CMS

MIDI PROCESSING UNIT

# CMS-401-II

CMS
**COMPUTER MUSIC SUPPLY**
382 N. Lemon Avenue • Walnut, CA 91789
800/322-MIDI

# INFORMATION TO USERS

**WARNING: This equipment has been certified to comply with the limits for a class B computing device, pursuant to subpart J of part 15 of FCC rules. Only peripherals (computer input/output devices, terminals, printers, etc.) certified to comply with the class B limits may be attached to this computer. Operation with non-certified peripherals is likely to result in interference to radio and TV reception.**

To ensure compliance to FCC non-interference regulations, peripherals attached to this computer requires shielded I/O cables.

This equipment generates and uses radio frequency energy and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio and television reception. It has been type tested and found to comply with the limits for a Class B computing device in accordance with specifications in Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment on and off, the user is encouraged to correct the interference by one or more of the following measures:

1. Reorient the receiving antenna.
2. Relocate the computer with respect to the receiver.
3. Move the computer away from the receiver.
4. Plug the computer into a different outlet so that computer and receiver are on different branch circuits.

If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions. The user may find the following booklet prepared by the FCC helpful.

**"How to Identify and Resolve Radio/TV Interference Problems"**

This booklet is available from the U.S. Government Printing Office, Washington, D.C. 20402 - Stock No. 004-999-00245-4.

**NOTICE:** The use of a non-shielded I/O cable with this device will not enable the device to meet the maximum emission limits mandated by the U.S. Federal law.



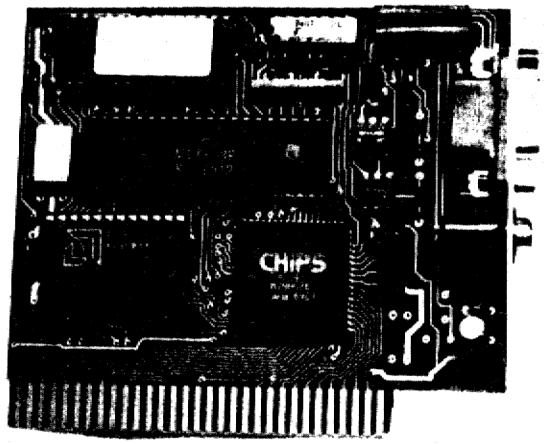
# INTRODUCTION

Thank you on your purchase of the CMS-401-II MIDI Processing Unit. The CMS-401-II is designed for novice to professional and follows a design philosophy of upward compatibility to the full line of CMS Interface and Software Products.

MIDI is simply an acronym for Musical Instrument Digital Interface that places us squarely in the high-tech world of computers. MIDI is in fact, a serial (current loop) computer interface that has rocked the foundations of the music industry and reshaped how music is made today. And now, having conquered the Studios, MIDI is on the brink of invading the Home. The CMS-401-II allows you to attach a MIDI device to your PC and communicate with hundreds of software programs. The CMS-401-II card supports 32 channels in and out, breaking the previous 16 channel limit.

So set up, plug in and enjoy a new world of musical possiblities.

Port Barlow
President



## ■ PLEASE NOTE:

- The CMS Interface Kit is for setting up the CMS-401-II with the IBM PC (5150)* or compatible.
- Optional software is also necessary.
- One CMS-401-II interface card.
- MIDI connection cable:
  DB9 with four 5-pin DIN connectors
  MIDI-in Black/MIDI-out red
  MIDI-in 2 gray/MIDI-out 2 white
  RCA connector is for Metronome Out
- The appropriate computer to use would be any IBM or 100% compatible including PS-2 model 25 and 30.

## ■ HOW TO SET UP:

1. Make sure the computer is turned off.
2. Remove the top cover and securely attach the interface card to the expansion slot.
   *See the User's Manual for the computer.
   *Be sure to tighten the screws at the upper part of the connector board of the interface card.
3. Connect the CMS-401-II to the musical device by using the MIDI connection cable. Be sure to tighten the screws on the DB9 connector to the CMS-401-II.
4. Plug your MIDI-OUT cable (red/white) to MIDI-IN (music device) and plug your MIDI-In cable (black/gray) to MIDI-OUT (music device).
5. CMS-401-II is set for IRQ-2 and Dataport 33OH. Status and Command Port 331H.

   The second port is set for IRQ-3 and Dataport 333H. Status and Command Port 332H.

   Some software may allow you to use the 1st port IRQ for both ports. In this case, move the jumper from 2nd IRQ block to SIS (single IRQ Setting) on the address jumper block.

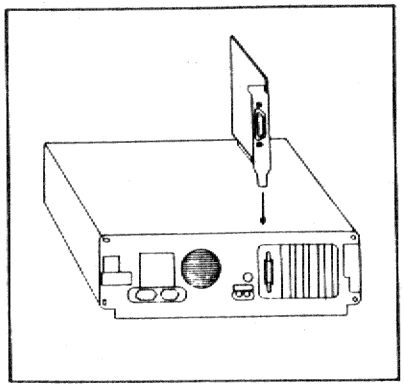


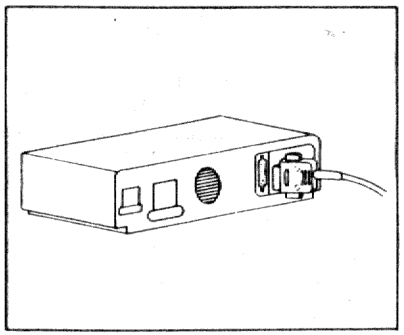
## ADDRESS JUMPER TABLE

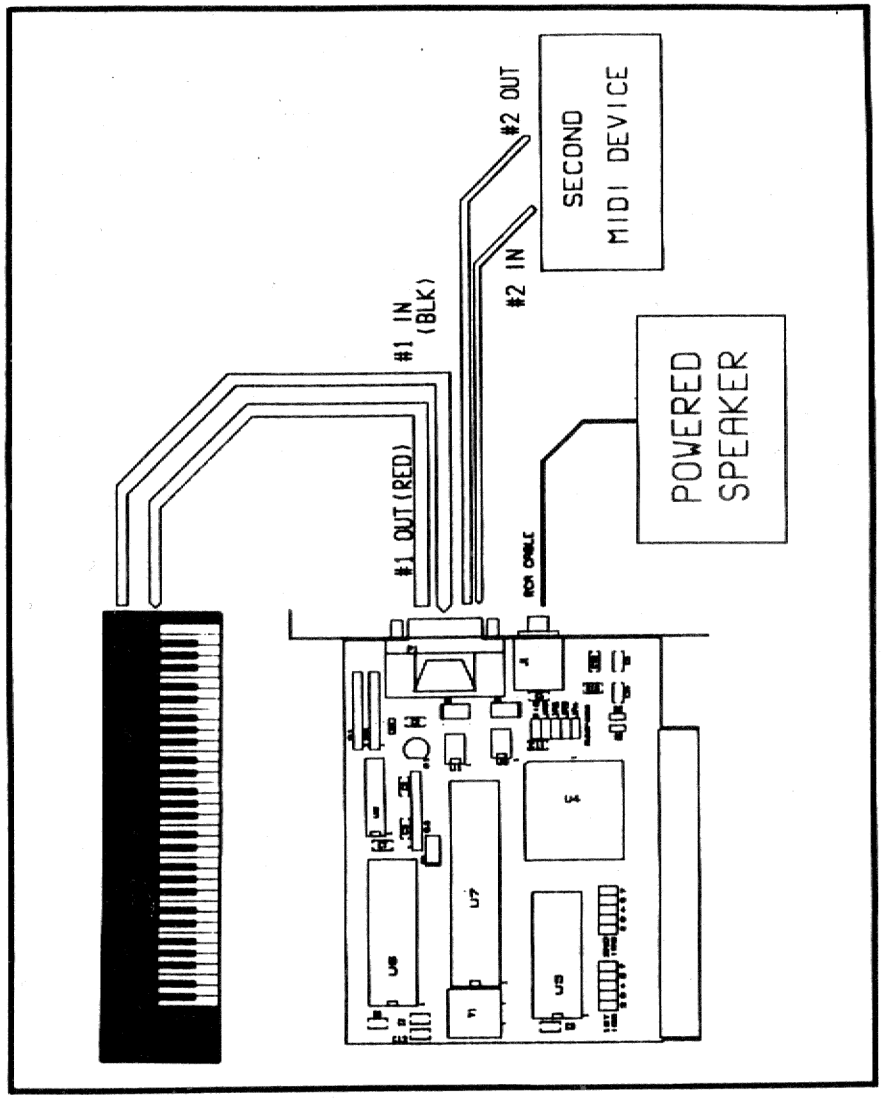
JP7 - JP10 are address setting jumpers. The manufacture default setting is 330H. It does not need to be changed unless it has been used by another device in your computer. If you have to reset the address, please follow the chart below:

| Address (Hex) | JA4 | JA5 | JA6 | JA7 |
|---|---|---|---|---|
| 300 | X | X | X | X |
| 310 | — | X | X | X |
| 320 | X | — | X | X |
| 330 | — | — | X | X |
| 340 | X | X | — | X |
| 350 | — | X | — | X |
| 360 | X | — | — | X |
| 370 | — | — | — | X |
| 380 | X | X | X | — |
| 390 | — | X | X | — |
| 3AO | X | — | X | — |
| 3BO | — | — | X | — |
| 3CO | X | X | — | — |
| 3DO | — | X | — | — |
| 3EO | X | — | — | — |
| 3FO | — | — | — | — |

X : Jumper ON
—: Jumper OFF



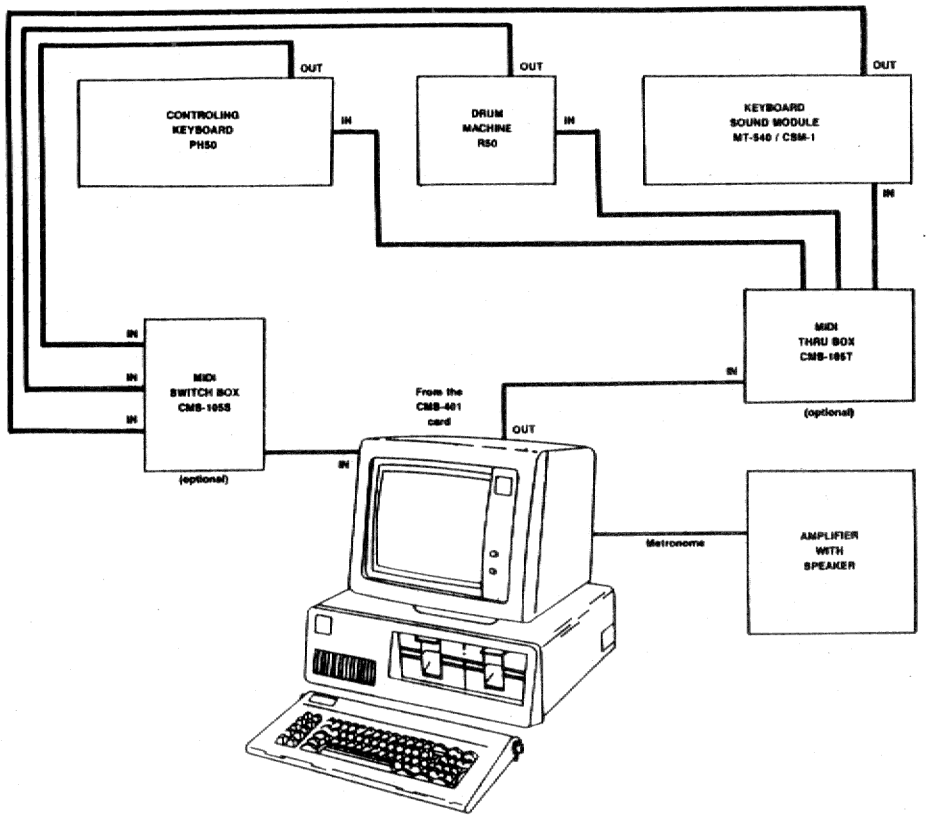





**The CMS-401-II is a 1/2 card IBM compatible interface for processing MIDI data. It includes a PC board, the CMS-401-II, a 5 ft. cable with 4 MIDI 5 pin DIN Connectors, two for input and two for output.**



## CMS-401 SYSTEM SETUP EXAMPLE




Note: All INS and OUTS indicated are MIDI connections.

The CMS-105T is MIDI Thru box allowing multiple MIDI devices to be attached to a single MIDI OUT. The CMS-105T has one MIDI In and five MIDI OUT connectors.

The CMS-105S is a MIDI Switch box allowing multiple inputs to be switched to a single output. The CMS-105S is bi-directional and can also switch a single input to any of the five outputs.

## ■ QUESTIONS:

The following should get your CMS-401-II up and running easily as these are the most frequently asked questions on our technical support line:

**Q.** I plugged my card into the computer and when I tried to run my software, I got a message on the screen "No MPU-401 found" or any variation of this: the software fails to locate the card.
**A.** *The most common cause of this problem is that the CMS-401-II card is not seated completely into the slot in the computer.*

**Q.** I loaded my software into the computer and it located the card but 'hangs up' when I tried to play or record. Sometimes, it plays a note and then does nothing else.
**A.** *This problem is most often caused by an IRQ (interrupt) conflict. Please refer to trouble-shooting the CMS-401-II.*

**Q.** When I play my keyboard, I hear a slight echo or hollow sound (flanged). Also, I can only play half the number of notes that my keyboard normally plays.
**A.** *This is a software problem that is easy to fix. Check your Software Users' Manual for an "echo" command or "thru" and shut it off. The MIDI data you are sending out the keyboard is going into the CMS-401-II and back out, looping back into your keyboard, reducing the polyphony of the keyboard in half. It is the same as playing the note twice.*

**Q.** When I play my keyboard that is attached to the input of the CMS-401-II and the output to another keyboard or sound module, I cannot hear the second keyboard or sound module.
**A.** *This is the reverse of the last problem. The "thru" or "echo" must be turned on so that the input of the CMS-401-II is passed to the output of the CMS-401-II and to the additional keyboard or sound module.*

**Q.** I hooked up my keyboard, drum machine and sound module to the CMS-401-II and nothing worked right.
**A.** *It is impossible for us to be MIDI consultants on the hundreds of MIDI equipment in the market place. Always connect one device at a time and check the operation. If it does not operate, it is likely that your configuration or device set-up is incorrect.*



## ■ TROUBLESHOOTING THE CMS-401-II

The CMS-401-II Musical Instrument Digital Interface (MIDI) is designed to work in an IBM PC XT/AT/386 or compatible clone computer. It's use of the DOS software environment is fully compatible in true 100% IBM compatible computers.

Occasionally, problems are encountered when installing a CMS-401-II MIDI card in a nearly compatible system. The PC's open architecture makes it possible to install a great variety of software and hardware combinations. Some users may encounter difficulties with the CMS-401-II's default configuration. If you suspect a configuration problem, we strongly recommend resolving the compatibility problem without changing any of the default settings on the CMS-401-II Interface.

The CMS-401-II's needs are easy to define. It requires a clear I/O address, the default being 330H and a hardware interrupt line in the range of IRQ2 to IRQ7 with the default being IRQ2. These defaults were selected for a very good reason. Software that has been written for the Roland 401 chip set, of which over 90% of the 100 plus software packages have, use these default settings that are not reconfigurable within the software. Software that CMS produces and licenses allows the user to select both addressing and interrupts. By far, the most common conflict is on the hardware interrupt lines.

Resolving a hardware interrupt conflict is a process of checking one problem at a time until all possibilities are explored. By IBM definition, IRQ2 is "reserved" for add-on boards and does not conflict with anything in a standard system. This is the default interrupt for a CMS-401-II Interface. However, many manufacturers use IRQ2 and an expanded system may have other boards or devices on the motherboard that uses this interrupt.

With the CMS-401-II, if you are using two IRQ's, you must make sure that they are both available.

1. Know what interrupts are used in your system. Call the manufacturer of the computer and write down the interrupts that the system uses. Ask if IRQ2 is being used on the motherboard or any of the expansion cards supplied by the manufacturer.

2. If you have added any expansion cards, contact their manufacturer and ask what interrupt is used on their card. If you are unable to find this information, remove all interface boards within your computer except the floppy controller, CMS-401-II and video board. If the video board is an EGA/VGA, contact the manufacturer as many of these cards use IRQ2 and can cause conflicts. Ask the manufacturer of the video board how to move the conflicting interrupt to another location.

3. In the XT, the IRQ conflict is most often caused by a multifunction board with a Real-time clock or a Real-Time clock on the motherboard. If you are using a bus mouse, check the interrupt setting and make sure it is not set on IRQ2.

4. If you must change the interrupt from 2, make sure you are moving it to an unused interrupt. IRQ4 is most often used by COM1 for the first serial port. IRQ5 is used by some hard drives. IRQ7 is used by LPT1 for the printer port. The most common IRQ to use is IRQ3.

5. If you do move the interrupt jumper on the CMS-401-II interface, make sure to reconfigure the software to the new interrupt setting (refer to your software manual). If your software is not reconfigurable to another interrupt, then you must remove the conflicting interrupt within the computer and use the standard default IRQ2 on the CMS-401-II Interface.

6. If you have explicitly followed the above steps and still have a problem, please write down and have a list of every IRQ setting and call our technical information number (714) 594-5051 between 3:00 and 5:00pm Pacific Standard Time.



## ■ CMS WARRANTY CLAIM PROCEDURE

The following procedures MUST be followed for ALL warranty claims. It is the CUSTOMER'S responsibility to provide CMS with sufficient information to validate a warranty claim..

1. Call CMS at **(714) 594-6821** and ask for product return authorization.

2. You will be asked to provide the model number, serial number, invoice number or a copy of the packing slip, description of the problem, how the unit is being returned, and other information regarding the product purchased.

3. You will then be given an RMA#. Please reference this number in all future correspondence.

4. You MUST meet all the following conditions to qualify for warranty service or your unit will be considered out of warranty and you will be charged COD CERTIFIED at our normal service rates of $40.00 per hour ($25.00 minimum).

5. The unit must be shipped in the original carton and packed with all original packing material with only original equipment as purchased installed.

6. You must enclose a note which describes the problem.

7. You must enclose a copy of the original CMS invoice or packing list.

8. Ship the equipment to: **CMS**
   **ATTN: Service Dept.**
   **382 North Lemon Avenue**
   **Walnut, CA 91789**

9. You MUST place the RMA# in the packing slip envelope visible from the outside of the box, or print it on the box.

10. You will receive an RMA status report upon inspection of your equipment indicating the action to be taken.

**COMPUTER MUSIC SUPPLY, 382 NORTH LEMON AVENUE, WALNUT, CA 91789**