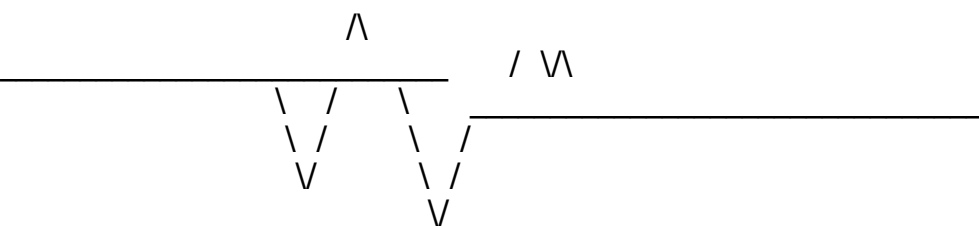SOUND BLASTER DIGEST

Number 3
February 1991 Edition.

A newsletter for Sound Blaster Enthusiasts.

Edited by Brad Barclay.

Made possible by the contributions of Sound Blaster users.

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THE SOUND BLASTER DIGEST
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Number 3 Feb 1991.
Brad Barclay, Editor.

Name   Page
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FROM THE EDITOR:
 =-=-=-=-=-=-=-=

 Well, January has been a good month for letters here at the offices of THE
SOUND BLASTER DIGEST, and before I continue onto anything in this month's issue,
I'd like to thank all those who sent letters, I hope you have received your
replies, and if not, please be patient: this month has been a very busy one for
myself, and thus time for mailing replies has been scarce.

 Next, a small clarification form last month's edition. Last month (as with
this month) I described the area where the SBD is written as an 'office'. Well,
this is more or less figurative speech: the office comprises of a computer in my
home from which I type it, lay it out, and then send it to various BBS's. That's
about the extent of the office: only I work here. I apologise to those of you
who got the wrong idea (yes, there were a few).

 On to business. Many of the letters I have received here have been asking for
help with using .ROL and .BNK files, and how to convert the .ROL filetype to
Creative Lab's .CMF filetype. Thus an article dealing with the use of these
filetypes for beginners and advanced users alike appears below.

 Also this month, as a special to THE SOUND BLASTER DIGEST, how to build your
very own simple Sound Blaster MIDI adapter for under $25, information on
subscriptions to THE SOUND BLASTER DIGEST (I have had many requests for this),
how to write your very own article for the SBD, and much, much more! Stay
tuned...

PLAYING FM ON YOUR SOUND BLASTER.
=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=-=

 By Brad Barclay.

 Numerous letters have been received here at the 'offices' of THE SOUND BLASTER
DIGEST asking about the use of .ROL and .BNK files, and how to convert them to
.CMF and .SBI files. As a part of my policy here at SBD, I will always
personally reply to these requests, but in order to hopefully save others the
time and money necessary to send me mail requesting the information from me, here
it is below.

 The .ROL filetype is the main sound filetype for the Adlib card. Many new
Sound Blaster owners, knowing from the claims on the box that their card is fully
Sound Blaster compatible, frequently believe that they can download and play
.ROL's right away.

 Sadly, such is not the case. Software is necessary to play the .ROL filetype,
along with a sound driver, and a .BNK file. There is another way to play .ROL's,
and that is to convert them to .CMF's, which will be discussed later.

 The first thing you need to do to play a .ROL file is to load the sound driver.
This driver is actually a buffer for the data to sit in and feed itself to the
Sound Blaster/Adlib card. For the Sound Blaster, there are two different
programs you can use: SOUND.COM, the sound driver supplied by Ad Lib in such
software packages as the Visual Composer, and SBSOUND.COM, a driver specifically
written for the Sound Blaster with .ROL's in mind. The latter driver takes up
less memory, as it takes advantage of the Sound Blaster's DMA (Direct Memory
Access) capabilities, and is thus much quicker at playing the .ROL. Be warned,
though, that this can cause your .ROL's to play funny, with instruments playing
out of synchronization, as most .ROL players aren't written to take this extra
speed.

 Once the sound driver is loaded, the next thing you will need is some program
to play the data. There are many out there, from Ad Lib's JUKEBOX to the
shareware PLAYROL available from many BBS's here in North America (such as The
Musical Chair). These programs vary widely, read the instructions that come with
them for information on their use. For certain programs, such as Ad Lib's
JUKEBOX, a .DAT file containing a list of file names and song titles is
necessary. For example, if you have a song called TEST1.ROL and TEST2.ROL, the
.DAT file would be set up like this:

TEST1   Test Song #1
TEST2   Test Song #2

...and so on. This isn't necessary for all programs, again see the manual for more details.

 Unlike their .CMF cousins, the .ROL filetype has no instrument data other then the instrument name in their file structure. It is thus necessary to have a .BNK file containing instrument data in either the same directory, or one specified by the program (see the instructions for your player for more on this, if in doubt,

put it in the default directory). A sample .BNK file is available in SOUND BLASTER DIGEST #2, if you don't already have it, I recommend you get it.

 Do all these different files for playing one simple .ROL have you totally and utterly lost? Well, fear not, there is another way. .ROL's can be converted to the simpler .CMF filetype. There are many advantages to this: you don't need any fancy .BNK file to play the .CMF, as it already contains the instrument data in it's file structure. And because the .CMF player was written specifically for the Sound Blaster, it is easy to multi-task with.
 There are three ways to convert a .ROL to a .CMF: using an Ad Lib .BNK file for the instruments, many Ad Lib .INS files (these are single instruments: group them together into one file with BANKMNG to make a .BNK out of them), or many Sound Blaster .SBI instruments. There is no difference any way, except how you go about setting up the conversion. I recommend that you go with the .BNK file, as it takes up much less room then either of the other two.

 Here's how to set up your command line to execute a conversion. You'll need ROL2CMF from Creative Labs to preform this, so if you don't have it, get it. You can probably ignore everything else, here's the dry basics of it: say you need to convert TEST3.ROL to TEST3.CMF, and you have a .BNK file in the directory C:\SB called STANDARD.BNK, here's what you'd need to type to convert the file:

 C> ROL2CMF TEST3.ROL TEST3.CMF /BC:\SB\STANDARD.BNK

 The basics of it are like this:

ROL2CMF [filename][.ROL] [filename][.CMF] /B[d:][path][bank name]

 To use either .INS or .SBI files, do the same, but substitute the /B for either /I (in the case of .INS files) or /S (in the case of .SBI files), and specify the directory *only* (no filenames). The conversion program will pick them out automatically, and will also warn you if any instruments are missing.

 And that's about it: playing FM files on your Sound Blaster in a nutshell. Enjoy!

MORE FILETYPES...
=-=-=-=-=-=-=-=-=

 In our first edition, we brought you a list of many different music filetypes,
and what you need to use to play them. In this edition we take this one small
step further: instrument data filetypes.

.BNK -- This filetype is actually a specially compressed single file
          containing several Ad Lib .INS files. As described above, this is
          for playing .ROL files, or for converting a .ROL to a .CMF. Use Ad
          Lib's BANKMNG to manipulate the instrument data in these types of
          files.

.INS -- This filetype contains the necessary data to generate the sound of a
          single instrument. IN all of Ad Lib's versions of software 1.5 and
          above, these filetypes are no longer supported in their single form,
          instead they must be grouped with BANKMNG to form a .BNK file. .BNK
          files are much easier to handle, and take up much, much less space,
          and are thus recommended.

.SBI -- This is the Sound Blaster version of the .INS file: you'll need
          either INS2SBI or ADI2SBI to convert the .INS to the .SBI filetype.
          They are good for converting .ROL's to .CMF's, as described above.

                        The Picture Express BBS
                        Sysop: David Steward
                        San Antonio, Texas
                          (512) 666-4842

                         24 Hours Daily
                        1200 - 2400 - 9600
                 USRobotics HST Dual Standard with v.42 bis
                      340 Megs Online + 2 CD-ROM's

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                       Resolutions to 1024X768X256

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Adult   Adlib   Animation

Give us a call, we're the friendliest BBS around!

DO IT YOURSELF: SOUND BLASTER MIDI INTERFACE
=-=

 Written by Ronald Davis, with introduction by Brad Barclay.

 Here's one for all those electronics fans out there. For those of you
interested in playing with the MIDI function of your Sound Blaster, but can't be
bothered to either search for Creative Lab's interface or who don't with to spend
the money it costs to buy one, here's the simple step-by-step method to build
your own. All that you need are the parts listed below, and a little knowledge
on how to put things together, and you have yourself one working MIDI interface,
with the joystick port and all!

The following text explains how to build a MIDI interface for the
Sound Blaster. The circuit is my own design, but works just like
the commercially available interfaces that retails for $60-$90.

Here is the list of parts necessary:

Qty.   Part

1   Sharp PC900 or HP 6N138 opto-isolator
1   DB15P (15 pin 'D' connector, male. like joystick connector)

3   220 ohm resistors (2 for input, 1 for EACH output you need)
1   3 conductor shielded cable (length is up to you)
2   Female 5 pin DIN connector (1 for input, 1 for each output you need)
1   PC board with pre-drilled holes (about 2" x 2" from Radio Shack)
     A few short lengths of hook-up wire

All of these parts, except the first 2, are available from Radio Shack.

Construction techniques are completely up to you, if you want to go
ultra-cheap, you don't even need a PC board or enclosure, and you could
use a MIDI cable you already have by cutting it in the middle. I used
a PC900 out of a non-working organ and cut the end off of a joystick I
didn't need and built the whole thing for about $4.00. Buying all the
parts new, and using an enclosure with built-in MIDI jacks may cost
about $20 or so.

Here is a diagram of the DB15P connector (looking at the solder side).

```
1      5    8
o o o o o o o o
 o o o o o o o
 9    12    15
```

Here is the 5 pin FEMALE DIN plug (solder side).

```
     2
  5  o  4
    o  o
 3 o   o 1
```
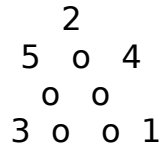
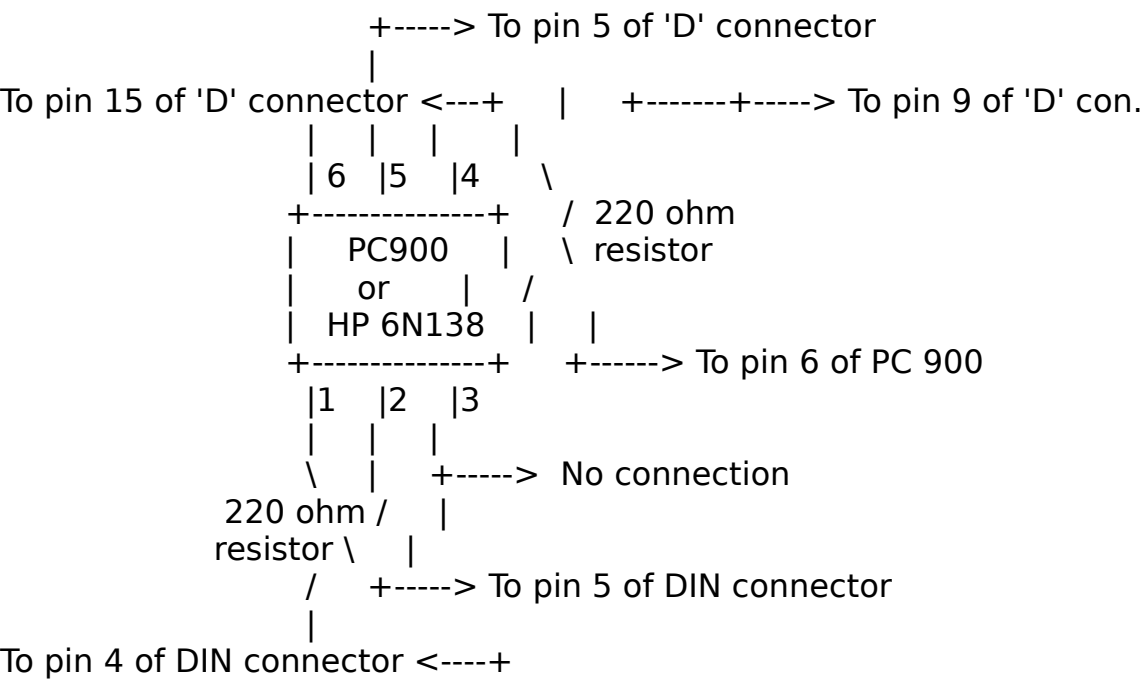This is the circuit for the MIDI INPUT.

```
                      +-----> To pin 5 of 'D' connector
                      |
To pin 15 of 'D' connector <---+     |     +-------+-----> To pin 9 of 'D' con.
                   |   |   |     |
                   | 6  |5   |4     \
                +--------------+    /  220 ohm
                |    PC900     |   \  resistor
                |     or       |   /
                |   HP 6N138   |   |
                +--------------+     +------> To pin 6 of PC 900
                 |1   |2   |3
                 |   |   |
                 \   |    +-----> No connection
            220 ohm /    |
            resistor \    |
                  /     +-----> To pin 5 of DIN connector
                  |
To pin 4 of DIN connector <----+
```
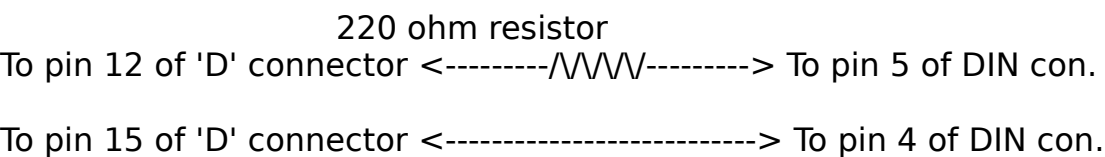
Don't overlook the two 220 ohm resistors.

Also, for cables longer than a few feet, connect pin 2 of the DIN to pin 5 of the 'D' connector.

The output circuit is much simpler.

```
                   220 ohm resistor
To pin 12 of 'D' connector <---------/\/\/\/---------> To pin 5 of DIN con.

To pin 15 of 'D' connector <--------------------------> To pin 4 of DIN con.
```

Also, for cables longer than a few feet, connect pin 2 of the DIN to pin
5 of the 'D' connector.

This circuit has been built and tested by me, using Voyetra's SPJr, and
a cheap-o Casio keyboard. The input and output do work as shown here, but I
don't have any other MIDI devices to use to test using more than 1 output
device. Theoretically, it should work fine, but it has not been tested.

The chances of hurting anything by trying is slim and none.

This circuit DOES work, but I make no guarantees, nor will I be
held responsible for any damages you may cause from your use of
this information.

If you have any questions, or would like to buy one already built for you,
I can be contacted on:

The Lighthouse BBS (207) 255-3700   (username is Ronald Davis)
The Music Studio BBS (708) 351-0288 (username is Volstagg)

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  \ /
 ___V___      Live and on the          Now in stereo!
   ||          air from Toronto!
  /||\                            Node 2 is now up!
   ||      The Musical Chair
  ====           at           Experience the difference of:
 ======    438-1686 & 438-3009
  ====                           1000's of Adlib and SB music files
   ||   _____     1200-14,400    50 gaming doors online
   ||  |     |  baud & v.32     3 mail networks
   ||  |     |   _____            1 crazy and caring sysop
_____||  |     |  |    |
   ||\ |     |___|    |         Around the clock.....
 Sky   || \ |     |  |    |          Around the world.....
 Dome ||  \|     |  |    |            Around the bend.....
   |||| |     |  |    |
   ||||||| |     |  |    |      The M sical Chai ...438-3009
  ||||||||||     |  |    |
  ||||||||||     |  |    |      What's missing?    U R!
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SUBSCRIPTION AND ADVERTISEMENTS
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 In the past month or so, many people have asked me about selling subscriptions
to THE SOUND BLASTER DIGEST. So I have decided to undertake this task: in fact,
I already have 1 subscriber to this month's issue!

 Here's how it's going to work: send me a cheque or money order for $25 US/CDN
(if you live in the US, send $25 in US funds, if you live in canada, send $25 in
Canadian funds: I realize that this makes the US subscribers pay a little more:
it goes towards the slightly added cost for more expensive stamps, and makes
things easier for the banks and everyone else), fill out the subscription form
contained in the file SBDSUB.TXT, and mail them both to the address on the form
(which is the same as the address for mailing comments). If there isn't enough
room on the form for extra questions/comments you'd like addressed in a future
issue, please feel free to add extra paper as you please.
 Please be sure to fill out everything on the form (if possible)! Forgetting
anything important (like the cheque, or your mailing address) will force me to
send your money back with your subscription form for correction! So please get
it right the first time!

 The subscription will be sent out monthly, on diskette. This way you can
upload it to your favorite BBS as you please, to share with others. Right now my
system only handles 5.25" disks, but if a 3.5" disk version is necessary, I'll
attempt to work something out.

 I'll tell you now: the subscription version is exactly the same as the edition
sent to BBS's, so you don't get any extra out of it. The subscriptions are
provided such that if you have a hard time finding the SBD, you can have it
mailed to your door. Think about all the factors: it may be cheaper to call THE
MUSICAL CHAIR, the home of the SBD and download it yourself, along with many
other great sound files, then to buy a subscription. So use your best judgement.

 Secondly, about advertisements in the SBD: there are two different methods to
advertise something here. The first is free, and for BBS's *ONLY*: register
your BBS by filling out the form contained in SBDBBS.TXT, and mailing it to the
address on the form (which should be the same as the one below, addressed to Brad
Barclay), and mail it to me: you're BBS will be added to the North American
Music BBS list here at the SBD. Your BBS should have support for Sound Blaster
files and messages about the Sound Blaster: this is to let other know where they
can get Sound Blaster information: people all across North America will be able
to read it. The updated list will be printed once every few months.

 The other method is fairly cheap and simple: fill out the form contained in

SBD-AD.TXT, and mail it along with a cheque for $5 (as for subscriptions above) and a single page, ASCII characters only printed copy of how you'd like the ad to appear in the magazine. I'll run the ad for 3 months (the ones contained in this issue were a freebie, and will be ran for free this once only). The ad should have something to do with something that has a strong Sound Blaster flavour, although it isn't necessary (after all, you are paying $5, and it costs me next to nothing to do).

 And so that's about it. In no way is it necessary to send any money to myself, I will continue to do this (at least until the end of the year: I have a subscriber to keep happy) for free, as I enjoy doing so (besides getting letters from great people across North America whom I would otherwise never hear from), but I would like to give you the option of wether you would like to do this or not.

 WRAPPING IT UP...
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 Well, here we are, at the end of another issue of THE SOUND BLASTER DIGEST, now running for exactly 1/4 of a year. It's been hectic getting out this issue, with a subscription to fill suddenly, exams to be written, a beautiful and loving girlfriend to keep happy (not that I'm complaining), and reading and replying to letters from all over. Thanks to those who wrote to mer this month: David Steward from San Antonio Texas, "Dr. John" Musgrave from Waterloo Iowa (thanks for the disk, I hope a free copy of this edition is suitable payment (the disk is recycled, you'll note)), and Claude Ritchot from Vermette Manitoba: you're support is what helps keep this small but lively publication running.

 Thanks also to Ronald Davis for his permission to reproduce his article on building the cheap MIDI adapter, and to Karen O'Hearn, the great woman behind the man who writes this every month.

 That's enough for the thanks. Keep those letters and phone calls coming! See ya next month!

 INCLUDED FILES...
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 Included this month are three files: SBD-AD.TXT, SBDBBS.TXT and SBDSUB.TXT. They are simple text files for you to print out, being an advertisement order

form, a SBD BBS list registration form, and a SBD subscription order form. These have been provided for you to print out and quickly fill out for your convenience.

 Please address all questions or comments about THE SOUND BLASTER DIGEST to the address below:

<div style="margin-left: 3em;">

SOUND BLASTER DIGEST
 c/o Brad Barclay
 36 Sutter ave.
 Brampton, Ontario
 CANADA. L6Z 1G7

Phone (416)846-5599.
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