

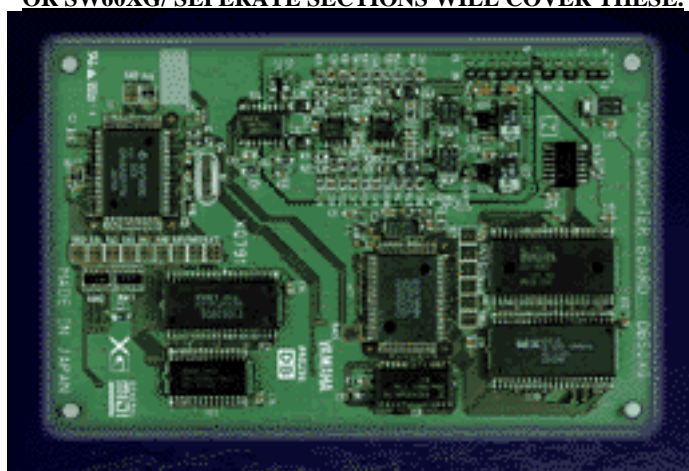


THE DB50/SW60/MU10 GUIDE

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This guide also contains notes for developers & system programmers.

ALL REFERENCES TO THE YAMAHA DB50 AND INSTALLATION DO NOT APPLY TO THE MU10 OR SW60XG/ SEPERATE SECTIONS WILL COVER THESE.



ALL OF THE DATA AND SYSEX INFORMATION CONTAINED WITHIN THIS DOCUMENT IS RELATED TO THE XG SYSTEM TECHNOLOGY USED ON YAMAHA'S MU80/MU50/SW60/QS300/MU10 AND DB50 SOUND GENERATION SYSTEMS, THE VIEWS CONTAINED WITHIN ARE THAT OF THE AUTHOR, AND NOT NECESSARILY OF YAMAHA CORPORATION.

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Introduction

The XG range from Yamaha and in particular the DB50XG has proved to be one of the most popular products that the company has released since the DX7, the unlimited power of the card coupled with the staggering cost has guaranteed overnight success. Here is a brief guide to getting the best out of the card

The purpose of this guide is to enable you the user to get at all of the main features of the DB50, and to give a non technical introduction into the world of sound cards for the PC. It will also give some examples of data entry and a brief introduction into the world of system exclusive data.

The DB50 is based upon a technology known as wavetable. Wavetable synthesis is where an acoustic sample of an instrument such as a piano is recorded using a microphone, and stored in the onboard wave rom of the card.

Yamaha have designed the most successful synthesisers in history, and we are the worlds largest manufacturer of musical instruments with over 100 years of experience.



THE WORLD'S MOST SUCCESSFUL SYNTHESISER, THE YAMAHA DX7

A wave sample of an instrument however can sound very static and boring. Imagine if you will, a guitar player. Every time he hits the guitar string it sounds different, ever so slightly, but never the less it is different. This is where modifiers come in to play. The ability to change a sound in real time is very important and the DB50 with it's substantial editing capabilities and effects processing, put's all of these facilities are now in your grasp.

What do we mean by editing capabilities. Well if you take for instance a guitar. To really hear the full range of sounds that a guitar can produce you would probably need the following.

- 1: A guitar amplifier
- 2: A range of effects pedals
- 3:A good plectrum
- 4: Technique

The editing of a guitar sound comes from the use of the amplifier and the effects pedals. If you wanted to enhance the richness of the guitar sound, you may wish to add chorus, which simulates the sound of many instruments playing, it is in a similar way that you edit and modify the DB50.

You may be aware of a terminology known as "bit resolution". Many sound cards on the market today are stated as being 16bit. The bit resolution of a device is basically referring to the number of samples taken in a given period of time of the instrument concerned.

If you take for example a pure sine wave. If you take a sample of this at a low bit resolution (eg 8 bit) then the representation of the sample will look more like a set of steps than a smooth curve.

At 16 bit resolution the number of samples per second is greatly increased, and the sample looks much more like the original waveform.

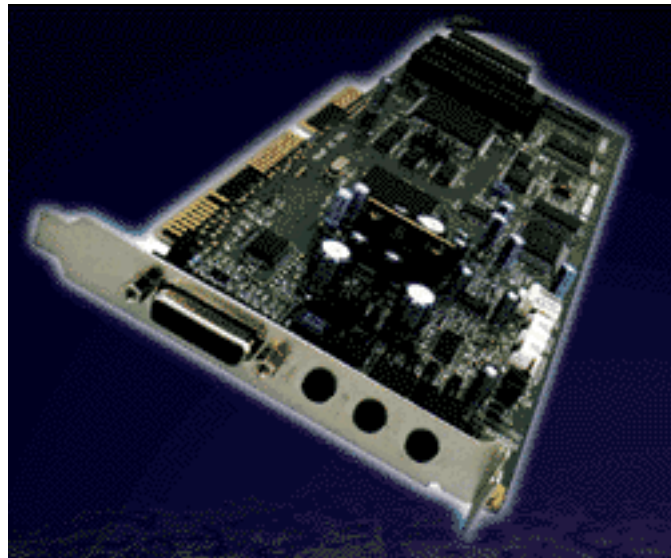
Then there is the issue of bandwidth. 44.1kHz is the normal sampling frequency associated with the term CD quality. As the theoretical frequency range of the human ear is around 20kHz, this represents double the frequency range of the human ear. This conforms to a theory known as the Nyquist criteria.

Sound cards play a fundamental role in PC computers today. If you have just gone out and spent over £1000 on a brand new Pentium computer, with top of the range facilities, then why spoil it with a low quality sound card ?

WHAT EXACTLY IS THE DB50

The DB50 is a daughterboard. A daughter board is a device which upgrades the sound of an existing soundcard. It does this by clipping on to the side of the host sound card. The way in which it does this will be covered in the first chapter, along with a guide to taking your PC apart and fitting the DB50 card to an existing card.

THE DB50 WILL NOT FIT ONTO THE YAMAHA SOUND EDGE SW20PC CARD



THE YAMAHA SW20-PC SOUND CARD - PRE XG, GENERAL MIDI ONLY ISA CARD

As mentioned before the DB50 is a daughtercard, it is not designed as a stand alone device to fit into a PC as it requires a host card (such as a Creative Labs Sound Blaster 16 asp). It will also not plug directly on to the new range of INTEL motherboards, which supposedly have daughter card adapters on them (such as the endeavour). These mother boards do have connectors, but with no power lines and only 6 pins, and no power lines, which makes them unsuitable for use with the DB50.

The DB50 uses for the first time ever on a sound card, multiple DSP's. A DSP is a digital signal processor or effects unit . If you take for example the most common sound card on the market, the AWE32, this card has a limit of 3 effects types... chorus , reverb and surround sound. Not really relevant for someone like a guitar player !!! Unlike all other cheap sound cards (and indeed expensive ones) the DB50 can run up to 64 different effects from 3 independent processors at the same time . This is not a misprint ,up to 3 independent effects processors running simultaneously , and with any combination of up to 64 different effects types ranging from DISTORTION, FLANGER , WAH WAH, EQ, DELAY, REVERB , PHASER, ER PLATES ...etc etc. These effects are all editable and controllable in real-time with up to 16 parameters per effect. The advantage of effects processing can be heard in any commercial music track available today. Basic effects such as reverb can enhance any sound card, but to hear the roar of a guitar you need guitar effects such as distortion and compression... try finding those on any other card. The card has a massive 676 on board instrument sounds, all of which can be fully edited down to subtleties such as pitch envelopes, filter cutoff and resonance. The card has a full 24db per octave 4 pole fully resonant set of filters, again a totally unique feature to this card. The card has 21 drum kits, yes .. drum kits, each drum kit sound and there are up to 63 on each kit, can be fully programmed down to individual sample level, and then passed through any 3 of the 64 on board effects.

The card is fully GM level 1 compliant, along with Roland GS compatible in TG300B mode and XG compatible. The card also has the ability to upload voices directly from the Yamaha QS300, the £1300 flagship synth in the Yamaha pro music arsenal. This makes it the most flexible system on the market today. The most common question is "how do I get to all of this power" , by using this easy guide, you should have of the answers you need.

The second most common question is "what is it really, and what is it compatible with
The DB50 uses a chip known as the SWP00 chip, this is the same chip that is used in the following units.

MU50 - £399

MU80 - £699 (MU80 USES SWP20 GIVING 64 NOTE POLY)

QS300 - £1300

SW60XG - £159 (this is the soon to be released ISA bus version of the DB50)

CHAPTER 1 : FITTING THE DB50 TO AN EXISTING CARD

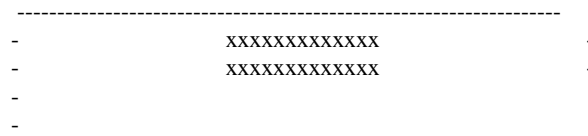
Whether or not you already have a sound card in your PC, opening up the computer to add new hardware can be a daunting task. Looking at the innards of today's multimedia computers can frighten even experienced software users, what with all the cables, and chips.. most of the time you do not know whether you are doing any harm or good.

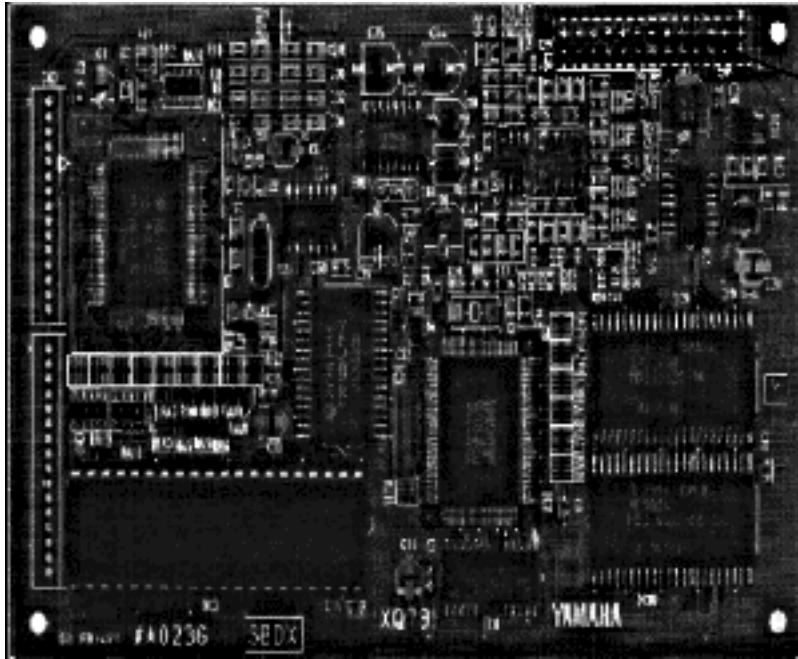
This fear , while common ,is unfounded. A PC is a safe environment to work in with little or no knowledge, whet we are about to show you now is how to go about the most fundamental parts of the DB50 upgrade.

Whether your PC is a desktop machine or a tower system, it will nomally have a set of screws on the back which hold the case in place. These screws are normally located along the edge of the case. The other screws on the back of the PC are for holding things such as the cooling fan in position, and should not really be touched at any cost.

On taking out the screws the case should just lift off easily, and you will now be inside your PC.

What you will need to do now is check your sound card. The sound card is the one that you have had your multimedia speakers plugged into, and it will normally have audio in and outs on the back edge (the side sticking out of the PC). What you are looking for is two rows of 13 pins normally located along the top edge of the card in the following configuration





DAUGHTER BOARD

SOCKET

PIN OUT ASSIGNMENTS FOR DB50/CONFORMING TO WAVEBLASTER SPECIFICATIONS

24 - LEFT OUT
20 - RIGHT OUT
1,3,5,7,9,11 - DIGITAL GROUND
15,17,19,21,23,25 - ANALOG GROUND
6,10,14 - +5V
18 - +12V
22 - -12V
4 - MIDI IN
8 - MIDI OUT

If your card does not have these then unfortunately you cannot fit the DB50 to it. I will discuss other options in relation to this later.

Cards that have a so called expansion socket that is not 26 pins in 2 rows of 13, normally will accept the OPL4 expansion board. This is an inferior quality chipset (we should know, we built it), to that used by the DB50, and is just a basic general midi voice set.

Once you have located the sound card, you may wish to remove it to inspect it closer. This is achieved by removing the holding screw that connects the sound card to the case of the PC. Please remember to keep this screw in a safe place.

Now it is time to find the connector for the DB50, also known as a waveblaster connector port.

Details relating to this can normally be found in your manual. If you do not have this it may be worth contacting your card supplier for one.

Once you have located the waveblaster connector, it is then just a simple matter of firmly connecting the card's edge connector to the DB50. The small plastic plugs with the DB50 should fit snugly into holes on your sound card. If your card does not have these holes, or the holes do not line up then please contact your card manufacturer and complain. The DB50 is built to world standard waveblaster specifications in terms of size and shape, if your card does not have the holes but does have a waveblaster connector then it is designed badly.

Once the DB50 is clipped on you can then replace your main sound card back into the ISA slot that it came from.

Chapter 2 : Configuring the DB50 to run

Unlike nearly every other sound card in existence the DB50 does not require any complicated software configurations to work, it requires no drivers, or IRQ no.s or base address no.s or even DMA channels, it literally plugs in and goes, it really is that simple. The following information is intended to supplement the manual, and gives procedures for getting the card to run in various ways.

Please follow the steps for Windows 3.11 and Windows 3.1 in the manual for the DB50. With regards to DOS games I will now outline a common setup for the worlds most popular game..DOOM, when used with a Creative Labs Sound Blaster 16 card with a DB50 fitted.

Setting up with games

Most PC games have a setup utility. This allows you to setup things such as the keyboard layout, and the joystick port. It also allows you to set up the sound device drivers for the game.

Most games now have the option for Special FX and music playback. With special effects you use the standard Sound Blaster setup of IRQ5 base address 220H and DMA channel 1. With the DB50 you may choose in music playback one of several options. The most common option will be MPU401, using base address 330H, and IRQ2/9 (if applicable). Other options will include GS or MT32 which the DB50 can support fully also.

Please take care , and ensure that the sound card is installed correctly, and dont forget about the joystick !!!!

WINDOWS 95 INSTALLATION GUIDE :

As you may be aware Windows 95 does not adopt the Midi Mapper system used by Windows 3.11.

To route the output of the DB50 on any card in Win95, you need to first click on the multimedia properties sheet

Click the Start button, select settings and then control panel.

Open the Multimedia icon and select MIDI. You will then see the device drivers for your host card, more than likely one for FM and one for external midi, just select external midi and go. On the Tahiti card, select TAHITI HEADER OUT.

The drivers supplied by Creative Labs with Windows 95 , do not support the waveblaster socket , so you may need to contact them for a complete set of drivers. The file is available for download from Internet or CompuServe and is called **SBW95UP.EXE**. Please download or telephone Creative Labs for this file, do not contact Yamaha.

It has also come to light that some of the Plug & Play Creative Labs cards have problems with games compatibility and the waveblaster socket. A patch disk is available from most internet and compuserve sites called WBPATCH.EXE.

Here is the ReadMe file from the SBAWE32.UP file to help with installation of these files.

UPDATING SOUND BLASTER DRIVERS FOR WINDOWS 95

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To update the drivers required for Windows 95:

1. In the Control Panel folder, double-click the System icon to show the System Properties dialog box.
2. Select the Device Manager tab in the System Properties dialog box.
3. Double-click the "Sound, video and game controllers" to display the devices installed in your system.
4. Double-click the device you wish to update (e.g., Creative Labs Sound Blaster 16 or AWE-32).
The Properties dialog box of the selected device appears.
5. Select the Driver tab in the Properties dialog box and choose Change Driver.
The Select Device dialog box appears.

6. Choose Have Disk in the Select Device dialog box.
The Install From Disk dialog box appears.
7. Enter the path where the new drivers are located and choose OK.
The Select Device dialog box appears.
8. Choose OK to return to the Properties dialog box.
9. Choose OK to exit the Properties dialog box.
The drivers will be copied to your Windows directory.
10. Choose Close to exit the System Properties dialog box.
The System Settings Change dialog box appears.
11. Choose OK to restart your system.

Configuring Daughterboards for use in Windows 95

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The YAMAHA DB50 Daughterboard is a great way to add YAMAHA instrument sounds to any sound card with a WaveBlaster compatible connector, such as the Creative Labs Sound Blaster 16 or the MIDIEDGE . These notes explain how to configure the software and use a daughterboard in Windows 95. First, physically attach the daughterboard to your existing sound card according to the instructions in your manual, and then follow the steps below for use with Windows 95.

Sound Blaster Owners:

Before setting up the daughterboard, your Sound Blaster drivers must be installed and functioning properly. If this is the case you can skip to the "Setting the Daughterboard as the Windows MIDI Device" section. Although there are many variations of Sound Blaster cards, you can follow these general guidelines below for installing the Windows 95 drivers.

- 1) From the Start Menu, select Settings and open the Control Panel.
- 2) Double-click on the Add New Hardware icon.
- 3) To begin installing your Sound Blaster, click Next.
- 4) You do not want Windows to search for your hardware, so click No, followed by Next.
- 5) For a hardware type, scroll down through the list and select Sound, video and game controllers.
- 6) For Manufacturer on the left, choose Creative Labs. For Models on the right, choose your sound card (usually Sound Blaster 16 or AWE-32). Click Next.
- 7) When you get to the settings screen, click Next.
- 8) You may need to insert your Windows disk at this point. Afterwards, click Finish to end the installation.
- 9) Windows will ask you to shut down the computer. Do so, and restart the system.
- 10) Your Sound Blaster should now be ready to accept the daughterboard. Go to the "Setting the Daughterboard as the Windows MIDI Device" section of this document.

MPU-401AT, SCM-10/15 Owners:

Before setting up the daughterboard, your MPU-401 drivers must be installed and functioning properly. If this is the case you can skip right to the "Setting the Daughterboard as the Windows MIDI Device" section. Otherwise, follow these steps below for installing the Windows 95 drivers.

- 1) From the Start Menu, select Settings and open the Control Panel.
- 2) In the Control Panel, double-click on Add New Hardware.
- 3) To begin installing your MPU-401AT, click Next.
- 4) You do not want Windows to search for your hardware, so click No, followed by Next.
- 5) For a hardware type, scroll down through the list and select Sound, video and game controllers.
- 6) For Manufacturer on the left choose Microsoft. For Models on the right, choose MPU-401

Compatible. Click Next.

- 7) When you get to the settings screen, click Next.
- 8) You may need to insert a Windows disk at this point. Afterwards, click Finish to end the installation.
- 9) Windows will ask you to shut down the computer. Do so, and restart the system.
- 10) Your MPU-401AT should now be ready to accept the daughterboard. Go on to the next section.

Setting the Daughterboard as the Windows MIDI Device:

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- 1) From the Start Menu, select Settings and open the Control Panel.
 - 2) In the Control Panel, double-click on the Multimedia icon to open Multimedia Properties.
 - 3) Click on the MIDI tab at the top of the window.
 - 4) Click on the dot to the left of Single Instrument.
 - 5) If you are installing on a Sound Blaster (or similar sound card), click on MIDI for External MIDI Port in the white box. If you are installing on an MPU-401AT, select MPU-401 Compatible.
 - 6) Click OK at the bottom of the window.
 - 7) Proceed to the next section to try out the sounds.

Using Media Player to Test the Daughterboard:

- 1) From the Start Menu, select Programs, followed by Accessories, followed by Multimedia, and open the Media Player.
- 2) Under Media Player's Device menu, select MIDI sequencer.
- 3) A window to open a file will be displayed. If you upgraded your computer from Windows 3.1 you should be able to find the CANYON.MID file in your Windows directory. Otherwise you will need to locate and open a MIDI file of your own.
- 4) Click the Play button (the button on the far left that looks like a sideways triangle) and your MIDI file will begin playing through the daughterboard.

Troubleshooting:

No Sound

If everything appears to be working properly at this point and you just are not getting any sound, try disconnecting the joystick from your sound card. On some sound cards the joystick port also acts as the MIDI port, and the joystick may short out the MIDI connection (including the daughterboard) as long as it is plugged in. To correct this problem, purchase the recommended MIDI adapter cables for your sound card from Creative Labs(800-998-5227). This is essentially a Y-cable that allows you to attach a joystick and MIDI devices at the same time, allowing you to use your joystick and the daughterboard simultaneously.

Windows 95 Can't Find Your Sound Card

If you installed the drivers for your sound card but Windows reports a problem, then the card is probably not at the default settings Windows expects, or it is conflicting with another device. You will need to determine what the card's IRQ and address are set to, physically change its jumpers and switches if necessary, and tell Windows to use those settings. Your sound card's manufacturer can help you with this. The procedure for making the Windows changes follow:

- 1) From the Start Menu, select Settings and open the Control Panel.
- 2) In the Control Panel, double-click on the System icon.
- 3) Click on the Device Manager tab at the top of the System Properties window.
- 4) Double click on Sound, video and game controllers.
- 5) Your sound cards will be revealed. The device that has a problem should be marked with a yellow exclamation point. Double-click on it.
- 6) Click on the Resources tab at the top of the Properties window.
- 7) Clear the check mark from the Use automatic settings box.
- 8) To change one of the settings, click on the resource under Resource type, and then click

- on the Change Setting button.
- 9) Click on the up and down arrows to select the correct address or IRQ value.
 - 10) Click OK, and change the other resources as necessary.
 - 11) Click OK and you'll be asked to restart Windows. Restart and test it again.

Windows 3.11/3.1 installation guide

With Windows 3.1 the card can either be set up manually using the standard control panel midi mapper application, Yamaha have written instrument definition maps for cakewalk and powertracks pro which contain the full instrument list for the DB50 , And are free to either download, or request by disk.

The instrument definition files along with various pieces of software such as the excellent XG edit can be obtained from the MIDIAVEN and MIDICVEN forums in compuserve.

Now , what if you do not have a sound card with a Waveblaster connection system. There are 2 options available.

The first is to trade in or upgrade your sound card to one that does.

The second is to purchase a card such as the MIDIEDGE card from ETC (01706 228 039) which has a DB adapter.

This has several advantages over using a Sound Blaster card. The first is the sound quality.

THE PRINCIPLES OF SOUND

If you imagine you had just bought a compact disc player, and wanted to hear it at it's best. You would not plug it into a cheap and nasty set of speakers, you would plug it into a top of the range hifi system. The same goes with the DB50. If you plug it into a cheap Sound Blaster or compatible card, all of the noise and hiss associated with the Sound Blaster card will tarnish the sound from the DB50.

The DB50 uses some of the highest quality output components ever found in a PC product. It has it;s own output stage using top of the range 18bit DA converters, which produce a very clean sound indeed.

Plugging the DB50 on to a card such as the MIDIEDGE, does not effect the sound quality of the DB50, and also gives the benefit of multiple midi channel access, something which due to a design fault on the soundblaster 16 range of cards cannot be achieved.

As mentioned previously , the Db50 uses sampled sounds or "wavetables" to generate the complex tones that you hear. The sound produced can be broken down into individual components, all of which are important, and all of which can have either dramatic or subtle effects on the overall tone.

<u>SOUND QUALITY</u>	<u>TECHNICAL TERM</u>	<u>PARAMETER</u>
OVERALL TIMBRE	HARMONIC CONTENT	WAVEFORM
BRIGHTNESS	AMP OF HF HARMONICS	FILTER CUTOFF
VOLUME CHANGES	DYNAMIC AMPLITUDE	VCA ENVELOPE

The Sound Blaster 16 range of cards unfortunately do not have the ability to independently address the waveblaster port from the external MIDI port. This results in the data being sent to both the DB50 and any external midi synth connected, and cannot be fixed.

The other design fault in the SB16 is that the external joystick port is wired up to the waveblaster socket. This means that if you have a joystick plugged in you cannot use the DB50. This is not just with our daughter board, but everyone elses too.

Creative Labs do provide a midi cable which gets around this problem, and this is available from them directly for about £25

CHAPTER 3 : SYSTEM EXCLUSIVE DATA

After reading the DB50 manual you are probably thinking one of 3 things.

- 1 : Where can I sign up for a degree course in ASTROPHYSICS

2: HELP !!!!!

3: I had better call YAMAHA and ask them to explain what it all means.

The world of sysex is very daunting at first. We have all been through it here at Yamaha, and once you have grasped the main concepts it is a very rewarding way of working.

Before I go into some typed examples I will try to explain the fundamentals of SYSEX data.

SYSEX is a way of talking to the DB50 at one of its most basic levels. The DB50 is a computer, and to talk to a computer you need to learn how to program it. As with computers, application packages are designed to help make things easier to use, and the excellent XGEDIT by Gary Gregson, is one such program. If however you wish to modify things at a real base level then sysex is the way to do it.

Sysex is comprised of a series of data bytes, they have a specific order and mean specific things when typed in that order. When typed in incorrectly they will either do nothing at all or will give an unexpected result. This is why I have typed out all of the major control parameters

The data bytes mentioned are in what is known as Hexadecimal. This is a 2 byte alpha numeric format which basically is a number anywhere between 0 and 255 (eg 00 = 00 OA=10 7F= 127)

The data is entered using the sysex editor or event list editor in your sequencer (more of which is discussed later) in the following way.

The first data byte (F0) is known as the start of sysex

Byte 2 (43) is the Yamaha ID code

Byte 3 (10) is the device number for the DB50

The next 4 data bytes correspond to the command specific data. If you imagine these data bytes are saying "ok now I want to change a parameter such as filter cutoff and give it a value of 127)

then the complete data stream would be as follows

F0 43 10 4C 08 00 18 7F F7

THE 7F IS THE VALUE OF 127, THE (08 00 18) IS TELLING THE DB50 THAT YOU WISH TO ACCESS THE FILTER CUTOFF PARAMETER.

In specific sequencers please refer to your sequencer manual for information relating to the input of sysex data

Anyway on with the show..here is the worked example guide.

Controller Name	Number	Range
Modulation Wheel	1	0-127
Breath Controller	2	0-127
Early DX7 Aftertouch	3	0-127
Foot Controller	4	0-127
Portamento Time	5	0-127
Data Slider	6	0-127
Main Volume	7	0-127
Balance	8	0-127
Pan	10	0-127
Expression	11	0-127
General Purpose #1	16	0-127
General Purpose #2	17	0-127
General Purpose #3	18	0-127
General Purpose #4	19	0-127
LSB's for #'s 0-31		32-63 0-127
Sustain Pedal	64	0 or 127
Soft Pedal	67	0 or 127
Hold 2	69	0 or 127
filter & harmonic content	71-74	0-127
General Purpose #5	80	0 or 127
General Purpose #6	81	0 or 127
General Purpose #7	82	0 or 127

General Purpose #8	83	0 or 127
Tremelo Depth	92	0-127
Chorus Depth	93	0-127
Celeste Depth	94	0-127
Phase Depth	95	0-127
Data Increment	96	0 or 127
Data Increment	97	0 or 127
Non Reg. Parameter MSB	98	0-127
Non Reg. Parameter LSB	99	0-127
Reg. Parameter MSB	100	0-127
Reg. Parameter LSB	101	0-127
reset all controllers	121	127
Local Control On/Off	122	0 or 127
All Notes Off	123	0
Omni Off	124	0
Omni On	125	0
Mono On (0=omni off)	126	0-16
Poly On	127	0

CHAPTER 4: THE COMPLETE SYSEX GUIDE TO THE DB50/MU80/QS300/SW60/MU50

The following data will allow access to most major parameters, where a value of nn is inserted this represents the data byte. The data can either have a value of zero or one if it relates to an on/off switch command, or can have a value up to 127 (in hex=7f) if it relates to a variable parameter such as filter cut-off. A list of decimal to hex conversions can be found in the DB50 manual. These parameters when entered into the event list in most sequencers should not be at the same tick or midi time, also to enable these to work a gm on message must be sent, and 200 milliseconds later the XG on message, both of which are in the manual.

Event list editing and the entry of the below parameters should always be performed after the card has been set into the relevant mode (XG or GS).

FILTER CUTOFF F0 43 10 4C 08 00 18 NN F7 (0-127)

THIS CAN ALSO BE DONE WITH CONTROLLERS & NRPN'S (NON REGISTERED PARAMETER NUMBERS)

RESONANCE F0 43 10 4C 08 00 19 NN F7
ATTACK TIME F0 43 10 4C 08 00 1A NN F7
DECAY TIME F0 43 10 4C 08 00 1B NN F7
RELEASE TIME F0 43 10 4C 08 00 1C NN F7
PEG INITLVL F0 43 10 4C 08 00 69 NN F7
PEG ATAK TIME F0 43 10 4C 08 00 6A NN F7
PEG REL LVL F0 43 10 4C 08 00 6B NN F7
PEG REL TIME F0 43 10 4C 08 00 6C NN F7
VIBRATO RATE F0 43 10 4C 08 00 15 NN F7

VIBRATO DEPTH F0 43 10 4C 08 00 16 NN F7
VIBRATO DELAY F0 43 10 4C 08 00 17 NN F7
DETUNE F0 43 10 4C 08 00 09 08 NN F7
PART MODE F0 43 10 4C 08 00 07 NN F7
MONO POLY F0 43 10 4C 08 00 05 NN F7
VEL SENS DEPTH F0 43 10 4C 08 00 0C NN F7
VEL SENS OFFSET F0 43 10 4C 08 00 0D NN F7

TG300 MODE F0 43 71 7E 09 01 F7 (SWITCH DB50 TO TG300 MODE)

NOTE LIMIT F0 43 10 4C 08 00 0F NN F7
NOTE LIMIT HIGH F0 43 10 4C 08 00 10 NN F7
PORAMENTO SW F0 43 10 4C 08 00 67 00 F7

PORTAMENTO TIME F0 43 10 4C 08 00 68 NN F7
VELOCITY LIMIT F0 43 10 4C 08 00 6D NN F7

VEL LIMIT HIGH	F0 43 10 4C 08 00 6E NN F7
PITCH BEND CNTRL	F0 43 10 4C 08 00 23 NN F7
MW LFO MOD	F0 43 10 4C 08 00 20 NN F7
VARIATION SEND	F0 43 10 4C 02 01 5B NN F7
EQ TYPE	F0 43 10 4C 02 40 00 NN F7
80 HZ	F0 43 10 4C 02 40 01 NN F7
500 HZ	F0 43 10 4C 02 40 05 NN F7
1.0 KHZ	F0 43 10 4C 02 40 09 NN F7
4.0 KHZ	F0 43 10 4C 02 40 0D NN F7
8.0 KHZ	F0 43 10 4C 02 40 11 NN F7
REVERB TYPE	F0 43 10 4C 02 01 00 01 NN F7
REVERB TIME	F0 43 10 4C 02 01 02 NN F7
DIFFUSION	F0 43 10 4C 02 01 03 NN F7
INIT DELAY	F0 43 10 4C 02 01 04 NN F7
HPF CUTOFF	F0 43 10 4C 02 01 05 NN F7
LPF CUTOFF	F0 43 10 4C 02 01 06 NN F7
REV PAN	F0 43 10 4C 02 01 0D NN F7
CHORUS TYPE	F0 43 10 4C 02 01 20 41 NN F7
LFO FREQ	F0 43 10 4C 02 01 22 NN F7
LFO PM DEPTH	F0 43 10 4C 02 01 23 NN F7
FB LEVEL	F0 43 10 4C 02 01 24 NN F7
DELAY OFFSET	F0 43 10 4C 02 01 25 NN F7
CHORUS PAN	F0 43 10 4C 02 01 2D NN F7

SEND CHO-REV	F0 43 10 4C 02 01 2E NN F7
VARIATION TYPE	F0 43 10 4C 02 01 40 NN NN F7

THE FOLLOWING IS A LIST OF DATA TO ENTER INTO THE ABOVE NN NN MSB AND LSB DATA BYTES

REVERB

Exclusive Effect Type

MSB	LSB	
00	00	NO EFFECT
01	00	HALL1
01	01	HALL2
02	00	ROOM1
02	01	ROOM2
02	02	ROOM3
03	00	STAGE1
03	01	STAGE2
04	00	PLATE
10	00	WHITE ROOM
11	00	TUNNEL
13	00	BASEMENT

CHORUS

Exclusive Effect Type

MSB	LSB	
00	00	NO EFFECT
41	00	CHORUS1
41	01	CHORUS2
41	02	CHORUS3
41	08	CHORUS4
42	00	CELESTE1
42	01	CELESTE2
42	02	CELESTE3
42	08	CELESTE4
43	00	FLANGER1
43	01	FLANGER2
43	08	FLANGER3

VARIATION

Exclusive	Effect Type	
MSB	LSB	
00	00	NO EFFECT
01	00	HALL1
01	01	HALL2
02	00	ROOM1
02	01	ROOM2
02	02	ROOM3
03	00	STAGE1
03	01	STAGE2
04	00	PLATE
05	00	DELAY L,C,R
06	00	DELAY L,R
07	00	ECHO
08	00	CROSS DELAY
09	00	EARLY REF1
09	01	EARLY REF2
0A	00	GATE REVERB (FOR THOSE BIG SNARE SOUNDS)
0B	00	REVERSE GATE
41	00	CHORUS1
41	01	CHORUS2
41	02	CHORUS3
41	08	CHORUS4
42	00	CELESTE1
42	01	CELESTE2 (THICK, LUSH GREAT FOR PADS)
42	02	CELESTE3
42	08	CELESTE4
43	00	FLANGER1
43	01	FLANGER2
43	08	FLANGER3
44	00	SYMPHONIC
45	00	ROTARY SPEAKER (GREAT FOR ORGAN SOUNDS)
46	00	TREMOLO
47	00	AUTO PAN
48	00	PHASER1 (INSTANT 80'S SYNTH SOUND)
48	08	PHASER2 (LUSH FOR STRINGS)
49	00	DISTORTION
4A	00	OVER DRIVE
4B	00	AMP SIMULATOR (STACK OR COMBO OPTIONS FOR GREAT ROARS)
4C	00	3BAND EQ(MONO) LOW, MID, HIGH
4D	00	2BAND EQ(STEREO)
4E	00	AUTO WAH(LFO)
50	00	PITCH CHANGE
55	00	VOICE CANCEL
40	00	THRU

DID WE SAY THAT THE EFFECTS PROCESSORS WERE POWERFUL OR WHAT !!!!!, TRY DOING THAT LOT ON ANY OTHER CARD IN EXISTANCE.

VARIATION CONNECTION F0 43 10 4C 02 01 5A NN F7

THIS NEEDS TO BE SET TO SYSTEM MODE TO GET EFFECTS ON EACH MIDI CHANNEL IN THIS CASE NN NEEDS TO BE SET TO 1

DISTORTION (INS MODE)	F0 43 10 4C 03 00 00 NN 00 F7
DISTORTION PART NO	F0 43 10 4C 03 00 0C NN F7
NOTE SHIFT	F0 43 10 4C 08 00 08 NN F7
DRUM PITCH COARSE	F0 43 10 4C 30 18 00 NN F7
DRUM PITCH FINE	F0 43 10 4C 30 18 01 NN F7
DRUM LEVEL	F0 43 10 4C 30 18 02 NN F7
DRUM PAN	F0 43 10 4C 30 18 04 NN F7
REV SEND DRUM	F0 43 10 4C 30 18 05 NN F7

DRUM CHO SEND F0 43 10 4C 30 18 06 NN F7
 DRUM VAR SEND F0 43 10 4C 30 18 07 NN F7
 DRUM FILTER CUTOFF F0 43 10 4C 30 18 0B NN F7
 DRUM RESONANCE F0 43 10 4C 30 18 0C NN F7
 DRUM ALTER GROUP F0 43 10 4C 30 18 03 NN F7
 DRUM ATTACK F0 43 10 4C 30 18 0D NN F7
 DRUM EG DECAY F0 43 10 4C 30 18 0E NN F7
 DRUM DECAY 2 F0 43 10 4C 30 18 0F NN F7

EFFECTS ASSIGNMENT SETUP DATA TABLE

THE FOLLOWING DATA ALLOWS ENTRY OF A DATA INTO THE VARIOUS LISTED EFFECTS (SUCH AS LFO), SO THAT PRECISE EFFECTS TYPES CAN BE SET UP.

These data bytes need to be inserted within the correct parameter for each effect. For this section you may need to refer to the original manual to look at the tables for each effect type, and the parameter that you wish to edit. With the knowledge gained from this guide, this should not really be too daunting....HONEST !

LFO Frequency (Hz) (CAN BE APPLIED TO CHORUS OR FLANGER FOR SWEEP TIMES)

	Data Value	Data	Value	Data	Value
0	0.00	43	1.81	86	5.38
1	0.04	44	1.85	87	5.55
2	0.08	45	1.89	88	5.72
3	0.13	46	1.94	89	6.06
4	0.17	47	1.98	90	6.39
5	0.21	48	2.02	91	6.73
6	0.25	49	2.06	92	7.07
7	0.29	50	2.10	93	7.40
8	0.34	51	2.15	94	7.74
9	0.38	52	2.19	95	8.08
10	0.42	53	2.23	96	8.41

Table#2

Modulation Delay Offset

	Data	Value	Data	Value	Data	Value
0	0.0	43	4.3	86	8.6	
1	0.1	44	4.4	87	8.7	
2	0.2	45	4.5	88	8.8	
3	0.3	46	4.6	89	8.9	
4	0.4	47	4.7	90	9.0	
5	0.5	48	4.8	91	9.1	

6	0.6	49	4.9	92	8.2
7	0.7	50	5.0	93	9.3
8	0.8	51	5.1	94	9.4
9	0.9	52	5.2	95	9.5

Table#3

EQ Frequency (Hz)

Data	Value	Data	Value
0	THRU(20)	43	2.8k
1	22	44	3.2k
2	25	45	3.6k
3	28	46	4.0k
4	32	47	4.5k
5	36	48	5.0k
6	40	49	5.6k
7	45	50	6.3k
8	50	51	7.0k
9	56	52	8.0k
10	63	53	9.0k

Table#4

Reverb Time

Data	Value	Data	Value
0	0.3	43	4.6
1	0.4	44	4.7
2	0.5	45	4.8
3	0.6	46	4.9
4	0.7	47	5.0
5	0.8	48	5.5
6	0.9	49	6.0

7	1.0	50	6.5
8	1.1	51	7.0
9	1.2	52	7.5
10	1.3	53	8.0

Table#5

Delay Time

Data	Value	Data	Value	Data	Value
0	0.1	43	67.8	86	135.5
1	1.7	44	69.4	87	137.0
2	3.2	45	70.9	88	138.6
3	4.8	46	72.5	89	140.2
4	6.4	47	74.1	90	141.8
5	8.0	48	75.7	91	143.3
6	9.5	49	77.2	92	144.9
7	11.1	50	78.8	93	146.5
8	12.7	51	80.4	94	148.1
9	14.3	52	81.9	95	149.6

Table#6

Room Size (can be used with any of the reverb types)

Data	Value	Data	Value
0	0.1	43	6.8
1	0.3	44	7.0
2	0.4		
3	0.6		
4	0.7		
5	0.9		
6	1.0		
7	1.2		
8	1.4		
9	1.5		

10 1.7

Table#7

Delay Time

Data	Value	Data	Value	Data	Value
0	0.1	43	135.5	86	270.9
1	3.2	44	138.6	87	274.0
2	6.4	45	141.8	88	277.2
3	9.5	46	144.9	89	280.3
4	12.7	47	148.1	90	283.5
5	15.8	48	151.2	91	286.6
6	19.0	49	154.4	92	289.8
7	22.1	50	157.5	93	292.9
8	25.3	51	160.7	94	296.1
9	28.4	52	163.8	95	299.2
10	31.6	53	167.0	96	302.4

Table#8

Reverb Width; Depth; Height (ÉÅÅ[É^Å[])

Data	Value	Data	Value	Data	Value
0	0.5	43	11.8	86	24.2
1	0.8	44	12.1	87	24.5
2	1.0	45	12.3	88	24.9
3	1.3	46	12.6	89	25.2
4	1.5	47	12.9	90	25.5
5	1.8	48	13.1	91	25.8
6	2.0	49	13.4	92	26.1
7	2.3	50	13.7	93	26.5
8	2.6	51	14.0	94	26.8
9	2.8	52	14.2	95	27.1
10	3.1	53	14.5	96	27.5

TG300B MODE SYSEX COMMANDS (dont tell Roland !!!, but these are GS commands..in other words, your DB50/MU50/SW60/QS300/MU10 is a fully functional Sound Canvas as well)

PART MODE (DRUM OR NORMAL)

F0 43 10 2B 02 01 17 00 66 F7 - NORMAL MODE

F0 43 10 2B 02 01 17 01 65 F7 - DRUM MODE

F0 43 10 2B 02 01 00 00 7D F7 - ELEMENT RESERVE NO.

F0 43 10 2B 02 01 15 00 68 F7 - MONO POLY MODE SELECT

F0 43 10 2B 02 01 18 40 25 F7 - NOTE SHIFT

F0 43 10 2B 02 01 1C 40

21 F7 - VEL SENS DEPTH

Reset GS

F0 41 10 42 12 40 00 7F 00 41 F7

Master Volume F0 41 10 42 12 40 00 04 7F 3D F7 (ALL 16 CHANNELS)

Part ON/OFF The following messages allow you to turn specific MIDI channels ON/OFF so that you can use these channels for other external equipment.

Part	Status	Message
1	OFF	F0 41 10 42 12 40 11 02 10 1D F7
	ON	F0 41 10 42 12 40 11 02 00 2D F7
2	OFF	F0 41 10 42 12 40 12 02 10 1C F7
	ON	F0 41 10 42 12 40 12 02 01 2B F7
3	OFF	F0 41 10 42 12 40 13 02 10 1B F7
	ON	F0 41 10 42 12 40 13 02 02 29 F7
4	OFF	F0 41 10 42 12 40 14 02 10 1A F7
	ON	F0 41 10 42 12 40 14 02 03 27 F7
5	OFF	F0 41 10 42 12 40 15 02 10 19 F7
	ON	F0 41 10 42 12 40 15 02 04 25 F7
6	OFF	F0 41 10 42 12 40 16 02 10 18 F7
	ON	F0 41 10 42 12 40 16 02 05 23 F7
7	OFF	F0 41 10 42 12 40 17 02 10 17 F7
	ON	F0 41 10 42 12 40 17 02 06 21 F7
8	OFF	F0 41 10 42 12 40 18 02 10 16 F7
	ON	F0 41 10 42 12 40 18 02 07 1F F7
9	OFF	F0 41 10 42 12 40 19 02 10 15 F7
	ON	F0 41 10 42 12 40 19 02 08 1D F7
10	OFF	F0 41 10 42 12 40 10 02 10 1E F7
	ON	F0 41 10 42 12 40 10 02 09 25 F7
11	OFF	F0 41 10 42 12 40 1A 02 10 14 F7
	ON	F0 41 10 42 12 40 1A 02 0A 1A F7
12	OFF	F0 41 10 42 12 40 1B 02 10 13 F7
	ON	F0 41 10 42 12 40 1B 02 0B 18 F7
13	OFF	F0 41 10 42 12 40 1C 02 10 12 F7
	ON	F0 41 10 42 12 40 1C 02 0C 16 F7
14	OFF	F0 41 10 42 12 40 1D 02 10 11 F7
	ON	F0 41 10 42 12 40 1D 02 0D 14 F7
15	OFF	F0 41 10 42 12 40 1E 02 10 10 F7
	ON	F0 41 10 42 12 40 1E 02 0E 12 F7
16	OFF	F0 41 10 42 12 40 1F 02 10 0F F7
	ON	F0 41 10 42 12 40 1F 02 0F 10 F7

THESE ONLY WORK IN TG300B/GS MODE

Reverb Macro

Room 1	F0 41 10 42 12 40 01 30 00 0F F7
Room 2	F0 41 10 42 12 40 01 30 01 0E F7
Room 3	F0 41 10 42 12 40 01 30 02 0D F7
Hall 1	F0 41 10 42 12 40 01 30 03 0C F7
Hall 2 (default)	F0 41 10 42 12 40 01 30 04 0B F7
Plate	F0 41 10 42 12 40 01 30 05 0A F7
Delay	F0 41 10 42 12 40 01 30 06 09 F7
Panning Delay	F0 41 10 42 12 40 01 30 07 08 F7

Reverb Character Types

Character type 1	F0 41 10 42 12 40 01 31 00 0E F7
Character type 2	F0 41 10 42 12 40 01 31 01 0D F7
Character type 3	F0 41 10 42 12 40 01 31 02 0C F7
Character type 4	F0 41 10 42 12 40 01 31 03 0B F7
Character type 5	F0 41 10 42 12 40 01 31 04 0A F7
Character type 6	F0 41 10 42 12 40 01 31 05 09 F7
Character type 7	F0 41 10 42 12 40 01 31 06 08 F7
Character type 8	F0 41 10 42 12 40 01 31 07 07 F7

Chorus Macro

Chorus 1	F0 41 10 42 12 40 01 38 00 07 F7
Chorus 2	F0 41 10 42 12 40 01 38 01 06 F7
Chorus 3 (default)	F0 41 10 42 12 40 01 38 02 05 F7
Chorus 4	F0 41 10 42 12 40 01 38 03 04 F7
Feedback Chorus	F0 41 10 42 12 40 01 38 04 03 F7
Flanger	F0 41 10 42 12 40 01 38 05 02 F7
Short Delay	F0 41 10 42 12 40 01 38 06 01 F7
Short Delay Feedback	F0 41 10 42 12 40 01 38 07 00 F7

Voice Reserve

(aa=part 1 to pp=part 16 are (hex) no. of voices for each part which must total 24)
F0 41 10 42 12 40 01 10 aa bb cc dd ee ff gg hh ii jj kk ll mm nn oo pp 17 F7

Second Drum Kit

MIDI Channel 10 is usually the only drum channel. This command allows MIDI Channel 11 to also be a drum channel so that that you can use two drum kits simultaneously.

MIDI Channel 11 = Drum Channel	F0 41 10 42 12 40 1A 15 02 0F F7
MIDI Channel 11 = Normal Channel	F0 41 10 42 12 40 1A 15 00 11 F7

Random Pan

Random Pan -Part 1	F0 41 10 42 12 40 10 1C 00 14 F7
Random Pan -Part 2	F0 41 10 42 12 40 11 1C 00 13 F7
Random Pan -Part 3	F0 41 10 42 12 40 12 1C 00 12 F7
Random Pan -Part 4	F0 41 10 42 12 40 13 1C 00 11 F7
Random Pan -Part 5	F0 41 10 42 12 40 14 1C 00 10 F7
Random Pan -Part 6	F0 41 10 42 12 40 15 1C 00 0F F7
Random Pan -Part 7	F0 41 10 42 12 40 16 1C 00 0E F7
Random Pan -Part 8	F0 41 10 42 12 40 17 1C 00 0D F7
Random Pan -Part 9	F0 41 10 42 12 40 18 1C 00 0C F7
Random Pan -Part 10	F0 41 10 42 12 40 19 1C 00 0B F7
Random Pan -Part 11	F0 41 10 42 12 40 1A 1C 00 0A F7
Random Pan -Part 12	F0 41 10 42 12 40 1B 1C 00 09 F7
Random Pan -Part 13	F0 41 10 42 12 40 1C 1C 00 08 F7
Random Pan -Part 14	F0 41 10 42 12 40 1D 1C 00 07 F7
Random Pan -Part 15	F0 41 10 42 12 40 1E 1C 00 06 F7
Random Pan -Part 16	F0 41 10 42 12 40 1F 1C 00 05 F7

ROLAND Controller Messages (For GS Instruments only/ oh....and the DB50/SW60/ AND ANYTHING ELSE WITH AN XG BADGE ON IT..)

Macro Editing

Parameter	Controller 99		Controller 98		Controller 6		
	min	normal	max				
Vibrato Rate	01		08		14	64	114
Vibrato Depth	01			09		14	64 114
Vibrato Delay	01			10		14	64 114
Filter Cutoff		01	32		14	64	114
Resonance		01	33		14	64	114
TVF/TVA Attk time		01	99		14	64	114
TVF/TVA Decy time	01	100		14	64	114	
TVF/TVA Rlse time		01	102		14	64	114

**Example: to change resonance to 100, send (on relevant MIDI channel):
Controller 99=01 then Controller 98=33 then Controller 6=100**

Transpose Part

Send this on the MIDI channel of the part you want to transpose:
Controller 101=0, Controller 100=2, Controller 6 =X
Where X is between 40 and 88 inclusive (64 is normal, steps are in semitones) .

Fine Tune

Controller 101=0, Controller 100=1, Controller 6 =X
Where X is between 40 and 88 inclusive (64 is 440Hz, steps are in approx 1.5 cents) .
eg. CC6=36 will be 430 Hz, CC6=115 will be 460 Hz

Pitch Bend Range

Send this on the MIDI channel of the part you want to change the Pitch Bend Range: Controller 101=0,
Controller 100=0, Controller 6 =X
Where X is no. of half steps between 0 and 24 inclusive, 2 is default (2 semitones) .

Drum Editing

Parameter	Controller 99		Controller 98		Controller 6		
			Note number		min	normal	max
Drum Pitch Coarse	24		0		64	127	
Drum Level		26		Note number	0		127
Drum Pan		28		Note number	0 = Random,		
					1	64	127
Drum Reverb Send	29		Note number	0		127	
Drum Chorus Send	30		Note number	0		127	

SUCKING VOICES OUT OF A SOUND CANVAS AND FIRING THEM INTO THE DB50...FUN & GAMES

The following codes allow you to go over to a mates house, with a copy of cakewalk, type these codes in, and watch his or her sound canvas have the life sucked out of it.

SO AGAIN WE STATE- YOU HAVE JUST BOUGHT THE MOST POWERFUL SOUND CARD ON THE PLANET, AND IT IS NOW GOING TO TURN ITSELF INTO A £799 ROLAND MODULE....CAN WE DO NO WRONG ?

Roland SoundCanvas Complete=F0 41 10 42 11 48 00 00 00 1D 10 0B F7
 Roland SoundCanvas Effects/Common=F0 41 10 42 11 48 00 10 00 01 00 27 f7
 Roland SoundCanvas Part 01=F0 41 10 42 11 48 02 70 00 01 60 65 F7
 Roland SoundCanvas Part 02=F0 41 10 42 11 48 04 50 00 01 60 03 F7
 Roland SoundCanvas Part 03=F0 41 10 42 11 48 06 30 00 01 60 21 F7
 Roland SoundCanvas Part 04=F0 41 10 42 11 48 08 10 00 01 60 3F F7
 Roland SoundCanvas Part 05=F0 41 10 42 11 48 09 70 00 01 60 5E F7
 Roland SoundCanvas Part 06=F0 41 10 42 11 48 0B 50 00 01 60 7C F7
 Roland SoundCanvas Part 07=F0 41 10 42 11 48 0D 30 00 01 60 1A F7
 Roland SoundCanvas Part 08=F0 41 10 42 11 48 0F 10 00 01 60 38 F7
 Roland SoundCanvas Part 09=F0 41 10 42 11 48 10 70 00 01 60 57 F7
 Roland SoundCanvas Part 10=F0 41 10 42 11 48 01 10 00 01 60 46 F7

Roland SoundCanvas Part 11=F0 41 10 42 11 48 12 50 00 01 60 75 F7
Roland SoundCanvas Part 12=F0 41 10 42 11 48 14 30 00 01 60 13 F7
Roland SoundCanvas Part 13=F0 41 10 42 11 48 16 10 00 01 60 31 F7
Roland SoundCanvas Part 14=F0 41 10 42 11 48 17 70 00 01 60 50 F7
Roland SoundCanvas Part 15=F0 41 10 42 11 48 19 50 00 01 60 6E F7
Roland SoundCanvas Part 16=F0 41 10 42 11 48 1B 30 00 01 60 0C F7

THE EXTRA DATA BYTE ON THE ROLAND CODES IS DUE TO THE NEED FOR A CHECKSUM (YAMAHA XG MODE ALREADY CALCULATES THIS, AND IS THEREFORE NOT NECESSARY)...ARE WE COOL OR WHAT !!

RAP10 MODE

As the Roland Rap-10 is also from the same stable as the sound canvas series, input of RAP10 sysex data should again cause no problems to the DB50.....and low and behold..it doesn't...coool !

RAP 10 EFFECTS SETTINGS :

ROOM 1 : F0 41 10 56 12 00 00 00 00 00 F7
ROOM 2 : F0 41 10 56 12 00 00 00 01 7F F7
ROOM 3 : F0 41 10 56 12 00 00 00 02 7E F7
HALL 1 : F0 41 01 56 12 00 00 00 03 7D F7

ETC...ETC...ETC.

It may be worth getting a copy of this sysex chart from Roland (only if they don't charge money for it !!!)

From the above coupled with the knowledge you have gained from the worked examples in the XG section you should be able to now access *any* one of the TG300 parameters listed in the guide & manual.

TURNING OFF CHANNELS ON THE DB50XG

With the Db50 having 16 parts, and each part having an assignable midi channel individual parts can be switched off. To do this requires the use of a system exclusive message.

THE MESSAGE IS AS FOLLOWS

F0 43 10 4C 08 NN 04 7F F7

Where **nn** is the part number, or midi channel no. (EG 01 - 0F)

This is of particular interest to people who have SoundBlaster Midi interface cards which have no ability to differentiate between the external midi ports and the waveblaster socket.

NRPN'S - WHAT ARE THEY ???

You may have heard about the term NRPN, this stands for NON REGISTERED PARAMETER NUMBER. These can be use for specific things such as filter cutoff or for pitch changes, and are espacially useful for changing drum sounds,for example to create booming kick drums or fizzy hi hats.

NRPN entry requires several data bytes to be fed into you sequencer event list, the controller messages are 99 and 98 in that order, I will now give a worked example for changing the pitch of the kick drum.

CONTROLLER	VALUE	WHAT IT DOES
99	24	<i>TELLS THE DB50 THAT PITCH IS TO BE CHANGED</i>
98	36	<i>TELLS THE DB50 THAT SOUND 36 (KICK) IS THE 1</i>
6	NN	<i>ENTER YOU OWN DAT FOR THE PITCH OF THE KICK</i>

IN TG300 MODE YOU NEED TO TELL THE SYSTEM TO ENABLE NRPN'S ON DRUM SOUNDS. TO DO THIS SEND THE FOLLOWING SYSEX.

F0 41 10 56 12 01 00 01 01 7D F7

FUN FUN FUN !!!!

CHAPTER 5 : SEQUENCER SPECIFICS

USING THE ABOVE IN TWELVE TONE SYSTEMS CAKEWALK

These events should be entered as system exclusive banks in the Cakewalk program. If you select VIEW from the options menu at the top of the screen then option to edit and display sysex. The user then inserts the sysex stream of data and labels it with either a name or a number.

This number is then inserted into the event list, by opening up the event list page and hitting the insert key, and selecting SYSEX as the event type. The value of the number associated with the sysex byte is then inserted.

A similar procedure is used for **POWER TRACKS PRO**

CUBASE allows direct entry of the sysex stream into the event list, in a similar way to cakewalk, but in the case of CUBASE the data is entered not as a single number but as a complete sysex stream.

EG F0 7E 7F 09 01 F7	THIS IS GM ON
F0 41 10 42 12 40 00 7F 00 41 F7	THIS IS GS ON
F0 43 10 4C 00 00 7E 00 F7	THIS IS XG ON

As a rule of thumb it is a very good idea at the beginning of all of your sequencer tracks to have a GM on command first, followed by an XG or GS on command 200 milliseconds later.

The card can be both GM & XG or GM & GS compatible at the same time. It cannot however run in both XG and GS at the same time.

THE USE OF CONTROLLERS

Controller information allows real-time expression to be added to a track, whether it be a filter sweep or resonance, or a modification to attack time.

XG protocol allows much more expressive real-time control than ever before, with multiple simultaneous controller information allowed

A list of controllers that may be applied to any XG compatible device can be found in the DB50 manual

EFFECTS PROCESSING APPLICATIONS

As mentioned before, the Db50 has 3 independent effects processors each of which can have their own send and return levels, along with cross modulation options. By cross modulation I mean that the output from one effect processor can be routed to another, i.e you can send chorus to reverb or variation to reverb to create a different effect on each channel.

Send and return levels can be easily explained by imagining a floor effect pedal such as those used by guitar players. If they wish to use this in conjunction with an amplifier they would normally route this to the effect send on the back of the amp. The amp would then have a rotary pot on the front which defined the send level, or amount of the amplified main guitar sound being sent to the effect processor. With mixing desks you also have the luxury of a return level , so that you can decide how much of the effect is then sent back into the main signal path.

The options are listed below

CHORUS SEND LEVEL
CHORUS TO REVERB SEND
VARIATION SEND LEVEL
VARIATION TO CHORUS SEND LEVEL
VARIATION TO REVERB SEND LEVEL
REVERB SEND LEVEL
CHORUS RETURN LEVEL
VARIATION RETURN LEVEL
REVERB RETURN LEVEL

All of the above can be set independently for each of the midi channels, giving you more than the standard 3 options.

DB50 XG is also the first sound card to respond to **polyphonic after touch**, this facility allows individual expression to be applied to individual keys (i.e. adding filter resonance to the top note in a chord sequence). Most keyboards on the market cannot send out POLY KEY, one notable exception is the Ensoniq range (SQ80, EPS, TS, VFX, AND ASR)

Polyphonic aftertouch allows subtleties to be added to an instrumental solo that was never before possible on a sound card.

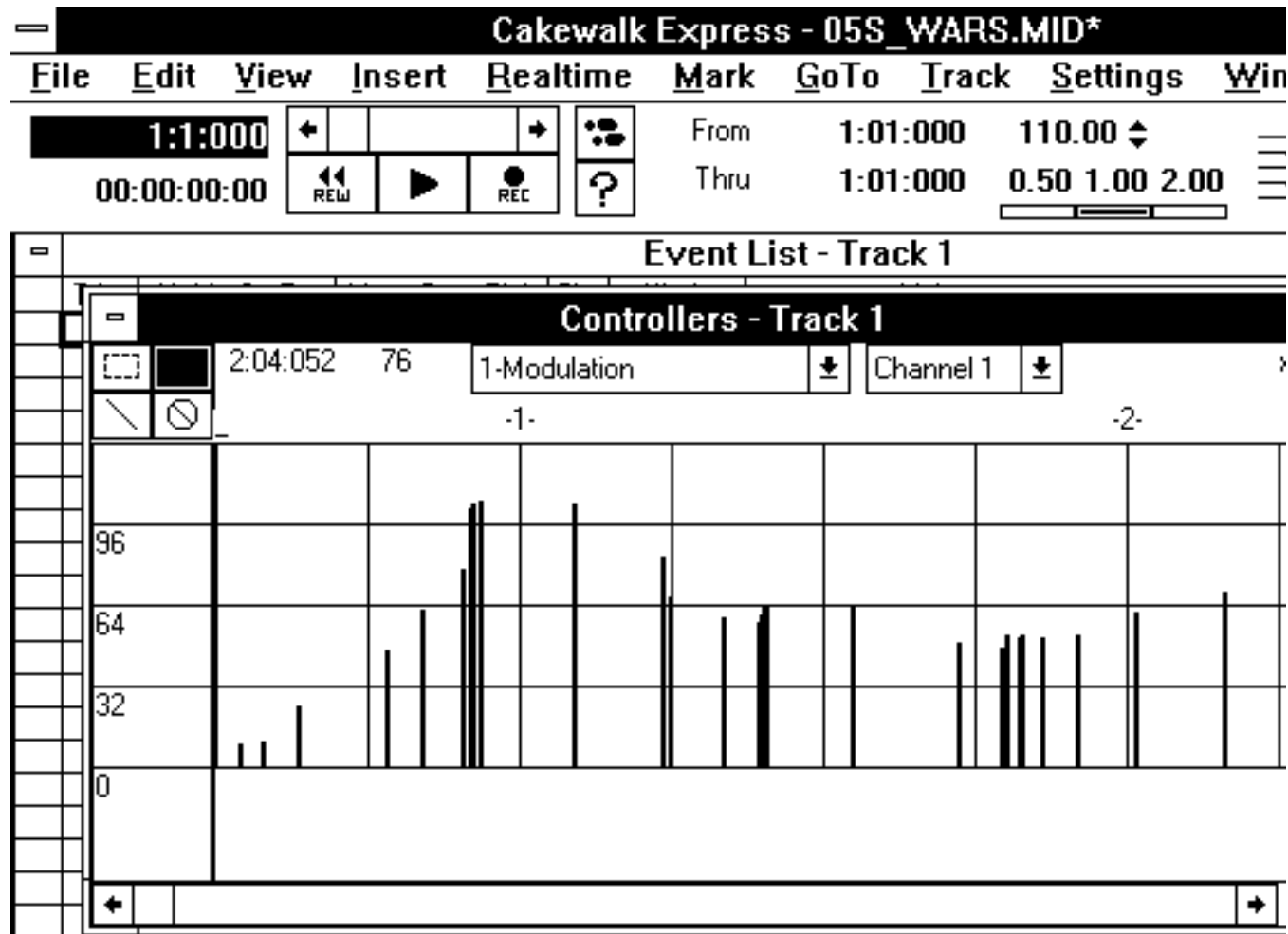
APPLICATION OF CONTROLLER INFORMATION IN REAL-TIME USING TWELVE TONE SYSTEMS CAKEWALK SOFTWARE.

The ability within the Cakewalk environment to add controller information is not unique, but the way in which it can be applied from the cakewalk fader page is very easy.

As mentioned before the DB50 responds to a host of controller messages. Modifications to filters, chorus levels, resonance etc etc can be sent out in real time from even a basic sequencer package with ease.

A controller message is exactly as it sounds, it allows control of a specific parameter. Controllers may either be drawn in using the pencil tool or added in real time using the definable fader page.

On selection of the fader page within Cakewalk Pro , the user can then define either a rotary control pot or a fader page to any controller number, a group function allows multiple controllers to be assigned at any one time and moved simultaneously.



The Controllers view page allows the user to draw in manual corrections to the data that has been fed in via the fader page , or to draw in accurate control applications such as filter cutoff.

Cakewalk Express - 05S_WARS.MID

File Edit View Insert Realtime Mark GoTo Track Settings Win

1:1:000 ◀ ▶ ? From 1:01:00 110.00 ⇅

00:00:00:00 ⏮ ▶ ⏹ Thru 1:01:00 0.50 1.00 2.00

Event List - Track 1						
Trk	Hr:Mn:Sc:Fr	Meas:Beat:Tick	Chn	Kind	Values	
1	00:00:00:16	1:2:000	n/a	Sysx	1	
1	00:00:01:03	1:3:000	n/a	Sysx	2	
1	00:00:01:03	1:3:001	n/a	Sysx	3	
1	00:00:01:03	1:3:002	n/a	Sysx	4	
1	00:00:01:03	1:3:003	n/a	Sysx	5	
1	00:00:01:03	1:3:005	n/a	Sysx	6	
1	00:00:01:04	1:3:006	n/a	Sysx	7	
1	00:00:01:04	1:3:007	n/a	Sysx	8	
1	00:00:01:04	1:3:008	n/a	Sysx	9	
1	00:00:01:04	1:3:010	n/a	Sysx	10	
1	00:00:01:04	1:3:011	n/a	Sysx	11	
1	00:00:01:04	1:3:012	n/a	Sysx	12	
1	00:00:01:05	1:3:013	n/a	Sysx	13	
1	00:00:01:05	1:3:015	n/a	Sysx	14	
1	00:00:02:06	2:1:002	1	Patch	0 Brass Section	
1	00:00:02:06	2:1:003	1	Contrl	7-Volume	124
1	00:00:02:06	2:1:005	1	Contrl	10-Pan	115
1	00:00:02:06	2:1:006	1	Contrl	11-Express	72
1	00:00:02:06	2:1:007	1	Contrl	91-Externa	120

Above you can see a typical track setup within the event list editor on cakewalk

CUBASE

User definable mixer maps allow complex sysex and controller information to be applied within the Cubase environment. A full description on this can be found in the Cubase user manual.

It is by far the most flexible system for controller and sysex information on any sequencer platform, allowing the user to define either a fader, knob, or rotary pot, and then apply any data in effect to this.

Cubasis									
File Edit Parts Functions Options Windows									
List - Remixed, 0001.01.000, 0089.01.000									
Goto All		Function			SNAP 16	0001.01.000		NOPPCT	
====:====:====		Ins. Note			QUANT 16	0001.01.000		PC AT PB	
START-POS	LENGTH	VAL1	VAL2	VAL3	STATUS	CHN	COMMENT		
0002.01.120	=====	0	0	===	BankSelMSB	4			
0002.01.124	=====	32	0	===	BankSelLSB	4			
0002.01.128	=====	49	49	===	ProgChange	4			
0002.01.132	=====	7	115	===	MainVolume	4			
0002.01.136	=====	10	45	===	Pan	4			
0002.01.140	=====	11	90	===	Expression	4			
0002.01.144	=====	91	100	===	ExtEff Dep	4			
0002.01.148	=====	93	0	===	Chorus Dep	4			
0002.01.152	=====	94	0	===	Chorus Dep	4			

This feature is only found in Cubase score, Cubase Audio, but not in Cubase Compact, Lite or Cubasis.

THE BIT YOU'VE ALL BEEN WAITING FOR....PLEASE DONT CONTACT US ON THIS ONE , AS IT IS A BIT SENSITIVE..BUT HERE IS THE DATA TO DO SOME ...HOW CAN WE SAY...QS300 TYPE THINGS WITH YOUR DB50

F0 43 1n 4B 10 00 pp dd...dd F7 ;current normal voice parameter change
 F0 43 1n 4B 2e 00 pp dd...dd F7 ;current normal element parameter change

Now dont forget that the DB50 will only load the first 2 elemenets from the QS300 voices (and some of them can use up to 4 elements)

n;device number,e=element number(0...3),pp=parameter address low,dd;data

Parameter Bass Address

Parameter Change

Address

(H) (M) (L) Description

SYSTEM 00 00 00 All System

NORMALVOICE 10 00 00 Current Normal Voice

11 00 00 User Normal Voice1 with Element(Bulk Dump Only)

: : : :

11 7F 00 User Normal Voice128 with Element(Bulk Dump Only)

NORMAL ELEM 20 00 00 Current Normal Voice Element1(Parameter Change Only

)

: : : :

23 00 00 Current Normal Voice Element4(Parameter Change Only

)

DRUM KEY 30 18 00 Drum Voice Key C0

: : : :

30 54 00 Drum Voice Key C5

DRUM COMMON 40 00 00 Drum Voice Common

MIDI Parameter Change table (NORMAL VOICE COMMON)

Address (H)	Size (H)	Data (H)	Parameter Name	Description
10 00 00	1	20..7E	Voice Name1	32..126(ASCII)
01	1	20..7E	Voice Name2	32..126(ASCII)
02	1	20..7E	Voice Name3	32..126(ASCII)
03	1	20..7E	Voice Name4	32..126(ASCII)
04	1	20..7E	Voice Name5	32..126(ASCII)
05	1	20..7E	Voice Name6	32..126(ASCII)
06	1	20..7E	Voice Name7	32..126(ASCII)
07	1	20..7E	Voice Name8	32..126(ASCII)
08	1	20..7E	Voice Name9	32..126(ASCII)
09	1	20..7E	Voice Name10	32..126(ASCII)
0A	1	00..15	Voice Category	00..21(---Wv)
0B	1	00..0F	Element Switch	Bit0..Bit3;EL1..EL4 0/1;off/on
0C	1	00..7F	Voice Level	0..127
0D	1	00..7F	Velocity Sens Depth	0..127
0E	1	00..7F	Velocity Sens Offset	0..127
0F	1	00..7F	Reverb Send Level	0..127
10	1	00..7F	Chorus Send Level	0..127
11	1	00..7F	Send Chorus To Reverb	-\$B!g(B..0..+6dB(0..96..127))
12	2	00..7F	Variation Type MSB	Ef. Program List
		00..7F	Variation Type LSB	00 : basic type
14	2	00..7F	Variation Param 1 MSB	Ef. Parameter List
		00..7F	Variation Param 1 LSB	\$B!7(B)
16	2	00..7F	Variation Param 2 MSB	Ef. Parameter List
		00..7F	Variation Param 2 LSB	\$B!7(B)
18	2	00..7F	Variation Param 3 MSB	Ef. Parameter List
		00..7F	Variation Param 3 LSB	\$B!7(B)
1A	2	00..7F	Variation Param 4 MSB	Ef. Parameter List
		00..7F	Variation Param 4 LSB	\$B!7(B)
1C	2	00..7F	Variation Param 5 MSB	Ef. Parameter List
		00..7F	Variation Param 5 LSB	\$B!7(B)
1E	1	00..7F	Variation Attenuate Lvl	0..127
1F	1	00..7F	Variation Param 10 LSB	Ef. Parameter List
20	1	00..01	Play Mode	0/1;mono/poly
21	1	00..01	Portament Switch	0/1;off/on
22	1	00..127	Portamento Time	0..127
23	1	28..58	Bend Wheel Pitch Ctrl.	-24..+24(semitones)
24	1	00..7F	Bend Wheel Cutoff Ctrl.	-9600..+9600(cent)
25	1	00..7F	Bend Wheel Amp Ctrl.	-100..+100(%)
26	1	00..7F	Bend Wheel PM Ctrl.	0..127
27	1	00..7F	Bend Wheel FM Ctrl.	0..127
28	1	00..7F	Bend Wheel AM Ctrl.	0..127
29	1	28..58	Mod. Wheel Pitch Ctrl.	-24..+24(semitones)
2A	1	00..7F	Mod. Wheel Cutoff Ctrl.	-9600..+9600(cent)
2B	1	00..7F	Mod. Wheel Amp Ctrl.	-100..+100(%)
2C	1	00..7F	Mod. Wheel PM Ctrl.	0..127
2D	1	00..7F	Mod. Wheel FM Ctrl.	0..127
2E	1	00..7F	Mod. Wheel AM Ctrl.	0..127
2F	1	01..7F	Mod. Wheel VariEf Ctrl	-63..+63
30	1	28..58	After Touch Pitch Ctrl.	-24..+24(semitones)
31	1	00..7F	After Touch Cutoff Ctrl.	-9600..+9600(cent)
32	1	00..7F	After Touch Amp Ctrl.	-100..+100(%)
33	1	00..7F	After Touch PM Ctrl.	0..127
34	1	00..7F	After Touch FM Ctrl.	0..127
35	1	00..7F	After Touch AM Ctrl.	0..127
36	1	28..58	Foot Cont. Pitch Ctrl.	-24..+24(semitones)

37 1 00..7F Foot Cont. Cutoff Ctrl. -9600..+9600(cent)
 38 1 00..7F Foot Cont. Amp Ctrl. -100..+100(%)
 39 1 00..7F Foot Cont. PM Ctrl. 0..127
 3A 1 00..7F Foot Cont. FM Ctrl. 0..127
 3B 1 00..7F Foot Cont. AM Ctrl. 0..127
 3C 1 01..7F Foot Cont. VariEf Ctrl. -63..+63

MIDI Parameter Change table (NORMAL VOICE ELEMENT)

Address (H)	Size (H)	Data (H)	Parameter Name	Description
2e 00 00	2	0000	Wave Num	1st Bit13..7 2nd Bit6..0
		..3FFF		
02	1	00..7F	Note Limit Low	C-2..G8
03	1	00..7F	Note Limit High	C-2..G8
04	1	01..7F	Velocity Limit Low	1..127
05	1	01..7F	Velocity Limit High	1..127
06	1	00..01	Filter Curve	0..1(lin,Exp)
07	1	00..02	LFO Wave	0;saw/1;tri/2;S&H
08	1	00..01	LFO Phase Init	off/on
09	1	00..3F	LFO Speed	0..63
0A	1	00..7F	PLFO Delay	0..127
0B	1	00..7F	PLFO Fade Time	0..127
0C	1	00..3F	LFO PMD	0..63
0D	1	00..0F	LFO FMD	0..15
0E	1	00..1F	LFO AMD	0..31
0F	1	20..60	Note Shift	-32..+32(semitones)
10	1	0E..72	Detune	-50..+50(cent)
11	1	00..05	Pitch Scaling Rate	100,50,20,10,5,0(%)
12	1	00..7F	Pitch Scaling Center	C-2..G8
13	1	00..03	Pitch EG Depth	1/2,1,2,4(oct)
14	1	39..47	PEG Depth VelLevelSens.	-7..+7
15	1	39..47	PEG Depth VelRateSens.	-7..+7
16	1	39..47	PEG Depth Rate Scaling	-7..+7
17	1	00..7F	PEGDpth RateScalCenter	C-2..G8
18	1	00..3F	PEG Rate1(Attack)	0..63
19	1	00..3F	PEG Rate2	0..63
1A	1	00..3F	PEG Rate3	0..63
1B	1	00..3F	PEG Rate4(Release)	0..63
1C	1	00..7F	PEG Level0	0..127
1D	1	00..7F	PEG Level1	0..127
1E	1	00..7F	PEG Level2	0..127
1F	1	00..7F	PEG Level3	0..127
20	1	00..7F	PEG Release Level	0..127
21	1	00..3F	Filter Resonance	0..63
22	1	00..07	Velocity Sens.	0..7
23	1	00..7F	Filter Cutoff Freq.	0..127
24	1	00..7C	Filter Scaling BP1	C-2..E8
25	1	01..7D	Filter Scaling BP2	C#-2..F8
26	1	02..7E	Filter Scaling BP3	D-2..F#8
27	1	03..7F	Filter Scaling BP4	D#-2..G8
28	1	00..7F	Filter Scaling Offset1	-63..+64
29	1	00..7F	Filter Scaling Offset2	-63..+64
2A	1	00..7F	Filter Scaling Offset3	-63..+64
2B	1	00..7F	Filter Scaling Offset4	-63..+64
2C	1	39..47	FEG VelocityLevelSens.	-7..+7
2D	1	39..47	FEG VelocityRateSens.	-7..+7
2E	1	39..47	FEG Rate Scaling	-7..+7
2F	1	00..7F	FEG RateScalingCenter	C-2..G8
30	1	00..3F	FEG Rate1	0..63
31	1	00..3F	FEG Rate2	0..63
32	1	00..3F	FEG Rate3	0..63
33	1	00..3F	FEG Rate4	0..63
34	1	00..7F	FEG Level0	0..127
35	1	00..7F	FEG Level1	0..127

```

36 1 00..7F FEG Level2      0..127
37 1 00..7F FEG Level3      0..127
38 1 00..7F FEG Level4      0..127
39 1 00..7F Element Level    0..127
3A 1 00..7C Level Scaling BP1 C-2..E8
3B 1 01..7D Level Scaling BP2 C#-2..F8
3C 1 02..7E Level Scaling BP3 D-2..F#8
3D 1 03..7F Level Scaling BP4 D#-2..G8
3E 1 00..7F Level Scaling Offset1 -63..+64
3F 1 00..7F Level Scaling Offset2 -63..+64
40 1 00..7F Level Scaling Offset3 -63..+64
41 1 00..7F Level Scaling Offset4 -63..+64
42 1 00..06 Velocity Curve    0..6
43 1 00..0F Pan                (left..right),(scaling)
44 1 39..47 AEG Rate Scaling    -7..+7
45 1 00..7F AEG RateScalingCenter C-2..G8
46 1 00..0F AEG Key On Delay    0..15
47 1 00..3F AEG Attack Rate     0..63
48 1 00..3F AEG Decay1 Rate     0..63
49 1 00..3F AEG Decay2 Rate     0..63
4A 1 00..3F AEG Release Rate     0..63
4B 1 00..7F AEG Decay1 Level     0..127
4C 1 00..7F AEG Decay2 Level     0..127
4D 2 0000 Address Offset        1st Bit13..7
    ..3FFF                      2nd Bit6..0
4F 1 39..47 Resonance Sensitivity -7..+7
TOTAL SIZE 17D

```

```

e = 0 ;Current Normal Voice Element1      Address High Byte = 001000e
e
  1 ;Current Normal Voice Element2      e;Element Number

```

SETTING UP YOUR MAGNUM OPUS SEQUENCER TRACK

So, you now have all of the tools to do the job, how should you go about constructing it all. Well propably the best way is to follow this simple set of rules for your setup track.

- 1: Insert SMF meta events such as the name of the track, tempo, time signature etc (see your sequencer manual for how to do this)
- 2: Insert the GM system on message (sysex)
- 3: leave at least a 200milliseconf gap
- 4: Now insert an XG on system message.
- 5: Leave at least 50 milliseconds gap
- 6: now send all the system exclusive messages for the effects (variation connection type, variation type, and the effects parameters...in that order)
- 7: All of the bank select messages for each midi channel, followed by all of the program change messages.
- 8: All of the required controller messages
- 9 : All of the RPN and NRPN messages for your song (drums, filters etc)
- 10 : repeat the steps 7-11 for all 16 midi channels

For a reference please examine the CD demos that come with your DB50 for a rough guide (thunderbirds is a good example !)

CHAPTER 6 : USING THE DB50 WITH SPECIFIC SOUND CARDS.

Installation of a DB50 onto the most popular sound cards.

1 : The Creative Labs SB16 pro edition/ MULITCD/ ASP/SCSI2

One of the most popular cards in the world at the moment, it features a 26pin Waveblaster adapter , unlike it's value edition junior brother. With this card it is just a matter of placing the DB50 onto the connector pin set and selecting SB16 Midi&Wave as the device driver within windows. For DOS games , just select GM mode and base address 330H, IRQ 9, and the Waveblaster port will be initialised.

Check your SB16 manual to clarify that the SB16 is transmitting on 330H, and if it requires the MAP: G or MAP : E settings, that they are set-up.

The DB50 will not fit onto the SB16 value pack !!!

2: The Creative Labs AWE32 Pro Edition

Almost the same , but there is a jumper (on some of them anyway..they change the specs so often) on the bottom of the card which enables or disables the Waveblaster connector, when this is removed then the DB50 becomes active.

The user can still use the full FM sound set, along with the EMU800 sounds (why would he ????)

3: The Turtle Beach Tahiti (the one we all use here at Yamaha)

The most popular card for professional audio use, as it features high quality AD/DA converters and will handle simultaneous record and playback. Again just a matter of clipping on the DB50, removing the only jumper on the card, located near the midi interface port, and selecting TAHITI HEADER OUT, as the midi driver in windows. The card is not however games compatible

AVAILABLE FROM ETC 01706 228039

4: The MPC 401 MK2

Very low cost solution, basically just an MPU401 interface with a DB adapter, just clip on the board and select MPU401 from the device driver list in windows. Nothing easier

ETC 01706 228039

5: THE MIDI EDGE FROM ETC

2 Excellent cards, one with 1 in and 1 out and the other with 64 midi channel support. 4 Midi outs and 2 midi ins giving unparalleled scope for control, and very easy to setup

The above outlined procedures should work for most cards on the market that have a DB adapter.

The Turtle Beach Monte Carlo

This card has a slight anomaly in that the audio in connector in the db adapter cannot cope with high output levels. This can sometimes result in slight distortion from the audio

THE YAMAHA SW60 ,ISA XG CARD

This is the newest addition to the XG range, and is basically a DB50 on an ISA card, but with the added advantage of having analogue effects inputs as well.

SECTION APPENDIX FOR USERS OF THE SW60 AND OR MU10 TONE GENERATION UNITS

The SW60 was introduced by Yamaha in May 1996, and was designed for people who did not have either a card or had a card without a waveblaster type connector.

These require the driver disks that are supplied with the packaging , and instructions for installation should be taken from the respective manuals. Other than that , the instruction code set is identical.

SOFTWARE

Yamaha Kemble recently commissioned an editor for the DB50. This program known as XGEDIT allows full access to the card, and in the registered version allows full saving of all sysex parameters in either midi file format or Cakewalk .syx format.



This program is available free of charge from Yamaha, with the registered version being available from the programmer, Gary Gregson at a cost of £25. His details are to be found within the program itself

The editor allows the user who has no prior knowledge of sysex or controllers to see in a form which he may be more familiar with, all of the functions of the DB50XG. Which is without doubt the worlds most powerful sound card.

XGEDIT technical support questions should be referred to Gary Gregson, and not to Yamaha.

SOME COOL NET SITES :

[HTTP:``WWW.YAMAHA.COM](http://WWW.YAMAHA.COM)
 GO MIDIAVEN (COMPUSERV=
WWW.ETECTERA.CO.UK
WWW.DEMON.CO.UK/TURNKEY
WWW.YAMAHA.CO.UK
WWW.WEBCOM/KIDSTERS/BBS/XGBBS.HTML

OR JUST SIMPLY NET SEARCH ON "XG" OR "YAMAHA DB50XG"

THE SW60 SECTION

Yamaha have recently introduced onto the market the SW60. This is basically a DB50 for people who do not have any waveblaster connection ports. It is a stand alone ISA based card which uses no IRQ, no DMA and only a single port address. The card has 2 analogue inputs designed to be used as effects processor inputs only. They cannot be used as hard disk recording inputs, as the SW60 has no AD CODEC system. Apart from that the card is the same as the DB50, and all system exclusive data should be treated as with.

SO IN SUMMARY

- 1: THE DB50 IS THE MOST POWERFUL SOUND CARD IN THE WORLD
- 2: DONT TRY PLUGGING A JOYSTICK IN TO A CREATIVE (OR SIMILAR CARD) AS THIS DISABLES THE WAVEBLASTER SOCKET ON IT
- 3: XG EDIT IS AVAILABLE FROM GARY GREGSON (42 BIRDHALL RD, CHEADLE HULME, CHEADLE, CHESHIRE)

4: DRIVERS...WHO NEEDS THEM .. WE DONT... THE DB50 USES NO DRIVERS OF IT'S OWN, IF YOU ARENT HEARING ANYTHING THEN YOU EITHER HAVENT READ THIS CORRECTLY, OR YOU HAVENT GOT THE DRIVERS TO SUPPORT THE DAUGHTERBOARD SOCKET FOR YOUR SOUND CARD.

5: COMPUTERS ARE SAFE

6: THE DB50 IS APPROXIMATELY £1000 CHEAPER THAN ANY OF IT'S COMPETITORS (HA...HA !...WHAT COMPETITORS ??)

7: HAVE FUN ... AND MAKE SOME GOOD MUSIC

YAMAHA DB50XG

REVIEWS ROUNDUP

PC FORMAT - FEB 1996 - BEST NEW HARDWARE AWARD - DB50XG

"THE SOUND IS SUCH GOOD QUALITY THAT WE COULDN'T HELP BUT HEAP AWARDS ON IT"

COMPUTER ARTS MAGAZINE - DEC 95 - 5 STAR AWARD

" THE AWESOME POWER AND FLEXIBILITY OF THIS CARD MAKES IT THE CONNOISERS CHOICE "

"STREETS AHEAD OF THE AWE32"

"COMPLETELY GOBSMACKED BY THE SOUND "

COMPUTER LIFE MAGAZINE - FEB 1996 - 5 STAR AWARD

"IF YOU NEED HIGH QUALITY SOUND ON YOUR PC , YOUR SEARCH IS OVER"

"TRANSFORMS GAMES MUSIC INTO CINEMATIC EPICS"

"MUSICIANS WILL JUST DROOL OVER IT'S CAPABILITIES"

PC FORMAT - DEC 95 - GOLD AWARD

"THIS IS A MUSICIANS WET DREAM"

"DEVESTATES THE AWE32 AND ALL OTHER CARDS IN THIS TEST"

"THIS IS THE BUSINESS"

"AWESOME POWER"

THE MIX MAGAZINE - 96% - HIGHEST SCORE EVER FOR A SOUND CARD

"THE SOUNDS ARE SUPERB"

"I'M RUNNING OUT OF SUPERLATIVES TO DESCRIBE THIS CARD"

"GO OUT AND BUY ONE"

PERSONAL COMPUTER WORLD - DEC95 - 5 STAR AWARD

"COMPLETELY DESTROYS THE COMPETITION"

"SELL YOUR GRANDMOTHER OR ROB A BANK- JUST DO WHAT IS NECESSARY TO GET THIS CARD"

"THE BEST SOUNDING PC CARD KNOWN TO MAN"

MULTIMEDIA WORLD - NOV95 - 5 STAR AWARD

"THE DB50 IS THE MOST IMPRESSIVE ADD ON WE HAVE EVER HEARD"

"THE SOUND IS SO REALISTIC YOU THINK YOU ARE LISTENING TO AN AUDIO CD"

EQ MAGAZINE

" I DID SOME COMPARISONS BETWEEN THE DB50 AND THE ROLAND SCD15/SCD10 AND VARIOUS OTHER CARDS... THE DB50 LEFT THEM FOR DUST"

PC FORMAT - FEB 1996- PLATINUM AWARD WINNER - DB50

"WHAT A CARD"

"TOP FLIGHT SYNTH PERFORMANCE"

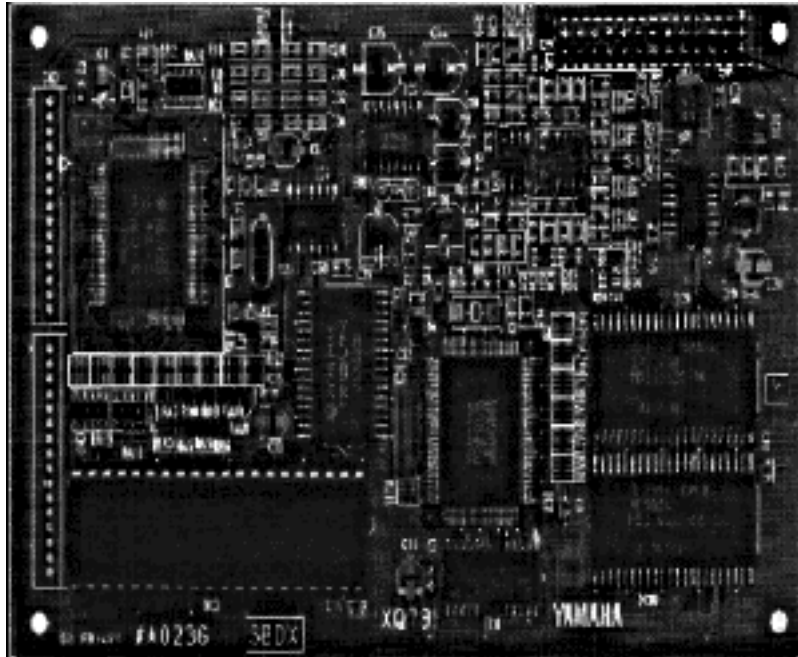
"IT IS SIMPLY SUPERB"

"UNBELIEVABLE PRICE"

"THE CATCH IS .. THERE IS NO CATCH"

WINDOWS PLUS MARCH 1996

"LIKE STRAPPING A ROCKET BOOSTER TO YOUR CAR, IT HAS THE SAME KIND OF EFFECT WITH YOUR EXISTING SOUND CARD"



MANY THANKS FOR YOUR SUPPORT AND PURCHASE OF THE DB50

ALL COMPANY TRADE NAMES AND TRADE MARKS CONTAINED WITHIN THIS DOCUMENT ARE NOTED

Sections of this document were taken from threads on Compuserve, and we acknowledge the contribution of the authors.

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