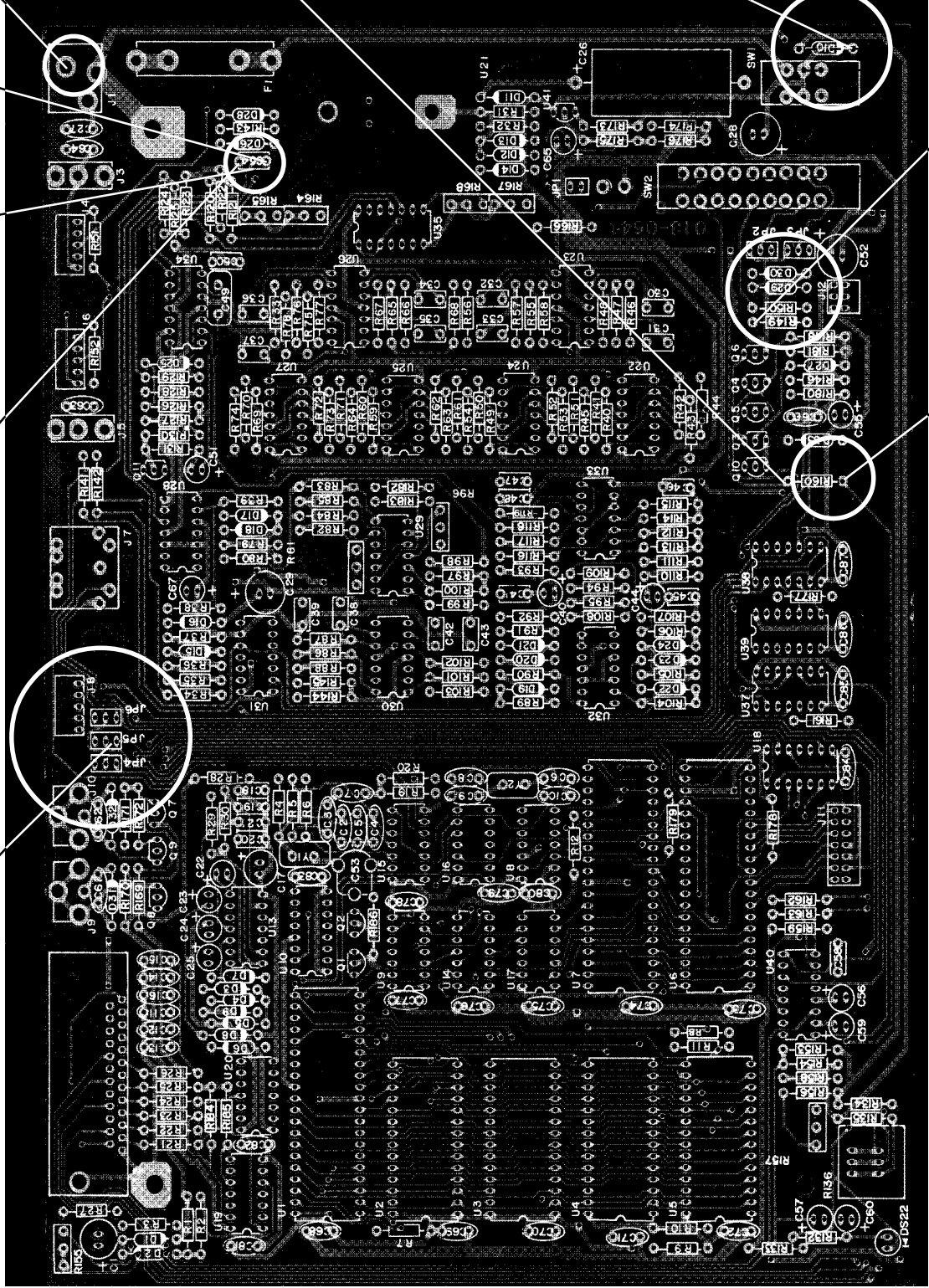
Step 10. Solder wire from J1 on SCI board to front side of D10

Step 15. Wrap lead from J5 on SCI board around lead at back of R149. Solder. (Do not re-move R149!)

Step 5 & 14. Remove R160. Solder wire from J7 on SCI board to FRONT pad.

PK-232/PSK Sound Card Interface (SCI) board connections to PK-232 main board.

FRONT



LEFT

Section 4 A.06218 Installation

___ 12) J4 (Violet) to back pad of R-160

___ 13a) J3 (Blue) If you have a DSP board installed, connect to the “IN” pad on the DSP board. Go to step 14.

___ 13b) If no DSP board is installed, connect J3 (blue) to the C54 front pad (located by the fuse).

___ 14) J7 (White) to front pad of R-160 (removed in step 5)

___ 15) J5 (Grey) to rear pad of R-149 (yellow-violet-red, right of Q6)

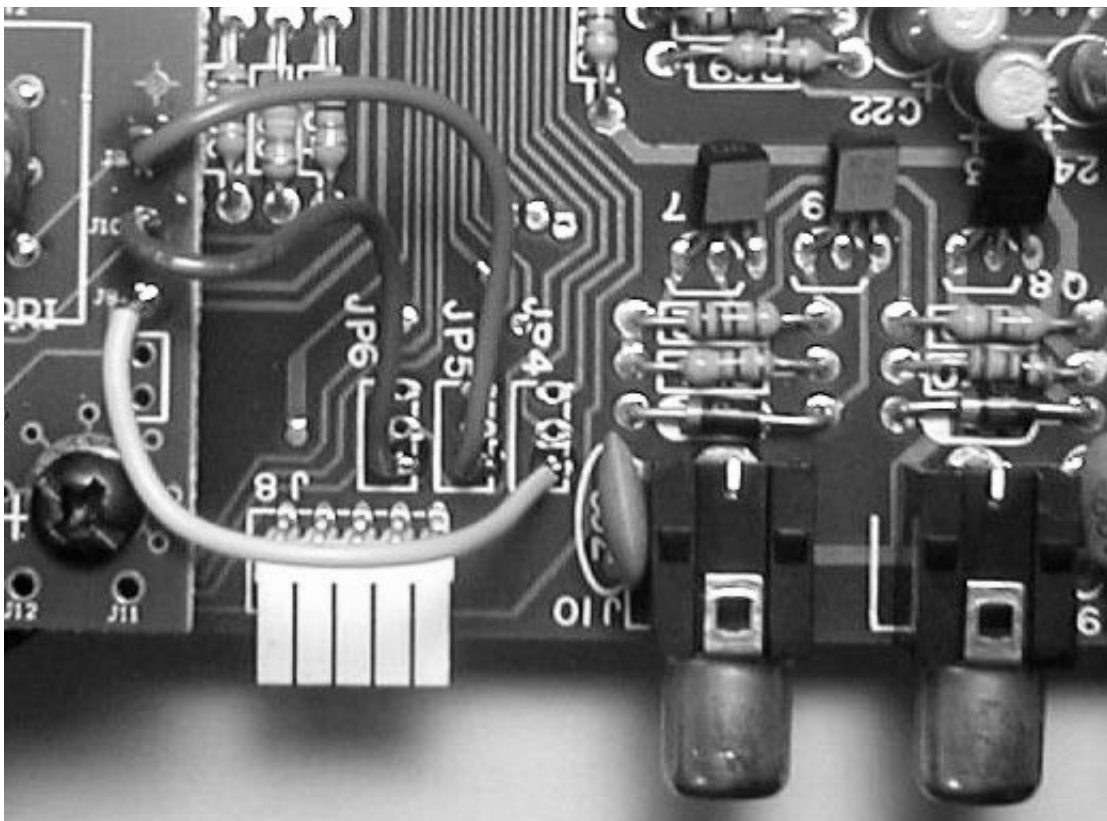
___ 16) J8 (Yellow) to back pad of JP4

___ 17) J9 (Green) to back pad of JP5

___ 18) J10 (Brown) to back pad of JP6

___ 19) If you do NOT have a DSP installed, remove the jumper on JP-1 near the center of the PSK board.

___ 20) Replace the top and six retaining screws.



BACK

Step 16, 17, 18. Solder yellow wire to JP4 back pad, green wire to JP5 back pad, and brown wire to JP6 back pad.

Step 11a & 11b. Solder wire from J2 on SCI board to BACK pad.

Step 6b. Remove C54.

Step 13b. J3 connection to front pad of C54.

Step 9. Solder wire from J6 on SCI board to ground pad.

Step 12. Solder wire from J4 on SCI board to rear pad of R160

RIGHT

Step 13A. NOT SHOWN! Solder wire from J3 on SCI board to DSP board IN.

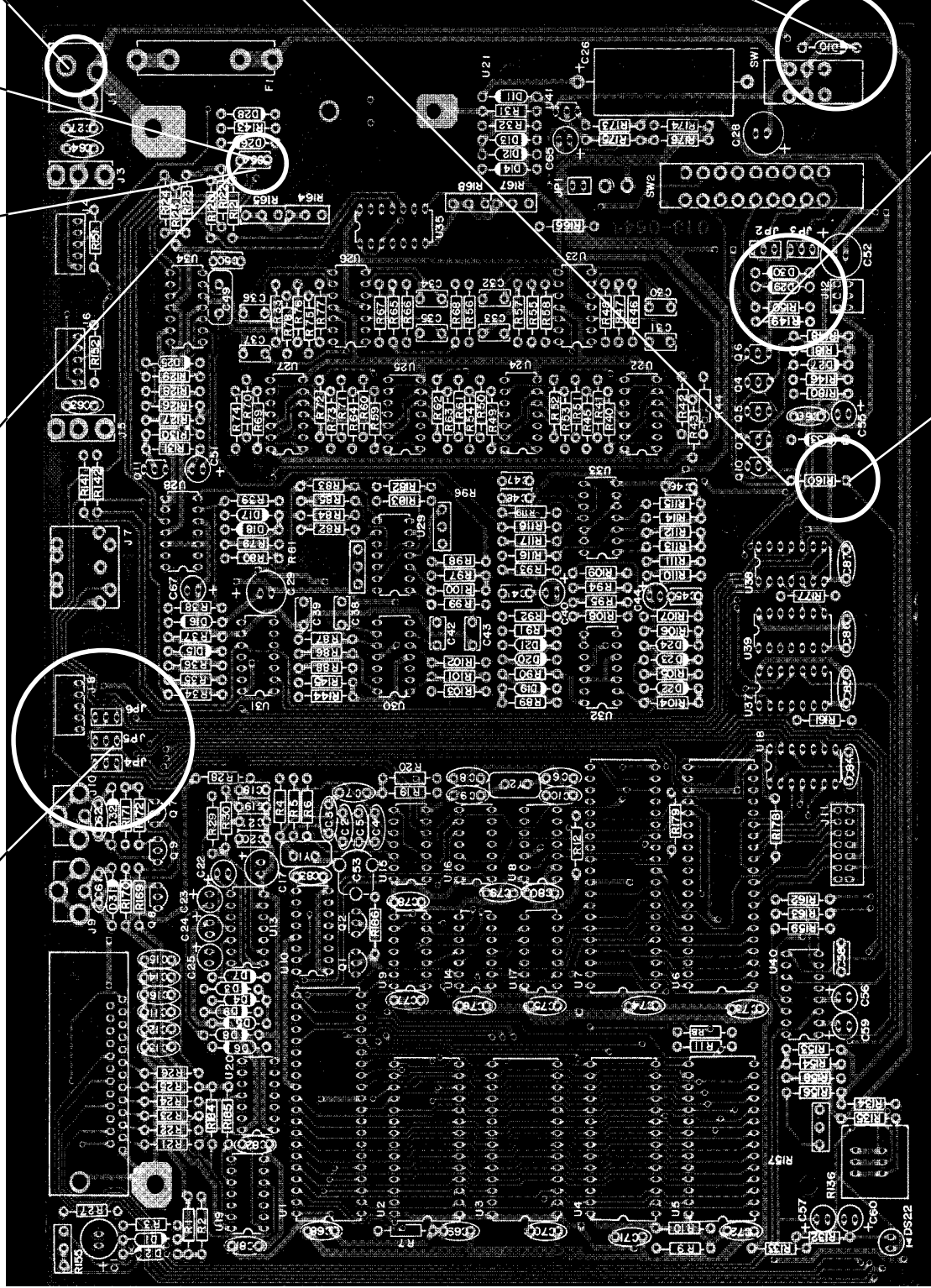
Step 10. Solder wire from J1 on SCI board to front side of D10

Step 15. Wrap lead from J5 on SCI board around lead at back of R149. Solder. (Do not remove R149!)

Step 5 & 14. Remove R160. Solder wire from J7 on SCI board to FRONT pad.

PK-232/PSK Sound Card Interface (SCI) board connections to PK-232 main board.

FRONT



LEFT

Section 5

PK232/PSK Sound Card Interface Board Settings

Jumper settings

JH1 Jumper must be ON for units with a DSP board installed. It must be OFF for all other units.

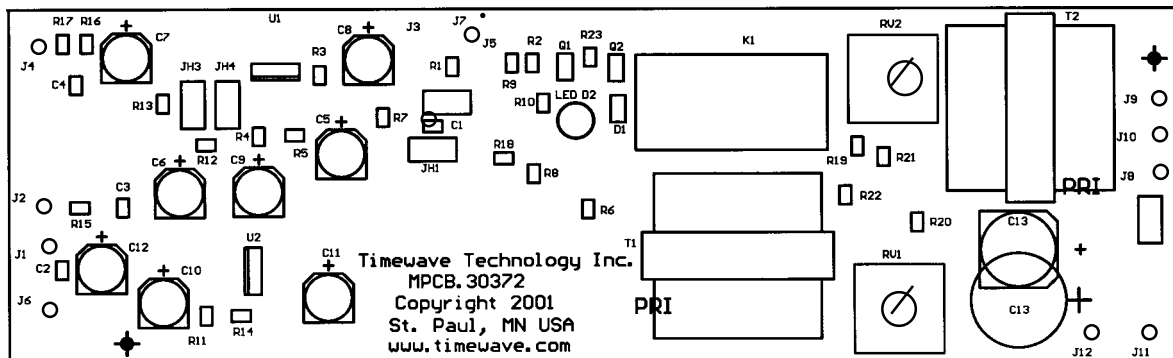
JH3 and JH4 Jumpers adjust the receive gain to the input of the PK-232/PSK according to following table:

JH3	JH4	Relative Gain
OFF	OFF	High
ON	OFF	Medium (Factory Default)
OFF	ON	Low
ON	ON	Low

Trimpot settings

Trimpot RV1 adjusts the receiver audio signal output level to the sound card input. Use this trimpot to reduce the signal level to the soundcard if your received signal level is overdriving your sound card input. (Check the sound card input level indicators on your computer audio control program.)

Trimpot RV2 adjusts the Sound Card audio signal output level to the transmitter audio input. Use this trimpot to reduce the signal level to the transmit if your sound card output signal level is overdriving your transmitter input. **It is very important not to overdrive your transmitter to avoid interfering with other stations!**



Section 6

Sound Card Interface Connections for the PK-232/PSK

The Sound Card interface connections are made to the connector labeled “Ext Modem” on the back of the PK-232. Timewave supplies a cable to connect the sound card to the PK-232/PSK. The cable is supplied with each PK-232/PSK and PK-232/PSK upgrade kit. This connection information is provided for the user’s convenience.

Ext Modem

Connection

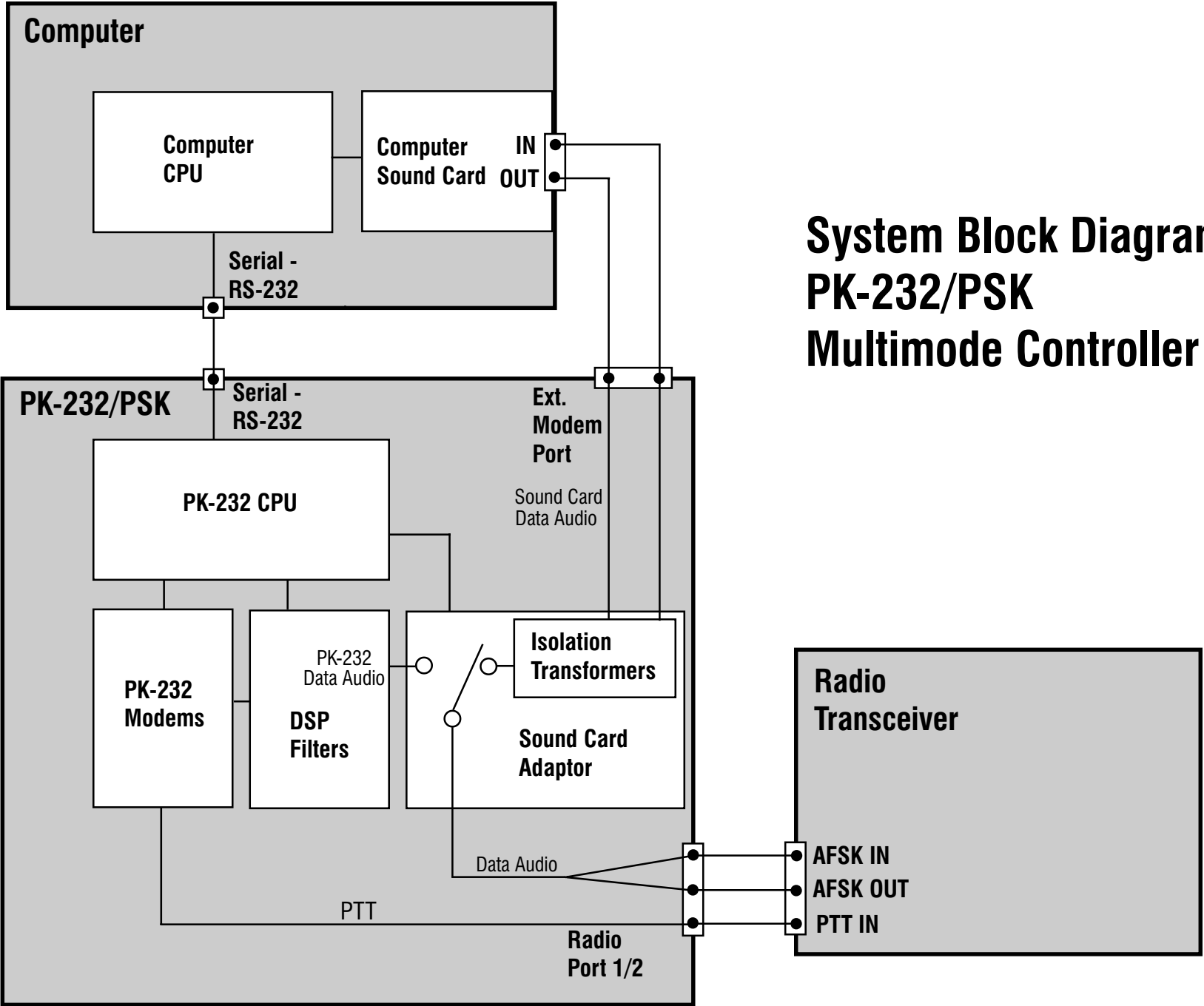
- Pin 1 - To Sound Card Audio input (from Receiver audio output)
Insert phone plug with BLUE insulation into sound input card.
Phone plug tip is the signal connection.
Phone plug sleeve is the signal return connection.
Phone plug ring is NOT connected.

- Pin 2 - From Sound Card Audio Output (to transmitter audio input)
Insert phone plug with GREEN insulation into sound card output jack.
Phone plug tip is the signal connection.
Phone plug sleeve is the signal return connection.
Phone plug ring is NOT connected.

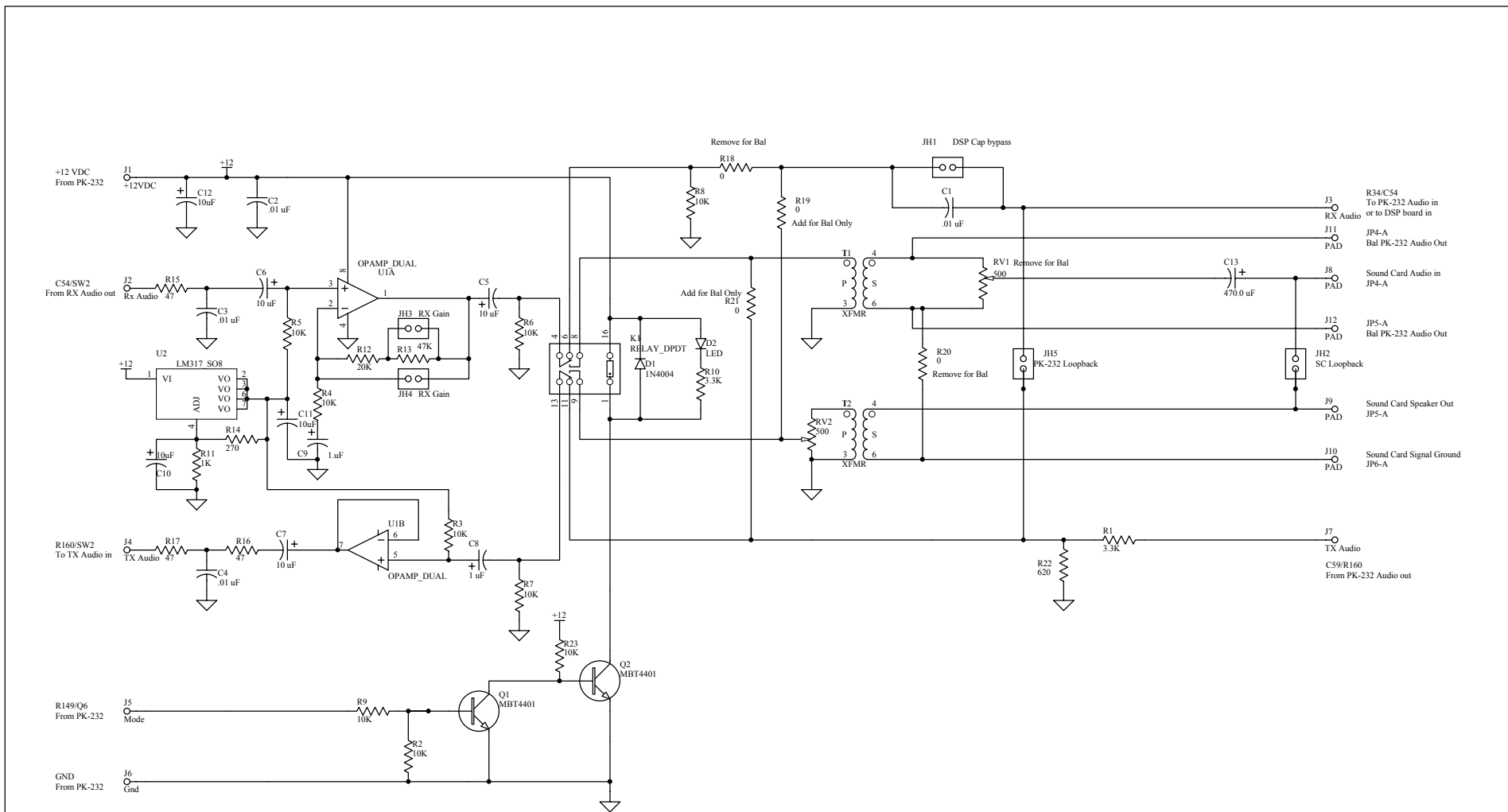
- Pin 3 - Signal return for both sound card input and output. This is NOT connected to chassis or signal ground on the PK-232/PSK. It connects to the isolation transformers only.

- Pin 4 - PK-232/PSK Chassis/signal ground. NOT CONNECTED

- Pin 5 - PK-232/PSK PTT line. NOT CONNECTED



**System Block Diagram
PK-232/PSK
Multimode Controller**



Title: PK-232/PSK Sound Card Interface Schematic	TW P/N: A.06115
Project:	Date: 11-Dec-2001
	File:
Timewave Technology Inc.	Engineer: R. Gawtry
	Size: A Sheet 1 of 1