ALESIS
Data Disk

Reference Manual

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Alesis *DATADISK*

Direct MIDI to Disk/Universal Data Storage

USERS MANUAL

Alesis *DATADISK*

Direct MIDI to Disk /Universal Data Storage

INTRODUCTION

The *DATADISK* is a real-time MIDI data storage and retrieval unit capable of storing 800K bytes of data onto a 3 1/2" floppy diskette. Unlike similar units which store data to a large RAM (Random Access Memory) buffer before processing, data in *DATADISK* is stored and retrieved directly from disk so there is no waiting for large RAM buffers to fill.

The disk functions are used to transfer data between the disk drive and MIDI. Because the disk size is fixed, data can not exceed 800K bytes. Each disk can hold 53 MIDI data files, but the total size of the data cannot exceed the maximum disk size, or 800K.

As an additional benefit, *DATADISK* is universal in that it will read virtually all manufacturers system exclusive data without updating software.

A large 16 character by 2 line LCD display is fitted to make the functions and operations faster, easier, and less cryptic.

FEATURES

— Instantly expands memory of any synthesizer or sequencer, drum machine, or effects processor

— Easier, safer, and faster than tape backup

— Will store MIDI System Exclusive data from virtually any manufacturer

— Uses standard 3 1/2" floppy diskettes

— Stores up to 800K of data per disk

— SEND ALL command allows sending stored data to all MIDI devices in your systems at once

HOW TO USE THIS MANUAL

Since a musician's time is better spent making music than reading manuals, we've tried to make this manual not only easy to use, but also fast and easy to find things when you need to. Therefore, the manual is broken down to 6 major sections, of which Section 5 will be probably be referred to the most. They are:

SECTION 1 - QUICKSTART

This section tells you how to use the most frequently needed operations. If you have to use your *DATADISK* now but don't have the time to read the entire manual, Section 1 will quickly guide you through.

SECTION 2 - DESCRIPTION OF CONTROLS

This section gives a brief explanation of all front panel and rear panel controls and indicators.

SECTION 3 - INTERFACING *DATADISK*

Section 3 deals with the interfacing of *DATADISK* to another MIDI device or into a MIDI system.

SECTION 4 - *DATADISK* FUNCTIONS

Section 4 gives an overview of the software functions and pages of *DATADISK* .

SECTION 5 - OPERATION

This section will probably be the most used part of the manual as it describes how to execute every function in a step by step manner. Actual display readouts of *DATADISK* are also included.

SECTION 6 - REAL-TIME MIDI SEQUENCE PLAYBACK

This section decribes the DataDisk's Real-Time MIDI sequence recording and playback functions.

SECTION 7 - APPENDIX

Section 6 provides a simple troubleshooting guide and operational specifications for *DATADISK*.

SECTION 1

DATADISK QUICK START

TO FORMAT A DISK

DATADISK will use any standard 3 1/2" double sided, double density floppy diskette, but first the disk must be customized for use in *DATADISK* . This is called "Formatting".

1)   Insert Disk

2)   Press the **FORMAT** button.   The display will read: "FORMAT DISK?".

3)   Press the **DO/YES** button. The display will read: "ARE YOU SURE?"

4)   Press the **DO/YES** button again to initiate formatting. *DATADISK* will proceed to format the disk and will tell you what its doing.

5)   When formatting is complete, the display will return to "FORMAT DISK?" once again. You can now begin a Receive operation by pressing the **RECEIVE** button.

RECEIVING ONE MIDI DATA FILE FOR STORAGE

1) Press the **RECEIVE** button. The display will read "RECV ONE SYSEX: WAITING FOR DATA".

2) Send the MIDI exclusive file from the sequencer, synthesizer, or sampler. The display will tell you that it's receiving the data.

3) When the transmission is complete, the *DATADISK* will display that the file has been stored and assign a file number.

RECEIVING MULTIPLE MIDI DATA FILES FOR STORAGE

1) Press the **RECEIVE** button *twice*. The display will read "RECV MULT SYSEX: WAITING FOR DATA".

2) Send the MIDI exclusive files from the sequencer, synthesizer, or sampler. The display will tell you that it's receiving the data.

3) At the end of the data transmission, the *DATADISK* will ask if the file is complete. Send more data or press the **YES** button to store all of the data received into one file.

SENDING A SINGLE STORED FILE

1) Press the **SEND** button. The display will show a file.

2) Press **SCROLL UP** or **SCROLL DOWN** button until the desired program is displayed.

3) Press the **DO/YES** button to send the program.

> **PLEASE NOTE**: *Files are displayed alphabetically by manufacturer, product, and user name.*

SENDING MULTIPLE STORED FILES

1) Press the **SEND** button *twice*. The display will ask "SEND ALL FILES?".

2) Press the **DO/YES** button to begin transmission of the files. *The display will show each file as it is sent.*

SECTION 2

DESCRIPTION OF CONTROLS

FRONT PANEL

3 1/2" DISK DRIVE

The disk drive accepts standard double sided, double density (DD) 3 1/2" floppy diskettes, the same as those used in many synthesizers, samplers, and computers. Each disk will store up to 53 MIDI data files as long as the total size of file data does not exceed a maximum of 800K.

LCD DISPLAY

The LCD Display shows the current *DATADISK* operating status and allows you to view files stored on the diskette.   The display features 2 lines of up to 16 characters each.

SCROLL

The **SCROLL** buttons are used to view either the files of a diskette, select a file, digit, or character, or abort an operation.

NAME

The **NAME** button is used to enter the character editing mode and allows you to name or rename a file.

RECEIVE

The **RECEIVE** button is used to enter the Receive MIDI Data mode. In this mode, the *DATADISK* is able to receive either a single MIDI system exclusive file, multiple system exclusive files (up to the limit of available diskette space), or a MIDI Sample Dump.

SEND

The **SEND** button is used to send data stored on a diskette to either a sequencer, synthesizer, or sampler, through MIDI.   Either a single or multiple files can be sent.

DELETE

The **DELETE** button is used to erase an unwanted file or files from a diskette.

CAUTION: *Once a file is deleted, it is lost forever!*

BACKUP

The **BACKUP** button is used to copy either a single file or multiple files of a diskette onto another for safety purposes. This is known as "Backing Up" the diskette.

DO/YES

The **DO/YES** button is used to initiate all operations of the *DATADISK*, and to select any choices which might appear in the display. The **DO/YES** button is actually a fail safe, giving the user a final choice to either initiate or abort any previously selected operation.

REQUEST

The **REQUEST** button allows the user to request sample or program bulk dumps from a MIDI device that requires a request before it can send MIDI data. When the **DO/YES** button is pressed, the transfer is handled as in the Receive MIDI data function.

INFO

This button is used to display information about the diskette currently inserted in the disk drive. The information displayed in the first page will be the number of files stored on the diskette, the percentage of memory used, and the amount of free space available on the diskette.
The second page will show each individual file name and the number of bytes in each file (see Section 4).
A third page will show the *DATADISK* software version.

MIDI

The **MIDI** button is used to set the MIDI output of the *DATADISK* to echo the data received at the MIDI input. MIDI ECHO ON sets the MIDI output to operate as a MIDI THRU port. MIDI ECHO OFF sets the MIDI output to send only MIDI file data initiated from the front panel of the *DATADISK* .
A second page selects if the *DATADISK* is to receive program change information (for initiating sending files from the *DATADISK*) and on which MIDI channel.

FORMAT

The **FORMAT** button is used to prepare an unformatted diskette (a diskette that hasn't been especially adapted for *DATADISK*) for use by the *DATADISK*.

POWER

The **POWER** button turns the *DATADISK* on or off.

BACKPANEL

MIDI IN

The **MIDI IN** jack is used to receive MIDI data from a sequencer, sampler, synthesizer, or effects processor for storage on diskette.

MIDI OUT

The **MIDI OUT** jack is used to send MIDI file data to a sequencer, synthesizer, or sampler. This jack can also be selected to function as a **MIDI THRU** jack so that it echo's an exact copy of what is being received by the **MIDI IN** jack.

POWER

The **POWER** jack is a 4 pin DIN jack which connects to the outboard 9 VAC power transformer.

FIGURE 1

DATADISK FRONT AND BACK PANEL
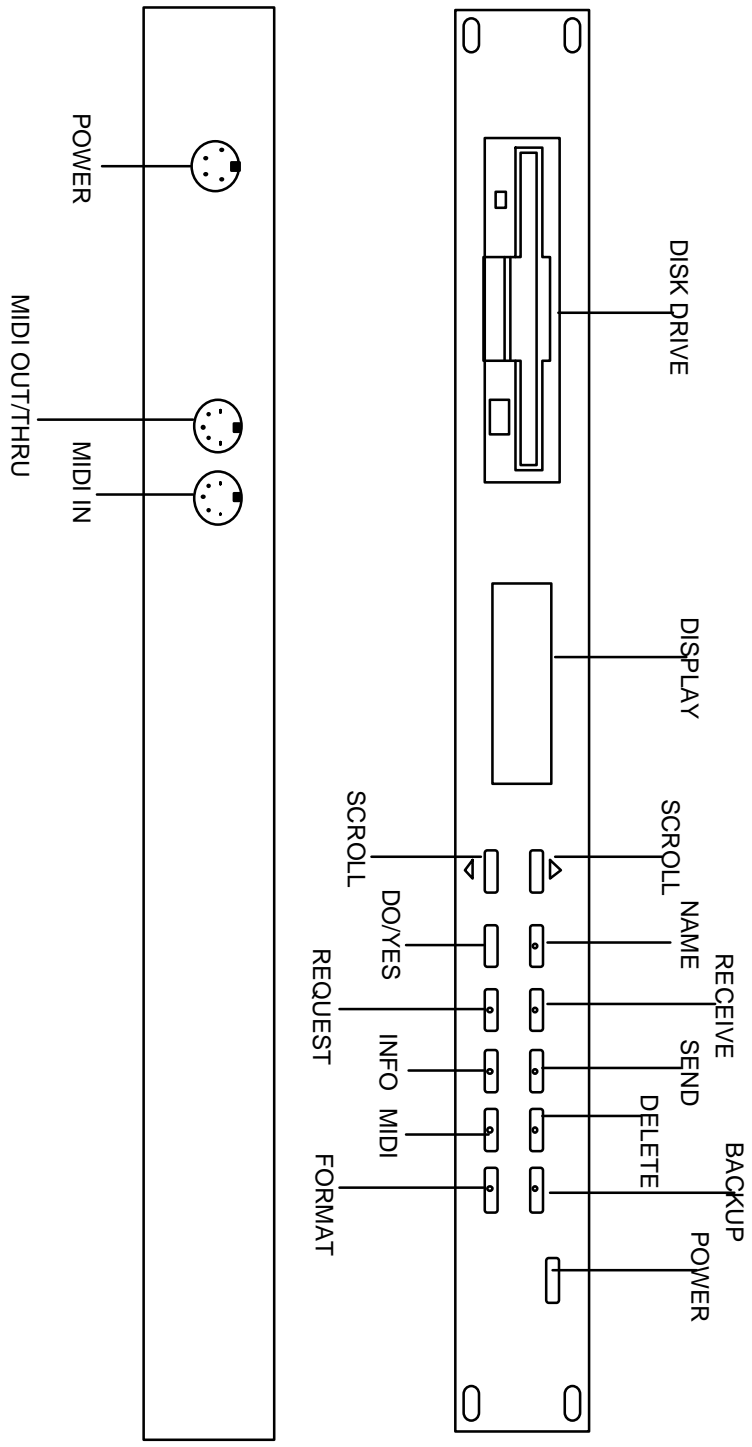
SECTION 3

INTERFACING *DATADISK*
DATADISK CONNECTED TO A SINGLE MIDI DEVICE

Set-up of the *DATADISK* is simplicity itself. Simply connect the MIDI Out of the synthesizer, sequencer, effects processor, or other MIDI device that is to send system exclusive data, to the MIDI In of *DATADISK*. To off-load data, connect the MIDI Out of *DATADISK* to the MIDI Input of the MIDI device that will be receiving the data.

HAND-SHAKING

Although most MIDI devices that are capable of dumping data to *DATADISK* will only need one MIDI cable at a time when using *DATADISK* (MIDI device Out to *DATADISK* In for a dump; *DATADISK* Out to MIDI device In for an up-load), there is some earlier MIDI equipment that requires both cables to be connected for operation. This is because the MIDI device must *Handshake* with *DATADISK*.

When such a MIDI device is in the receive or up-load mode, *DATADISK* may be able to send data faster than the MIDI device is able to process it. In order to give itself a chance to catch up with the transmission, the MIDI device sends out a command to stop the transmission (the "Handshake"), then after it has caught up, it sends out another command to begin transmission again.

FIGURE 2 A/B
DATADISK **WITH A SINGLE MIDI DEVICE**
A. WITH HANDSHAKING   B. WITHOUT HANDSHAKING

FIGURE A. WITH HANDSHAKING

Alesis MMT-8 sequencer, synthesizer, sampler, or other MIDI device

MIDI IN   **MIDI OUT**

MIDI OUT   **MIDI IN**
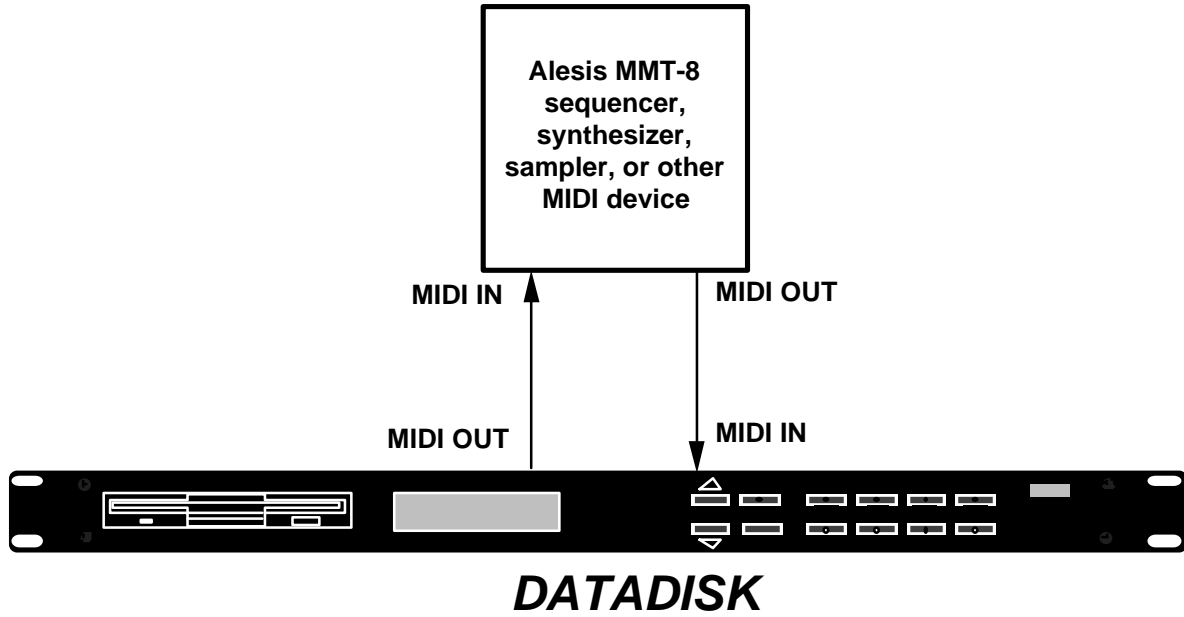
DATADISK

FIGURE B. WITHOUT HANDSHAKING

Alesis MMT-8 sequencer, synthesizer, sampler, or other MIDI device

MIDI IN
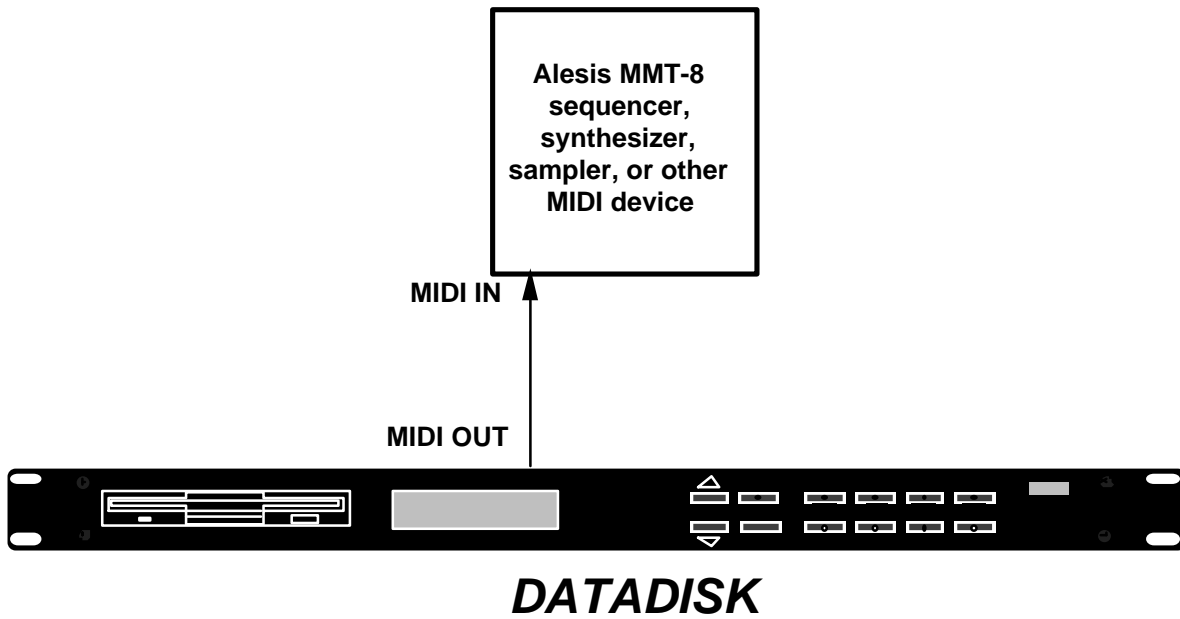
MIDI OUT

DATADISK

DATADISK USED TO STORE HR-16/HR-16:B, MMT-8 SEQUENCES

In the setup shown below, *DATADISK* sends System Exclusive data
to the HR-16, which has been set to echo System Exclusive
information received at its MIDI Input and send it back out of its
MIDI Output (see HR-16 manual for specific instructions). The
data is then sent to the MMT-8's MIDI Input.

FIGURE 3
DATADISK **USED TO STORE HR-16/MMT-8 SEQUENCES**

MIDI THRU

MIDI IN

Tone Module

HR-16/HR-16:B Drum Machine

MIDI OUT

MMT-8 MIDI Sequencer

MIDI OUT

MIDI OUT
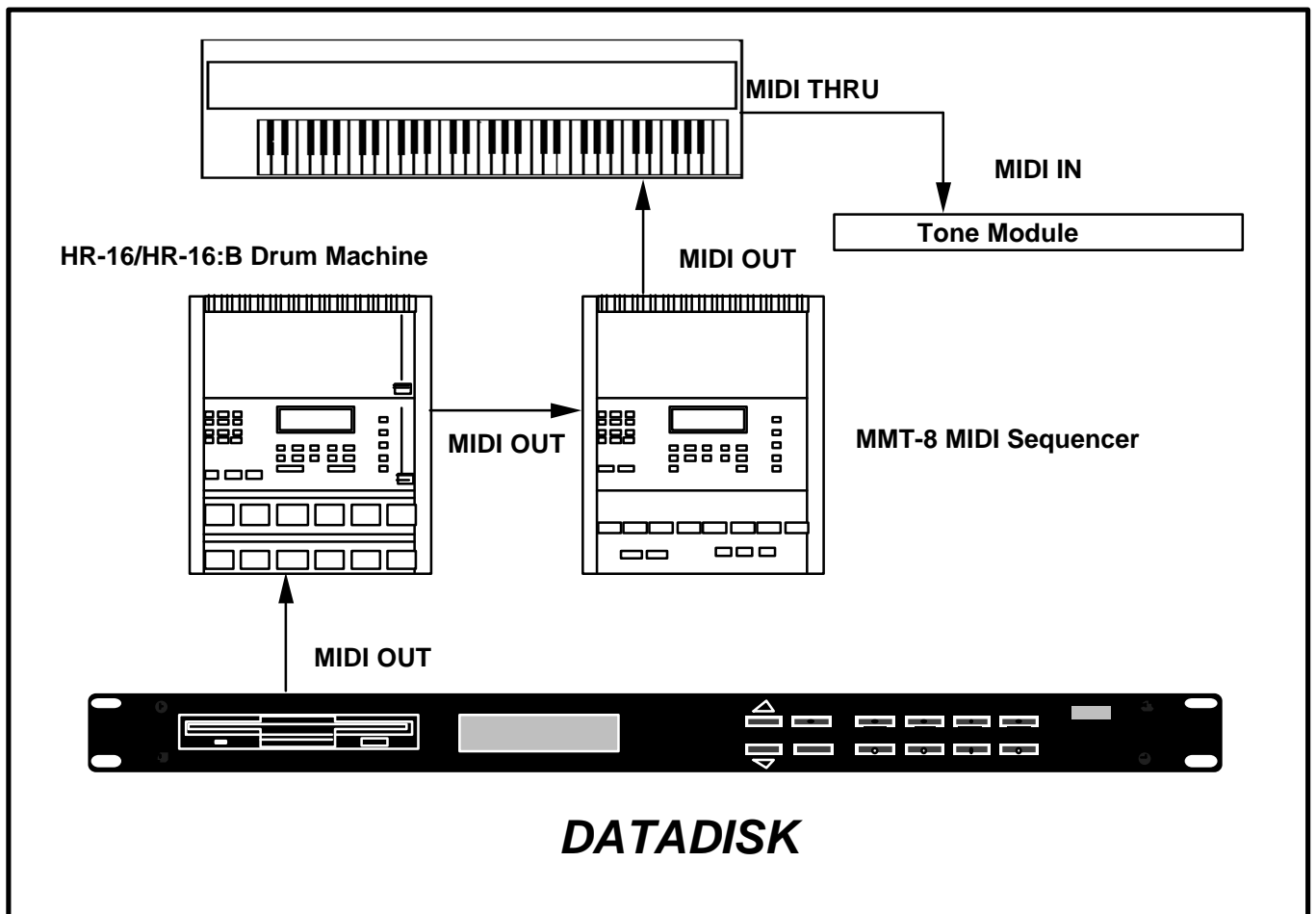
DATADISK

DATADISK IN A MORE COMPLEX MIDI SETUP

If you are using *DATADISK* with a number of other MIDI devices, you may wish to use a programmable MIDI patcher to route their MIDI inputs and outputs to *DATADISK's* MIDI input and output. This will enable you to perform loads and dumps to and from any or all of your MIDI devices without having to manually change any of your connections.

FIGURE 4
***DATADISK* IN A MORE COMPLEX MIDI SETUP**
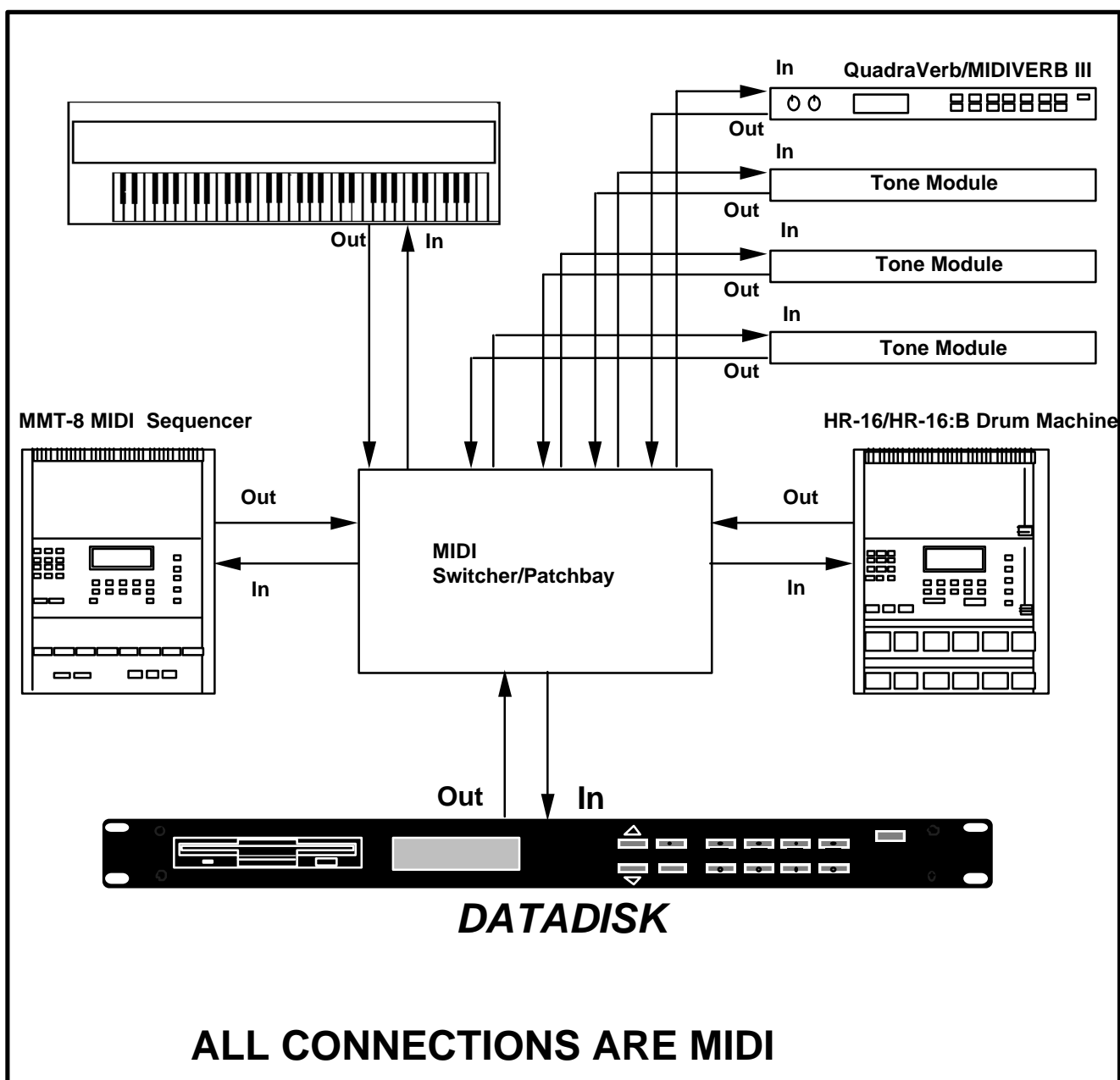
SECTION 4

DATADISK FUNCTIONS

THEORY OF OPERATION

SYSTEM EXCLUSIVE

DATADISK is able to work because the data is stored in the form of *System Exclusive (or sysex)* files. System Exclusive is the unique way that each manufacturer identifies its own particular data. This allows data from one manufacturers equipment not to be mistaken for another manufacturers when it is sent and stored.

When *DATADISK* is in the Receive mode, either the first byte, or the first three bytes, of information received is the manufacturer ID. In most cases, *DATADISK* will identify both the brand and model of the equipment that it receives the system exclusive data from. If the data is from an unknown manufacturer, *DATADISK* will display "ID xxH" for 1 byte IDs or "xxxxxx" for 3-byte ids (where xx or xxxxxx is the manufacturer ID number in hexidecimal) instead of the manufacturer's name. This will not confuse how the data is stored by *DATADISK,* or loaded by the unknown piece of equipment, however.

RECEIVE MODES

DATADISK normally receives data in the Receive One Sysex mode. After the manufacturer ID bytes identify the unit, *DATADISK* begins storing data to disk and continues until it receives an End System Exclusive command. Some synthesizers or MIDI devices will send multiple messages, one after the other, which *DATADISK* will recognize and still save under the same file as long as there is no more than 1/2 second delay between the end of one message and the beginning of the next.

If there is more than 1/2 second but less than 1 second, then *DATADISK* will have stored the first file but will not have had enough time to store the directory of that file before the next set of MIDI messages arrive. When this occurs, *DATADISK* will display "MIDI OVERFLOW" and suggest that you use Receive Mult mode.

If the delay between messages is more than 1 second, *DATADISK* will store the next set of sysex messages in a new file. This is particularly advantageous if you are saving an entire MIDI equipment system, where you would first send out your *MMT-8* data, then your *HR-16* data, then *QuadraVerb* data, etc.. In this case you would want each piece of gear to have its own file and that just the way that *DATADISK* stores it.

If you have a synthesizer that requires that different sections of the same file be sent separately (as in the case of the Yamaha TX802 which sends voice data and function data separately), then you would probably want to use the Receive Mult mode since you would want these different sections of data to be in a single file. In this case, DD doesn't care how long it has to wait between messages. It will continue to put everything into one file until you tell it to stop receiving.

SOFTWARE FUNCTIONS

There are nine functions in the *DATADISK* which allow the user to send and receive MIDI data, prepare a disk for send/receive operations, and view files stored on the disk. Each function has several choices, called *pages*, which further allows the user to tailor the function to his specific needs.

These functions are selected by pushing the appropriate function button, and the pages are chosen by then pressing the same function button repeatedly until the desired page is displayed. All operations are then initiated by pressing the **DO/YES** button.

The current digit value of a parameter is displayed on the LCD within the relevant page. An underline under the left most digit of a value indicates that this value can be edited. Values are edited by pressing the **SCROLL** buttons.

Files are viewed in alphabetical order by manufacturer, with numbers coming before letters. Exceptions to the rule are the following:

> Unknown manufacturer names (either displayed as "Id xxH" or "xxxxxx") are displayed after known manufacturer names.

> Unknown product names are left blank and are displayed after known product names within each manufacturer.

> Sample dump files are displayed after all manufacturer specific files.

RECEIVE MIDI DATA FUNCTION

The RECEIVE MIDI Data Function is used to store MIDI system exclusive data received from a synthesizer, sequencer, or effects processor to a floppy disk inside the *DATADISK*. There are two pages to this function which are:

RECV ONE SYSEX

Receive One Sysex (the display will read "RECV ONE SYSEX:") is used to receive a single system exclusive file over MIDI. One sysex (system exclusive) file may be a single program or a complete dump from a synthesizer, sampler, or sequencer.

RECV MULT SYSEX

In this mode, system exclusive data from multiple products is received by *DATADISK* and stored as a single file. This makes it fast and easy to locate the file and load the data back into the multiple synthesizers or devices at a later time. The display will read "RECV MULT SYSEX".

SEND MIDI DATA FUNCTIONS

The SEND MIDI Data Function is used to send MIDI system exclusive files to a synthesizer, sequencer, or effects processor. There are two pages to this function which are:

SEND FILE XXXXXX YYYYYY ZZZZZZZZ

This page is used to send a single system exclusive file over MIDI, where XXXXXX is the manufacturers name of the file stored on disk, YYYYYY is the product model name, and ZZZZZZZZ is the name of the file to send. Files are selected by pressing the **SCROLL UP** or **SCROLL DOWN** buttons until the desired file is displayed. The files are viewed alphabetically.

SEND ALL FILES

In this page, all files stored on the disk will be sent over MIDI to their respective instruments. This way, an entire setup of a number of instruments, sequencers, samplers, and processors can quickly be sent from just this one page.

DELETE FILE FROM DISK FUNCTION

This function is used to erase unwanted files from a disk. There are two pages, which are:

DEL NNNK: XXXXXX
YYYYYY ZZZZZZZZ

This page is used to delete (erase) a single file from the disk, where NNN is the size of the selected file in kilobytes (1024 bytes = 1K), XXXXXX is the manufacturers name of the file, YYYYYY is the product name of the file, and ZZZZZZZZ is the name of the file to delete. Files are selected by pressing the **SCROLL UP** or **SCROLL DOWN** buttons until the desired file is displayed. The files are viewed alphabetically.

DELETE ALL FILES

This page is used to erase all of the files from the disk.

PLEASE NOTE:

— *As an added safety feature, DATADISK will ask "ARE YOU SURE?" before erasing any file from the disk, allowing you to change your mind if necessary by pressing any other function button.*

CAUTION!!! Once you delete a file it is lost forever!

DISK BACKUP FUNCTIONS

Once *DATADISK* has stored your files to disk, it's always a wise idea to make a copy of the disk in case it is lost, accidently erased, or in some way made unreadable. This disk copy is called a Backup. *DATADISK* has a Backup function which is quick and easy, and a lot more practical than restoring all of your data information onto a different disk. There are three pages which are:

BACKUP xxxxxx
YYYYYY ZZZZZZZZ

This page makes a Backup copy of just a single file, where XXXXXX is the manufacturers name of the file to be backed up, YYYYYY is the product name, and ZZZZZZZZ is the file name. Files are selected by pressing the **SCROLL UP** or **SCROLL DOWN** buttons until the desired file is displayed. The files are viewed alphabetically.

BACKUP ALL FILES

This page makes a Backup copy of an entire disk. During the Backup process, *DATADISK* will prompt the user when to insert either the original or Backup disk, and will indicate when the Backup is complete.

BACKUP TO MIDI

Rather than making a Backup copy of your data to a disk, it's also possible to send all files out via MIDI to another *DATADISK*. All files are sent out in alphabetical order.

REQUEST FUNCTION

DATADISK can store samples as well as synth programs and sequencer data. In most cases, this will be stored by using the RECEIVE function. Certain samplers require a request from the storage unit before they will send the sample dump data. In these cases, the REQUEST function will send the required request to let the sampler know that it is available for a sample dump. There are two pages which are:

REQUEST SAMPLE DUMP XX

This page allows a specific single sample to be requested from the sampler. XX is the sample number between 00 and 99 requested by *DATADISK* from the sampler connected to the MIDI input. When the **DO/YES** button is pressed, the transfer is handled as in the RECEIVE MIDI data function.

REQUEST SYSEX FOR YYYYYY

Product specific data dumps can be requested by *DATADISK* of products that cannot initiate bulk dumps from their front panel. By pressing the **REQUEST** button a second time, the user can scan the manufacturers (viewed alphabetically) by using the **SCROLL UP** and **SCROLL DOWN** buttons. YYYYYY is the manufacturer name. After the desired manufacturer is selected, pressing the **DO/YES** button will display a model to be requested (also viewed alphabetically). Various products from that manufacturer can be scanned by using the **SCROLL UP** or **SCROLL DOWN** buttons. Only products that require a Request are displayed.

DISK INFO FUNCTION

This button is used to display information about the diskette currently inserted in the disk drive. There are 3 pages which are:

XX FILES = ZZZ%
YYY Kbytes free

The information displayed in the first page is the number of files stored on the diskette (XX), the percentage of space used (ZZZ), and the amount of free space (in Kilobytes) available on the diskette (YYY).

NNNNN XXXXXX
YYYYYY ZZZZZZZZ

The second page shows the individual file name (ZZZZZZZZ), the number of bytes in the file (NNNNN), and, in most cases, the manufacturer and model of the unit which sent the file (XXXXXX + YYYYYY). If the file was a multiple message file an "m" will appear after the bytes in the file, otherwise it is left blank.

SOFTWARE
VERSION

A third page shows the *DATADISK* software version currently in use.

MIDI FUNCTIONS

When receiving data for storage, *DATADISK* is not particular which MIDI channel is used. Therefore, only two MIDI pages are required. They are:

MIDI ECHO

This function is used to echo the signal that arrives at the the MIDI input to the MIDI output of *DATADISK*. Effectively, this makes the MIDI output of *DATADISK* into a MIDI Thru port and sends the MIDI signal out to the rest of the units connected in the system. This function can be turned On or Off by using the **SCROLL UP** and **SCROLL DOWN** buttons.

PLEASE NOTE: *No MIDI data is echoed while in RECV.*

RCV PROGRAM CHANGE

Sometimes it is desirable to have a file send initiated during a sequence or performance to change a program or sample. Even though *DATADISK* will receive MIDI system exclusive data on any channel, a single channel must be selected to receive a MIDI program change command. When such a command is received, *DATADISK* will initiate a file send with the program number (#0 to 52) selecting the file to be sent.

FORMAT DISK FUNCTION

Although *DATADISK* can use any 3 1/2" standard double sided, double density disk, it must first be prepared for use in *DATADISK*. This is called *Formatting*. The Format function is used to either format a blank disk or erase an already formatted one. Since formatting erases a disk, *DATADISK* will ask "ARE YOU SURE?" before continuing the format procedure. Pressing the **DO/YES** button will continue the operation and *DATADISK* will display a running update as to how the process is going.

CAUTION: *Formatting will erase all information previously stored on a disk forever!!!!!*

NAME FILE FUNCTION

The Name function allows the user to select a file and rename it with a total of 8 characters which may be selected from the upper case alphabet A to Z, 0 to 9, 15 miscellaneous characters, or a space. There are 2 pages which are:

RENAME XXXXXX
YYYYYY ZZZZZZZZ

This page is used to select a file to be renamed, where XXXXXX is the manufacturers name, YYYYYY is the product name, and ZZZZZZZZ is the name of the file to change. Files are selected by pressing the **SCROLL UP** or **SCROLL DOWN** buttons. Files are viewed alphabetically. Pressing the **DO/YES** button selects the next page.

SELECT CHARACTER

This page allows the user to edit each character in the file name. Editing is accomplished by positioning the cursor with the **SCROLL** buttons under the desired character to be edited, finding the desired character to change to on the keypad, and pressing the selected

character set key until the desired character is displayed. These steps are repeated until all characters are changed as desired. Pressing the **DO/YES** button stores the new name.

DISK STATUS AND INFO MESSAGES

DATADISK is an intelligent device and its display will either prompt the user to make decisions, or describe the current disk status. The LCD will also display a variety of status and info messages telling the user why a particular function cannot be initiated.

When any of these error messages occur, the user must correct the source of the problem and re-select the function. The user can also leave the function at any time by selecting another section or function.

NO DISK IN DRIVE

The following message will appear if a disk is not inserted in the *DATADISK* disk drive when any disk function is selected or if a disk was ejected during an operation:

```
┌─────────────────┐
│    NO DISK      │
│   IN DRIVE      │
└─────────────────┘
```

If the "No Disk" message appears, the user must re-insert a disk and re-select a function to continue operation.

DISK UNFORMATTED

The following message will appear if the disk is not properly for-matted:

```
┌─────────────────┐
│     DISK        │
│  UNFORMATTED    │
└─────────────────┘
```

or

```
┌─────────────────┐
│ DISK  UNREADABLE │
└─────────────────┘
```

The user must now insert a formatted disk or format the disk in the drive by selecting the FORMAT DISK function.

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**DISK WRITE
PROTECTED**

3 1/2" disks have the ability to be write protected so that any data is not accidentally erased. This is accomplished by setting the tab on the lower right hand corner of the disk (when it is turned over) to the down position so that the window is open. Entering any function requiring disk writes (Receiving, Deleting, or Renaming a file or files) with a write protected disk will bring the following display:

```
┌─────────────────────┐
│        DISK         │
│   WRITE PROTECTED   │
└─────────────────────┘
```

The write protect must be defeated on the disk before any information can be stored or altered on the disk.

DISK EMPTY

The following message will appear upon initiating an operation in which the disk has no data yet stored on it:

```
┌─────────────────────┐
│        DISK         │
│       EMPTY         │
└─────────────────────┘
```

DISK FULL

The following message will appear during a receive and/or request operation in which the disk is full before the operation is started:

```
┌─────────────────────┐
│        DISK         │
│       FULL          │
└─────────────────────┘
```

**OPERATION
ABORTED**

An operation can be aborted at any time by pressing either **SCROLL** button while the operation is in progress, doing so will bring the following display:

```
┌─────────────────────┐
│     OPERATION       │
│      ABORTED        │
└─────────────────────┘
```

PLEASE NOTE: *Disk data will be unaffected if a Receive operation is aborted. Aborting a Send operation will result in incomplete data being sent over MIDI.*

DUPLICATE FILE NAME

This display occurs if a name is attempted to be given to a file that is the same as the name of another file.

```
DUPLICATE
FILE NAME
```

MAXIMUM NUMBER OF FILES

This display occurs if there are 53 files already stored on the disk.

```
MAXIMUM NUMBER
OF FILES
```

NOT ENOUGH DISK SPACE

This display occurs if there is not enough space left on the disk to store the incoming data.

```
NOT ENOUGH
DISK SPACE
```

MIDI OVERFLOW TRY RECV MULT

This display occurs if MIDI data is received while a file is being stored. Try receiving in RECV MULT mode.

```
MIDI OVERFLOW
TRY RECV MULT
```

ERROR IN SYSEX ERROR ON DISK

These displays occur if data was incorrectly stored onto disk.

```
ERROR IN SYSEX
BAD FILE DATA
```

```
ERROR ON DISK
FILE MAY BE BAD
```

REPLACE FILE W/SAME NAME?

This display occurs if you attempt to back up a file on a disk that already has the same name. Pressing YES will overwrite the existing file.

```
┌─────────────────────────┐
│      REPLACE FILE       │
│    WITH SAME NAME?      │
└─────────────────────────┘
```

This display occurs when the Data Disk sends a file to an instrument that requires handshaking and receives no handshaking response.

```
┌─────────────────────────┐
│  TARGET UNIT NOT        │
│  RESPONDING             │
└─────────────────────────┘
```

PLEASE NOTE: There are safeguards to prevent against tricking the *DATADISK* by swapping disks before initiating an operation. For example:

1) With disk A in the drive, press the **SEND** button.

2) Eject disk A: insert disk B.

3) When you press **DO/YES** to initiate an operation, *DATADISK* will realize that the disk in the drive is different from the original and will just load the new disk's directory and re-enter the Send function.

CAUTION: If the user tries to trick *DATADISK* in Receive mode, *DATADISK* will not be able to load or read back the data. You're safe as long as you *don't swap disks while in Receive mode without pressing the Receive button after inserting a new disk!*

SECTION 5

OPERATION

DATADISK is easy to operate. First, the desired function is selected by pressing the appropriate function button; then, if necessary, the desired page is selected by pressing the same function button again. A file or parameter is then selected by pressing the **SCROLL UP** or **SCROLL DOWN** buttons. The operation is then initiated by pressing the **DO/YES** button. *DATADISK* will tell you what it is doing and then prompt you when the operation is complete.

The following is a complete description of the steps used to achieve each function:

TO FORMAT A DISK

1) Insert a disk into the disk drive.

2) Press the **FORMAT** button on the front panel. The display will read:

> FORMAT DISK?

3) Press the **DO/YES** button. The display will then read:

> ARE YOU SURE?

Since formatting *erases any information that may have been previously stored on the disk*, this page allows you to rethink your decision. Pressing any other function button than **DO/YES** will exit the Format page or prevent initiating the formatting.

4) Press the **DO/YES** button a second time to start formatting. *DATADISK* will begin formatting the disk and the display will read:

```
╔═══════════════════════╗
║  ** FORMATTING    **  ║
║  ** TRACK # XX    **  ║
╚═══════════════════════╝
```

The display will read from track 79 to track 00. XX is the current track being formatted.

After *DATADISK* has formatted all 80 tracks, the display will briefly change to:

```
╔═══════════════════════╗
║  **   CREATING    **  ║
║  **   DIRECTORY   **  ║
╚═══════════════════════╝
```

and then will temporarily display:

```
╔═══════════════════════╗
║       FORMAT          ║
║       COMPLETE        ║
╚═══════════════════════╝
```

When formatting is complete, the display will return to the first page and read once again:

```
╔═══════════════════════╗
║     FORMAT DISK?      ║
║                       ║
╚═══════════════════════╝
```

5) The disk is now ready for storage. Press the **RECEIVE** button to begin a storage operation.

PLEASE NOTE: *The Format operation can be aborted at any time by pressing the* **SCROLL UP** *or* **SCROLL DOWN** *buttons. If the disk previously was a formatted disk with some data stored on it, some data may be lost depending on how many tracks were re-formatted before the operation was aborted.*

TO RECEIVE A FILE

1) Press the **RECEIVE** button on the front panel. The display will change to the following:

```
╔═══════════════════════╗
║   RECV ONE SYSEX:     ║
║   WAITING FOR DATA    ║
╚═══════════════════════╝
```

DATADISK is now awaiting system exclusive information.

2) Send a Sysex dump from the synthesizer, sequencer, effects processor, or other MIDI device. This can be accomplished by sometimes just changing a program on the MIDI device, or by a separate front panel command

(check your manual for the correct procedure). When system exclusive data is detected, the display will read the following:

```
┌─────────────────────┐
│ RECEIVING  XXXXXX   │
│ YYYYYY              │
└─────────────────────┘
```

In this display, XXXXXX is an abbreviation of the manufacturer's name of the device sending the data, and YYYYYY is an abbreviation of the model name. If the data received is a MIDI sample dump, the manufacturer and product name will be displayed as "Sample Dump".

After all the data is received (when no MIDI data received for 1/2 second), the display will change to the following:

```
┌─────────────────────┐
│ STORED AS  XXXXX    │
│ YYYYYY   ZZZZZZZZ   │
└─────────────────────┘
```

In this display, XXXXXX is an abbreviation of the manufacturer's name of the device sending the data, YYYYYY is an abbreviation of the model name, and ZZZZZZZZ is an automatically assigned file number.

If additional sysex messages are now received, the display will automatically revert to the "RECEIVING" message and proceed to store the new sysex into a new file. *This allows several sysex files to be saved to multiple disk files without having to re-select the RECV function.*

3) Exit the function by pressing another function button.

TO RECEIVE MULTIPLE FILES

Multiple system exclusive files from multiple products can be received and stored as a single file by using a Receive Multiple Files page. In this mode, *DATADISK* is able to receive as many sysex messages as desired (up to the limit of available disk space), and save them all into one disk file. To enter this function, do the following:

1) Press the **RECEIVE** button on the front panel *twice*. The display will change to the following:

```
┌─────────────────────────┐
│ RECV MULT SYSEX:        │
│ WAITING FOR DATA        │
└─────────────────────────┘
```

DATADISK is now awaiting system exclusive information.

2) Send a Sysex dump from the synthesizer, sequencer, effects processor, or other MIDI device. This may be called a "Bulk Dump", "File Transfer", or some other indication that multiple files will be transmitted (check your manual for the correct name and procedure). When system exclusive data is detected, the display will read the following:

```
┌─────────────────────────┐
│ RECEIVING  XXXXXX       │
│ YYYYYY                  │
└─────────────────────────┘
```

In this display, XXXXXX is an abbreviation of the manufacturer's name of the device sending the data, and YYYYYY is an abbreviation of the model name. If the data received is a MIDI sample dump, the manufacturer and product name will be displayed as "Sample Dump".

In the multiple mode, **DATADISK** is going to receive information until the user decides that all of the data has been loaded. After each sysex is received, the display will change to the following:

```
┌─────────────────────────┐
│      IS THIS FILE       │
│      COMPLETE?          │
└─────────────────────────┘
```

If no button is pressed, the display will revert to the "RECEIVING XXXXXX YYYYYY" message if additional sysex data is received, and will continue to save the data to the same file.

If the **DO/YES** button is pressed, telling **DATADISK** that transmission is complete, the file will be stored to disk under the *last received message's manufacturer and model names.*

3) Exit the function by pressing another function button.

TO REQUEST A DUMP

This function allows the user to request sample dumps from MIDI devices which require a request before sending sample dump data.

1) Press the **REQUEST** button on the front panel. The display will read:

> REQUEST SAMPLE
> DUMP XX?

XX is the sample number (may be called "Program Number") between 00 and 99 requested by *DATADISK* from the sampler connected to the MIDI input.

2) Select the correct sample number by using the **SCROLL UP** or **SCROLL DOWN** buttons.

3) Press the **DO/YES** button to transmit a request. The transfer is handled as in the Receive MIDI data function.

PRODUCT SPECIFIC DUMP REQUEST

Product specific dumps for products that can't initiate dumps from their own front panel can be requested by *DATADISK*. Do the following:

1) Press the **REQUEST** button on the front panel *twice*. The display will read:

> REQUEST SYSEX
> FOR YYYYYY?

2) Select the desired manufacturer by using the **SCROLL UP** and **SCROLL DOWN** buttons. The selections will be viewed alphabetically.

3) Press the **DO/YES** button. The display will read:

> REQUEST YYYYYY
> XXXXXX?

4) Select the desired product by using the **SCROLL UP** and **SCROLL DOWN** buttons. Each manufacturer will have its models listed. Press the **REQUEST** button to return to the manufacturer select page.

5) Press the **DO/YES** button to transmit a request. The transfer is handled as in the Receive MIDI data function.

TO RENAME A FILE

When a file is received, it is given a name and number in the order that it was received. For instance, the first file is named "File 01", the second "File 02", etc. A file can be renamed with a name up to 8 characters long using the Rename function. To Rename a file, do the following:

1) Press the **NAME** button on the front panel. The display will then read:

> RENAME XXXXXX
> YYYYYY ZZZZZZZZ?

2) To scan the disk to select the desired file, press the **SCROLL UP** and **SCROLL DOWN** buttons until the desired file is found. Files are displayed alphabetically by manufacturer.

3) When the desired file is found, press the **DO/YES** button. An underline will now appear under the first character of the name as shown below, indicating that it is ready for editing.

> RENAME XXXXXX
> YYYYYY Z̲ZZZZZZ?

4) Select the desired letter, number, or character from the keypad. Each function key except **NAME** and **DO/YES** has the numbers or letters which can be accessed marked directly below it.

RECEIVE

O

ABCDE

4a) Press the function key repeatedly until the desired letter, number, or character appears. Press the **FORMAT** button for a space (blank character). *A space will automatically increment to the next character.*

4b) Press the **SCROLL UP** or **SCROLL DOWN** buttons to move the cursor to the desired location. This will appear in the display as:

```
┌────────────────────────┐
│   RENAME XXXXXX         │
│ YYYYYY  ZZZZ_ZZZZ?      │
└────────────────────────┘
```

4c) Repeat steps 4a and 4b until all characters are changed as desired.

5) When the file has been renamed, complete the operation by pressing the **DO/YES** button. This brings us back to the beginning of the Rename function, allowing other files to be selected to be renamed, if desired.

6) Exit the Rename function by pressing another function button.

PLEASE NOTE:

—*To remain in the Name function without storing the newly edited name, press the* **NAME** *button again. This will recall the original name.*

—*If a file with the same name already exists, the following message will temporarily appear and the newly edited name will not be stored to disk.*

```
┌────────────────────────┐
│      DUPLICATE          │
│      FILE NAME          │
└────────────────────────┘
```

DATADISK *will then return to the beginning of the Rename function.*

TO SEND A FILE

1) Press the **SEND** button on the front panel. The display will read:

```
┌────────────────────────┐
│  SEND FILE XXXXXX       │
│ YYYYYY  ZZZZZZZZ?       │
└────────────────────────┘
```

In this display, XXXXXX is an abbreviation of the manufacturer's name of the device sending the data, YYYYYY is an abbreviation of the model name, and ZZZZZZZZ is the name of the file to send.

2) Select the desired file by pressing the **SCROLL UP** or **SCROLL DOWN** buttons until the desired file is displayed (files are viewed alphabetically).

3) Press the **DO/YES** button to send the file. While the file is being sent, the display will read:

```
┌────────────────────┐
│ SENDING:  XXXXXX   │
│ YYYYYY  ZZZZZZZZ   │
└────────────────────┘
```

In this display, XXXXXX is an abbreviation of the manufacturer's name of the device sending the data, YYYYYY is an abbreviation of the model name, and ZZZZZZZZ is the name of the file being sent.

After sending is complete, *DATADISK* will return to the start of the Send data function with the next file ready to be sent.

4) Exit the Send function by pressing another function button.

TO SEND ALL FILES

All system exclusive files stored on the disk can be sent by using the Send All mode. This makes setup of an entire MIDI system very fast and easy since all files will be sent with just one command, and all MIDI units will instantly reset as soon as their system exclusive file data is received. To accomplish a Send All command, do the following:

1) Press the **SEND** button on the front panel. The display will read:

```
┌────────────────────┐
│ SEND FILE XXXXXX   │
│ YYYYYY  ZZZZZZZZ?  │
└────────────────────┘
```

In this display, XXXXXX is an abbreviation of the manufacturer's name of the device sending the data, YYYYYY is an abbreviation of the model name, and ZZZZZZZZ is the name of the file to send.

2) Press the **SEND** button a second time. The display will read:

```
┌────────────────────┐
│ SEND ALL FILES?    │
└────────────────────┘
```

3) Press the **DO/YES** button to send the files. While the file is being sent, the display will read:

```
SENDING:  XXXXXX
YYYYYY  ZZZZZZZZ
```

In this display, XXXXXX is an abbreviation of the manufacturer's name of the device sending the data, YYYYYY is an abbreviation of the model name, and ZZZZZZZZ is the name of the file being sent. *The display will change with the file name for every file sent during the Send All Files function.*

There is a 25 millisecond delay between each sysex message transmitted.

4) Exit the Send function by pressing another function button.

TO DELETE (ERASE) A FILE FROM DISK

1) Press the **DELETE** button on the front panel. The following display will appear.

```
DEL NNNK:  XXXXXX
YYYYYY ZZZZZZZZ?
```

In this display, NNN is the size of the selected file in kilobytes, XXXXXX is an abbreviation of the manufacturer's name of the device sending the data, YYYYYY is an abbreviation of the model name, and ZZZZZZZZ is the name of the file to be erased.

2) Select the desired file by pressing the **SCROLL UP** or **SCROLL DOWN** buttons until the desired file is displayed (files are viewed alphabetically).

3) Press the **DO/YES** button. The display will then read:

```
ARE YOU SURE?
```

If the answer is no, press another function button to exit the Delete function.

4) If the answer is yes, press the **DO/YES** button. The display will show:

```
┌─────────────────────────┐
│  DELETING  .  .  .       │
│                          │
└─────────────────────────┘
```

After the file has been erased, the display will read:

```
┌─────────────────────────┐
│  FILE DELETED            │
│                          │
└─────────────────────────┘
```

After deleting is complete, ***DATADISK*** will return to the start of the Delete function with the next file ready to be erased.

5) Exit the Delete function by pressing another function button.

PLEASE NOTE:

—*Once a file is deleted, it is lost forever!*

—*Deleting all files does not format a disk. Files are only removed from the disk directory. Use the Format function to properly format a disk.*

TO DELETE (ERASE) ALL FILES FROM DISK

1) Press the **DELETE** button on the front panel. The following display will appear.

```
┌─────────────────────────┐
│ DEL NNNK:  XXXXXX        │
│ YYYYYY ZZZZZZZZ?         │
└─────────────────────────┘
```

In this display, NNN is the size of the selected file, XXXXXX is an abbreviation of the manufacturer's name of the device sending the data, YYYYYY is an abbreviation of the model name, and ZZZZZZZZ is the name of the file to be erased.

2) Pressing the **DELETE** button a second time will make the display read:

```
┌─────────────────────────┐
│    DELETE ALL FILES?     │
└─────────────────────────┘
```

3) Press the **DO/YES** button. The display will then read:

```
┌─────────────────────────┐
│     ARE YOU SURE?        │
└─────────────────────────┘
```

If the answer is no, press the another function button to exit the Delete function.

4) If the answer is yes, press the **DO/YES** button. The display will show:

```
┌─────────────────────────┐
│     DELETING  . . .      │
└─────────────────────────┘
```

After the file has been erased, the display will read:

```
┌─────────────────────────┐
│         DISK             │
│        EMPTY             │
└─────────────────────────┘
```

5) Exit the Delete function by pressing another function button.

PLEASE NOTE:

—*Once a file is deleted, it is lost forever!*

—*Deleting all files does not format a disk. Files are only removed from the disk directory. Use the Format function to properly format a disk.*

TO SET MIDI ECHO

1) Press the **MIDI** button on the front panel. The display will read the following:

```
┌─────────────────────────┐
│      MIDI ECHO           │
│       OFF                │
└─────────────────────────┘
```

2) To turn the MIDI Echo to On (or Off if it is already On), press the **SCROLL UP** and **SCROLL DOWN** buttons.

3) Press another function button to exit the MIDI Echo function.

TO SET UP A MIDI PROGRAM CHANGE

1) Press the **MIDI** button on the front panel *twice*. The display will read:

> RCV PROG CHANGE
> ON MIDI CH: _XXX

2) Press the **SCROLL UP** and **SCROLL DOWN** buttons to select the channel number (1 through 16) or Off.

3) Press another function button to exit the MIDI function.

TO DISPLAY AVAILABLE DISK SPACE

1) Press the **INFO** button on the front panel. The display will read:

> XX FILES = ZZZ%
> YYY Kbytes free

XX is the number of files stored on the disk, ZZZ is the percentage of space that the files occupy, and YYY is the free space available on the disk.

2) Press another function button to exit the Info function.

TO DISPLAY FILE INFORMATION

1) Press the **INFO** button on the front panel *twice*. The display will read:

> NNNNNNm XXXXXX
> YYYYYY ZZZZZZZZ

In this display, NNN is the number of bytes in the selected file, XXXXXX is an abbreviation of the manufacturer's name of the device sending the data, YYYYYY is an abbreviation of the model name, and ZZZZZZZZ is the name of the file. An "m" is displayed after the num-

ber of bytes to indicate if the file if the file was received in RECV MULT, otherwise it is blank.

2) Press the **SCROLL UP** and **SCROLL DOWN** buttons to view the desired file.

Files are arranged alphabetically by manufacturer, with numbers coming before letters, except in the following cases:

Unknown manufacturer names (either displayed as "Id xxH" or "xxxxxx") are displayed after known manufacturer names.

Unknown product names are displayed as blanks after known product names within each manufacturer.

Sample dump files are displayed after all manufacturer specific files.

3) Press another function button to exit the Info function.

TO BACKUP A FILE

1) Press the **BACKUP** button on the front panel. The display will read:

```
 BACKUP   XXXXXX
YYYYYY ZZZZZZZZ?
```

In this display, XXXXXX is an abbreviation of the manufacturer's name of the device sending the data, YYYYYY is an abbreviation of the model name, and ZZZZZZZZ is the name of the file to be backed up.

2) Select the desired file by pressing the **SCROLL UP** or **SCROLL DOWN** buttons until the desired file is displayed (files are viewed alphabetically).

3) Press the **DO/YES** button. The display will then read:

```
 XX DISK SWAPS
REQUIRED.  OK?
```

XX is the number of times that the source (the disk currently in *DATADISK*) and destination disks (the one that

you will backup your file to) must be inserted and re-moved from the disk drive.

4) Press the **DO/YES** button again. The display will show:

```
PLEASE INSERT
BACKUP DISK. OK?
```

5) Eject the source disk, insert the backup disk, and press the **DO/YES** button. The display will briefly read:

```
Checking Disk
```

The display will then show:

```
XX PLEASE INSERT
ORIG DISK.     OK?
```

XX denotes the number of disk swaps remaining.

6) After ejecting the backup disk and inserting the source disk, press the **DO/YES** button again. The display will briefly read:

```
Reading from the
 Original Disk. . .
```

Then the display will read:

```
XX PLEASE INSERT
BACKUP DISK.  OK?
```

7) After ejecting the backup disk and inserting the source disk, press the **DO/YES** button again. The display will briefly read:

```
Writing to the
Backup Disk . . .
```

After backup is complete, the following is temporarily displayed before *DATADISK* returns to the start of the Backup function.

```
╔════════════════╗
║    BACKUP      ║
║   COMPLETE     ║
╚════════════════╝
```

8) Backup another file or exit the Backup function by pressing another function button.

9) Check backup procedure by sending the backed-up file(s) to their appropriate destinations and checking the data.

PLEASE NOTE:

—*If the backup disk contains a file with same name as the file se-lected to be backed up, the display will prompt:*

```
┌─────────────────────┐
│    REPLACE FILE      │
│  WITH SAME NAME?     │
└─────────────────────┘
```

Pressing the **DO/YES** *button will proceed to delete the file on the backup disk, before starting backup. Pressing any other function will exit the backup.*

—*Backup can be aborted at any time by pressing any other func-tion button.*

TO BACKUP AN ENTIRE DISK

1) Press the **BACKUP** button on the front panel. The display will read:

```
┌─────────────────────┐
│  BACKUP   XXXXXX     │
│ YYYYYY ZZZZZZZZ?     │
└─────────────────────┘
```

In this display, XXXXXX is an abbreviation of the manu-facturer's name of the device sending the data, YYYYYY is an abbreviation of the model name, and ZZZZZZZZ is the name of the file to be backed up.

2) Press the **BACKUP** button a *second time*. The display will read:

```
┌─────────────────────┐
│  BACKUP    ALL      │
│ FILES TO DISK?      │
└─────────────────────┘
```

3) Press the **DO/YES** button. The display will then read:

```
┌─────────────────────┐
│  XX DISK SWAPS      │
│ REQUIRED.  OK?      │
└─────────────────────┘
```

XX is the number of times that the source (the disk cur-rently in *DATADISK*) and destination disks (the one that you will backup your file to) must be inserted and re-moved from the disk drive.

4) Follow steps 4 through 9 as in "To Backup A File".

TO BACKUP AN ENTIRE DISK OVER MIDI TO ANOTHER *DATADISK*

1) Press the **BACKUP** button 3 times. The display will read:

```
┌─────────────────────┐
│     BACKUP ALL      │
│   FILES TO MIDI?    │
└─────────────────────┘
```

2) Press the **DO/YES** button. The display will then read:

```
┌─────────────────────┐
│   IS DEST DATADISK  │
│    IN RECV ONE?     │
└─────────────────────┘
```

"DEST DATADISK" stands for Destination *DATADISK*, or the *DATADISK* that you're sending to.

3) Press the **DO/YES** button. The display will read:

```
┌─────────────────────┐
│   THIS WILL ERASE   │
│   DEST DISK.   OK?  │
└─────────────────────┘
```

4) Press the **DO/YES** button to initiate the Backup over MIDI. The display will read as in the SEND ALL function:

```
┌─────────────────────┐
│   SENDING XXXXXX    │
│  YYYYYY ZZZZZZZZ    │
└─────────────────────┘
```

5) When backup is complete, the following is temporarily displayed before returning to the start of the Backup function:

```
┌─────────────────────┐
│       BACKUP        │
│      COMPLETE       │
└─────────────────────┘
```

6) Check backup procedure by sending ALL files on the backup disk (p.32). If there is a SYS EX error, there may be corrupted data. If this error occurs, delete the file(s), check the original disk, and repeat the entire procedure if necessary.

PLEASE NOTE:

—_The destination **DATADISK** will receive and store data as described in the RECV ONE function._

SECTION 6

REAL-TIME MIDI SEQUENCE PLAYBACK:*DATADISK SQ*

DataDisk can receive and play back entire sequences (as well as sysex data) in real time. All MIDI data received is time-stamped and can therefore be sent from the *DataDisk* with the same timing with which it was received (a MIDI tape recorder)! This allows the *DataDisk* to be used in several new ways.

- Playing an MMT-8 (or any other sequencer or computer) sequence into the *DataDisk* and then using the *DataDisk* as a rack mount sequence playback unit.

- Playing live into the *DataDisk* from a MIDI keyboard and letting the *DataDisk* record the performance in real-time.

- Storing and retrieving sysex messages from devices that do not handle MIDI data at full speed and/or require time gaps of up to one minute between bytes.

Although *it is not possible to edit a sequence stored by the DataDisk*, it is possible to have some control over the **sending** of a sequence. This includes the ability to sync the *DataDisk* playback of a sequence to an external MIDI clock (sync to another sequencer or drum machine), and the ability to filter MIDI Clock, Song Position Pointer, Start, Stop, and Continue messages from the output being sent by the *DataDisk*.

TO RECEIVE A MIDI SEQUENCE

1) Press the **RECEIVE** button three times. The display will read:

```
RECV MIDI SEQ:
WAITING FOR DATA
```

This page is used to receive and time-stamp **any** MIDI data (except system reset - FFH and active sense - FEH), not only system exclusive data.

2) Begin sending the sequence from your sequencer or computer. As soon as the first non-MIDI clock MIDI byte is received, the display changes to:

```
┌─────────────────────────┐
│  Receiving Seq.  .  .    │
│  File Complete?          │
└─────────────────────────┘
```

3) Press the **DO/YES** button when all desired MIDI data has been received to store the data into a file. If no MIDI data is received for 1 minute, the *DataDisk* will automatically store the received data into a file. If either SCROLL button is pressed before the minute is up, the sequence data WILL NOT BE STORED ON DISK.

When a file is stored the display will read:

```
┌─────────────────────────┐
│  STORED AS MIDI          │
│  Seqnce FILE ZZ          │
└─────────────────────────┘
```

The manufacturer and product names will be displayed as "MIDI Seqnce" (similar to sample dump) and the file name will default to "File ZZ" where ZZ is an automatically assigned number.

NOTE: *If additional MIDI messages are received, the display will automatically revert to the Receiving Sequence display. Therefore, it's best to stop the sending sequencer first before pressing the DO/YES button to store the sequence.*

If, while receiving a sequence, you decide that you wish to abort the operation, press either of the **SCROLL** buttons. The display will then read:

```
┌─────────────────────────┐
│  OPERATION               │
│  ABORTED                 │
└─────────────────────────┘
```

4) To exit this display, press any function button.

PLEASE NOTE:
  a) The MIDI Echo (MIDI Thru) function is ignored when in the Receive MIDI Sequence mode.
  b) When recording to a sequencer from the *DataDisk*, keep in mind that the incoming data is subject to the quantize resolution that the sequencer is currently set at.
  c) In all circumstances of handshaking, do not echo data being sent from the *DataDisk* through a sequencer and back into

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> the ***DataDisk***. If this is done, the sequencer will crash and most likely lose all of its data.

MONITORING A SEQUENCE BEING SENT TO *DATADISK*

TO SEND A MIDI SEQUENCE

1) Press the **SEND** button.

2) Press one of the **SCROLL** buttons until the desired sequence is displayed. The display will read:

> SEND FILE MIDI
> Seqnce FILE ZZ   ?

FILE ZZ is the desired MIDI Sequence name.

3) Press the **DO/YES** button to play back the sequence. The display will read:

> SENDING : MIDI
> Seqnce FILE ZZ

When playback is complete, the display will return to the start of the send function with the next file ready to be sent. If the sequence sent was the last file, the display will revert to:

> SEND FILE MIDI
> Seqnce FILE ZZ   ?

The same sequence can be played back again by pressing the **DO/YES** button, or another sequence or sysex file can be selected by pressing the **SCROLL** buttons.

If, while playing back a sequence, you decide that you wish to abort the operation, press either of the **SCROLL** buttons. The display will briefly read:
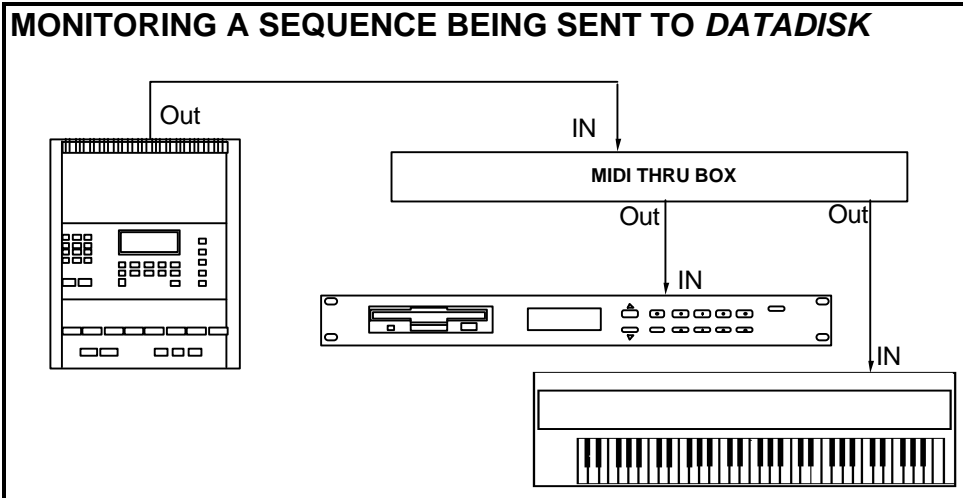
```
┌─────────────────────┐
│     OPERATION       │
│      ABORTED        │
└─────────────────────┘
```

The display will then return to the Send File MIDI Sequence page. If a MIDI Sequence is aborted while being sent or if a MIDI Stop command is received while the file is being sent, the *DataDisk* will automatically send the following:

    1) MIDI Stop Command
    2) Controller #64 "sustain pedal" OFF (all 16 channels)
    3) Note-offs for all playing notes (all 16 channels)

NOTE: The *DataDisk* will not merge MIDI data being sent with data being received when the MIDI Echo function is enabled.

MONITORING DATA BEING SENT FROM THE *DATADISK* TO ANOTHER SEQUENCER

Out

IN   Out

Note that the MMT-8's countdown should be set to 00 and its MIDI Echo set to ON.

IN

Midi Echo
On

SYNCING *DATADISK* TO A SEQUENCER

It is possible to have the *DataDisk* play along in sync with an external sequencer or drum machine.

    1) Press the **MIDI** button *three* times. The display will read:

```
┌─────────────────────────┐
│      EXT MIDI SYNC      │
│          OFF           │
└─────────────────────────┘
```

2) Press the "up" **SCROLL** button. The display will now read:

```
┌─────────────────────────┐
│      EXT MIDI SYNC      │
│          ON            │
└─────────────────────────┘
```

3) Now press the **SEND** button. The display will read:

```
┌─────────────────────────┐
│     SEND FILE MIDI      │
│    Seqnce FILE ZZ   ?   │
└─────────────────────────┘
```

4) Use the **SCROLL** buttons to select the desired sequence to playback.

5) When the desired sequence is found, press the **DO/YES** button. The display will then read:

```
┌─────────────────────────┐
│     Waiting for MIDI    │
│    Start/Continue .   . │
└─────────────────────────┘
```

6) Start the external sequencer or drum machine. Once a MIDI Start or Continue command is received, the display will read:

```
┌─────────────────────────┐
│     SENDING:  MIDI      │
│      Seqnce File ZZ     │
└─────────────────────────┘
```

Where File ZZ is a file name (the same as sending any other file).

PLEASE NOTE:

    a) The sequence recorded by the *DataDisk* MUST be recorded with MIDI clock in order to use the external sync feature. If the file does not contain MIDI clock, then all file data will be sent with the first MIDI CLOCK received.

    b) *DataDisk* will assume that the start of the MIDI Sequence file is the start of the song, as far as Start, Continue, and Song Position Pointer commands are concerned. For example, if the sequence was recorded

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in the ***DataDisk*** starting at bar 2, beat 1, then that point becomes the beginning of the sequence as far as ***DataDisk*** is concerned. When the file is played back from the ***DataDisk*** (synced to MIDI Clock), a Start command will start playing from the beginning of the file, which will be 1 bar ahead of the original sequence's start location. Continue and Song Position Pointer commands will be 1 bar ahead of the original sequence's location as well.

c) Since a Continue command may occur anywhere within a MIDI Sequence File, there may be a slight delay while the ***DataDisk*** searches through the disk for the specified location before executing the command. The ***DataDisk*** will, however, remain in sync.

d) If, while syncing to an external sequencer, the ***DataDisk*** is connected to the sequencer (such as an MMT-8) in a MIDI loop (that is, sequencer MIDI output to ***DataDisk*** MIDI input and ***DataDisk*** MIDI output to Sequencer MIDI input as in figures 2A and 4 of the ***DataDisk*** user's manual), then either the MIDI Clock must be filtered from the ***DataDisk's*** output, or the sequencer should be set to not receive MIDI Clock. This is done to make sure that the speed of the sequence playback remains constant, and is accomplished in the following manner:

1) Press the **MIDI** button *four* times. The display will then read:

```
┌─────────────────────┐
│  MIDI CLOCK OUT     │
│   FILTER:  OFF      │
└─────────────────────┘
```

2) Press the "up" **SCROLL** button. The display will read:

```
┌─────────────────────┐
│  MIDI CLOCK OUT     │
│   FILTER:  ON       │
└─────────────────────┘
```
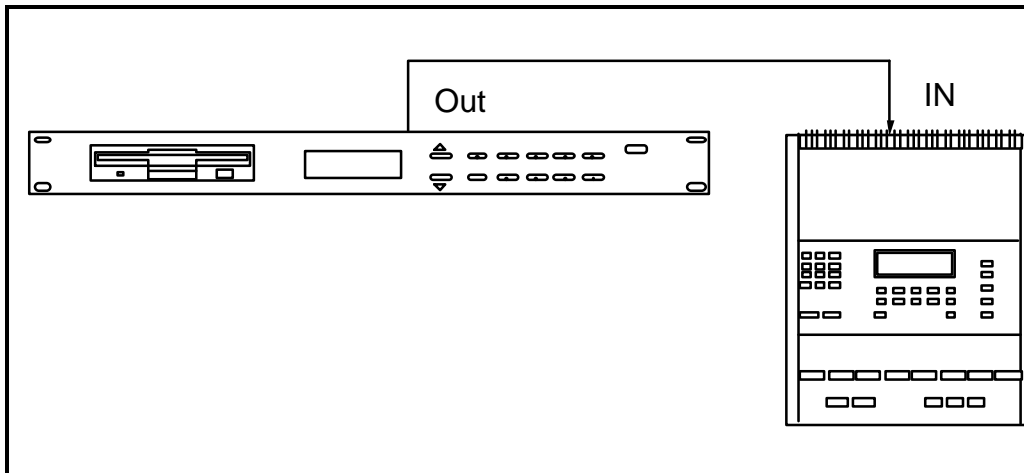
This means that when the sequence is sent, MIDI Clock, Song Position Pointer (SPP), Start, Stop, and Continue messages are filtered out (not sent), thereby preventing these messages from interfering with the timing of the sequencer that the ***DataDisk*** is syncing to.

APPLICATIONS

To record a MIDI sequence from the *DataDisk* to the Alesis MMT-8 MIDI Recorder for editing purposes:
    1) Connect both units as shown:

a) Place the MMT-8 into MIDI & INTERNAL
b) The MMT-8's countdown should be set to 00, and length should be changed either to the highest number available or the known length of the sequence.
c) The ***DataDisk***'s EXT MIDI SYNC and MIDI Clock Out filter should both be set to OFF

    2) Select the MMT-8 track that you wish to record on. Press Record on the MMT-8
    3) Enable record without pressing the PLAY button on the MMT-8 (a MIDI Start command at the beginning of the sequence file sent to the MMT-8 will place the MMT-8 into record mode)
    4) Press the ***DataDisk***'s Send button and use the scroll buttons to select the file that you wish to send
    5) Press the ***DataDisk***'s Do/Yes button

6) When the *DataDisk* has finished sending the file, press the Stop button on the MMT-8 to stop recording.

7) Press Edit while in the part that you have just recorded to on the MMT-8, then scroll through the sequence to determine the total number of beats. Change the length of the sequence to equal the number of beats . This will eliminate any empty beats at the end of the sequence.

Synchronizing the *DataDisk* to a Sequencer
In a closed loop configuration (see page 13, fig. 4), to prevent timing errors caused by MIDI clock returning to the sequencer, you must either:

1) Set the sequencer's clock source to INTERNAL ONLY (ignore incoming MIDI clock), or
2) Set the *DataDisk*'s MIDI clock filter to ON.

NOTE: In either case MIDI echo on the DataDisk should be set to OFF.

STORAGE OF DATADISK MIDI SETUP PER DISK

It is possible to store the *DataDisk* MIDI parameters (MIDI Echo, MIDI Program Change Channel, MIDI Sync, and MIDI Filter) to disk. When a new disk is loaded, the MIDI setup will be automatically loaded as well. This means that the MIDI setup can be unique per disk.

TO STORE THE *DataDisk* MIDI PARAMETERS TO DISK

1) Press the **MIDI** button. The display will read:

```
MIDI ECHO
OFF
```

2) After setting the *DataDisk* MIDI parameters as desired (see page 35), press the **DO/YES** button while on any MIDI page to store any MIDI parameters to disk. The display will temporarily read:

```
MIDI Parameters
Stored
```

The display will then return to the current MIDI page.

PLEASE NOTE:
a) If no MIDI setup is stored on the inserted disk, the current MIDI parameter settings in the *DataDisk* will not be altered.

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b) If the ***DataDisk*** is powered-on with a disk that has no MIDI
   setup stored on it, all MIDI parameters will default to OFF.

SECTION 7

APPENDIX

TROUBLESHOOTING

The wonderful world of MIDI makes our musical lives much so much easier most of the time. Still, there are those moments when things just won't work. Below are some hints regarding sending and receiving problems and possible solutions. This is just general info since there is no way of knowing each and every instrument, connections, and system setup.

PROBLEM: *DATADISK* won't save data to disk.

POSSIBLE SOLUTIONS:
   1) Make sure that the MIDI In of *DATADISK* is connected to MIDI Out of the sending instrument (seems so simple, but it happens).

   2) Does your synth or MIDI device require handshaking *(see Section 3)?* Check the manual to be sure.

   3) Make sure that System Exclusive is enabled.

PROBLEM: The receiving instrument does not appear to receive data sent to it from *DATADISK*.

POSSIBLE SOLUTIONS:
   1) Make sure that the MIDI Out of *DATADISK* is connected to the MIDI In of the receiving instrument.

   2) Make sure that System Exclusive is enabled on the receiving instrument.

   3) Memory Protect on the synthesizer must be off.

   4) Some instruments do not show any indication that it is receiving or that it has received a data dump (i.e. Oberheim Matrix-6, Roland R-8). In this case, select the programs to see/hear that the data was received.

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Some instruments also might receive a dump, not make any indication that it has received a file, and continue playing the same program as before the dump until a new program is selected.

5) Although the MIDI System Exclusive status byte does not specify a channel number, some manufacturers include a channel or device number within the message and will only respond to a sysex message with a matching channel/device number. Check to see if there is a System Exclusive number command (as on the Yamaha DX-7II) that might be different from the stored file.

A FEW RULES:

— If in RECV ONE mode and a delay of more than 1/2 second occurs between individual sysex messages, the messages will be stored in separate *DATADISK* files. (Please note that some instruments send their bulk data dump as several individual sysex messages, as opposed to a single message. If an instrument places a delay greater than 1/2 second between consecutive messages and it is desired to save these messages in a single file, use the RECV MULT mode.)

— The *DATADISK*.places a 25 millisecond delay between each sysex message it sends. If your device requires more than this amount of time to process consecutive messages, then place the sysex messages into separate files (if possible) and send each message with the reqired delay in between.

— *DATADISK* implements the MIDI Manufacturers Association (MMA) Sample Dump Standard. Instruments that do not implement the MMA Sample Dump Standard (such a the Akai S900 or Roland S-50) will not work with *DATADISK* .

— If the instrument requires handshaking, it is unlikely that it will work with *DATADISK* . Only a few of the more commonly used handshaking schemes are implemented on *DATADISK* .

NOTE: Some instruments give the user an option of sending and receiving in handshaking or non-handshaking mode (Roland does this with some of its instruments; they allow handshaking and one-way transfers). If this is the case, then use the non-handshaking mode with *DATADISK* .

SPECIFICATIONS

MEMORY IMPLEMENTATION

Direct to disk; no RAM buffer.

DATA STORAGE

COMPATIBILITY	Universal; Operates with virtually all manufacturers products which provide MIDI System Exclusive.
METHOD	3 1/2" Floppy Diskette Double-sided, double density
MAXIMUM MEMORY PER DISK	800 Kilobytes
MAXIMUM NUMBER OF DATA FILES	53 (total size of data cannot exceed disk size)

FUNCTIONS

SEND	Single or multiple files
RECEIVE	Single or multiple files
DELETE	Single or multiple files
BACKUP DISK	Single or multiple files
REQUEST	Sample dump or device specific
FILE DISPLAY	File number, manufacturer, model, number of bytes
DISK DISPLAY	Number of files, storage space available, percentage of disk space used
MIDI FUNCTIONS	MIDI Echo: On, Off MIDI Program Change Channel: Off, channel 1 through 16
FORMAT DISK	70 seconds
NAME FILE	Upper case alphabet, A to Z, 0 to 9, 15 characters, space

FRONT PANEL

CONTROLS	Name, Receive, Send , Delete, Backup, Request, Info, MIDI, Format, Do/Yes, Scroll Up, Scroll Down, Power
INDICATORS	LCD display;16 Character by 2 lines Disk Drive In Operation LED

REAR PANEL

JACKS	MIDI Input and Output Power - 4 pin DIN connector

POWER REQUIREMENTS 9 Volts AC, 5 Volt Amps external Transformer, UL approved and made in USA

DIMENSIONS (W x H x D)   19" X 1.75" X 7"

WEIGHT   4.5 lbs.

BOOKS ON MIDI

The preceding does not substitute for reading a good book on the subject of MIDI. For further information, refer to the following:

MIDI For Musicians and The Electronic Musician's Dictionary by Craig Anderton; AMSCO Publications. The former was written specifically for musicians with no background in MIDI, and the latter defines terms related to musical electronics.

Music Through MIDI by Michael Boom; Microsoft Press. An excellent text for those just getting started with MIDI, synthesis, and related topics.

The Murphy's Law MIDI Book by Jeff Burger; Alexander Publishing. Emphasizes applications and problem-solving.

Using MIDI by Helen Casabona and David Frederick; Alfred Publishing. A general guide to MIDI with an emphasis on applications.

Understanding MIDI and Understanding MIDI 2 by various authors; Amordian Press. A collection of MIDI-oriented articles from Musician magazine.

Descubriendo MIDI by José Valenzuela; Alesis Publishing. A thorough overview of MIDI in Spanish, suitable for beginners and/or advanced users.

VIDEOS ON MIDI

The Basics Of MIDI featuring Craig Anderton with Steve Smythe; Alesis Publishing. An overview of the concepts and applications of the MIDI interface. Available through Alesis Command Performance Accessory Collection.

SQ FEATURES
REAL-TIME MIDI SEQUENCE PLAYBACK

DataDisk can receive and play back entire sequences (as well as sysex data) in real time. All MIDI data received is time-stamped and can therefore be sent from the ***DataDisk*** with the same timing with which it was received (a MIDI tape recorder)! This allows the ***DataDisk*** to be used in several new ways.

- Playing an MMT-8 (or any other sequencer or computer) sequence into the ***DataDisk*** and then using the ***DataDisk*** as a rack mount sequence playback unit.

- Playing live into the ***DataDisk*** from a MIDI keyboard and letting the ***DataDisk*** record the performance in real-time.

- Storing and retrieving sysex messages from devices that do not handle MIDI data at full speed and/or require time gaps of up to one minute between bytes.

Although *it is not possible to edit a sequence stored by the **DataDisk***, it is possible to have some control over the **sending** of a sequence. This includes the ability to sync the ***DataDisk*** playback of a sequence to an external MIDI clock (sync to another sequencer or drum machine), and the ability to filter MIDI Clock, Song Position Pointer, Start, Stop, and Continue messages from the output being sent by the ***DataDisk***.

TO RECEIVE A MIDI SEQUENCE

1) Press the **RECEIVE** button three times. The display will read:

```
RECV MIDI SEQ:
WAITING FOR DATA
```

This page is used to receive and time-stamp **any** MIDI data (except system reset - FFH and active sense - FEH), not only system exclusive data.

2) Begin sending the sequence from your sequencer or computer. As soon as the first non-MIDI clock MIDI byte is received, the display changes to:

```
┌─────────────────────────────┐
│     Receiving Seq. . .       │
│      File Complete?          │
└─────────────────────────────┘
```

3)   Press the **DO/YES** button when all desired MIDI data has been received to store the data into a file. If no MIDI data is received for 1 minute, the *DataDisk* will automatically store the received data into a file. If either SCROLL button is pressed before the minute is up, the sequence data WILL NOT BE STORED ON DISK.

When a file is stored the display will read:

```
┌─────────────────────────────┐
│       STORED AS MIDI         │
│      Seqnce FILE ZZ          │
└─────────────────────────────┘
```

The manufacturer and product names will be displayed as "MIDI Seqnce" (similar to sample dump) and the file name will default to "File ZZ" where ZZ is an automatically assigned number.

NOTE: *If additional MIDI messages are received, the display will automatically revert to the Receiving Sequence display. Therefore, it's best to stop the sending sequencer first before pressing the* **DO/YES** *button to store the sequence.*

If, while receiving a sequence, you decide that you wish to abort the operation, press either of the **SCROLL** buttons. The display will then read:

```
┌─────────────────────────────┐
│        OPERATION             │
│         ABORTED              │
└─────────────────────────────┘
```
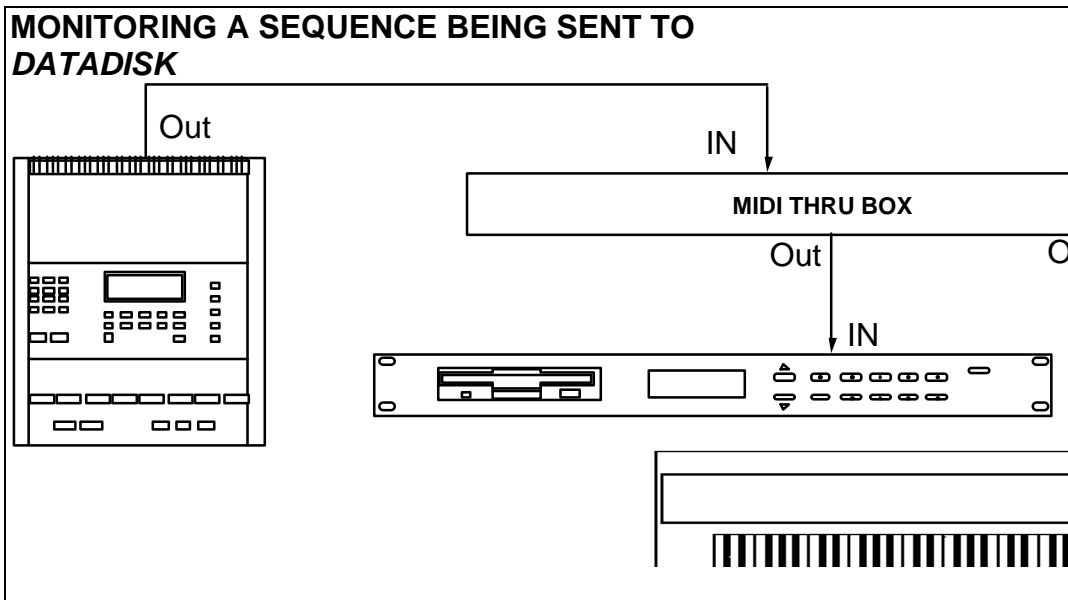
4)   To exit this display, press any function button.

PLEASE NOTE: **a)**   The MIDI Echo (MIDI Thru) function is ignored when in the Receive MIDI Sequence mode.   **b)**   When recording to a sequencer from the *DataDisk*, keep in mind that the incoming data is subject to the quantize resolution that the sequencer is currently set at.   **c)**   In   all   circumstances   of handshaking, do not echo data being sent from the *DataDisk* through a sequencer and back into the *DataDisk*. If this is done, the sequencer will crash and most likely lose all of its data.

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MONITORING A SEQUENCE BEING SENT TO
DATADISK

Out

IN

MIDI THRU BOX

Out   O

IN

TO SEND A MIDI SEQUENCE

1)   Press the **SEND** button.

2)   Press one of the **SCROLL** buttons until the desired sequence
is displayed. The display will read:

```
SEND FILE MIDI
Seqnce FILE ZZ   ?
```

FILE ZZ is the desired MIDI Sequence name.

3)   Press the **DO/YES** button to play back the sequence.   The
display will read:

```
SENDING :  MIDI
Seqnce FILE ZZ
```

When playback is complete, the display will return to the start of the send
function with the next file ready to be sent. If the sequence sent was the
last file, the display will revert to:

```
SEND FILE MIDI
Seqnce FILE ZZ   ?
```

The same sequence can be played back again by pressing the **DO/YES**
button, or another sequence or sysex file can be selected by pressing the
SCROLL buttons.

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If, while playing back a sequence, you decide that you wish to abort the operation, press either of the **SCROLL** buttons. The display will briefly read:
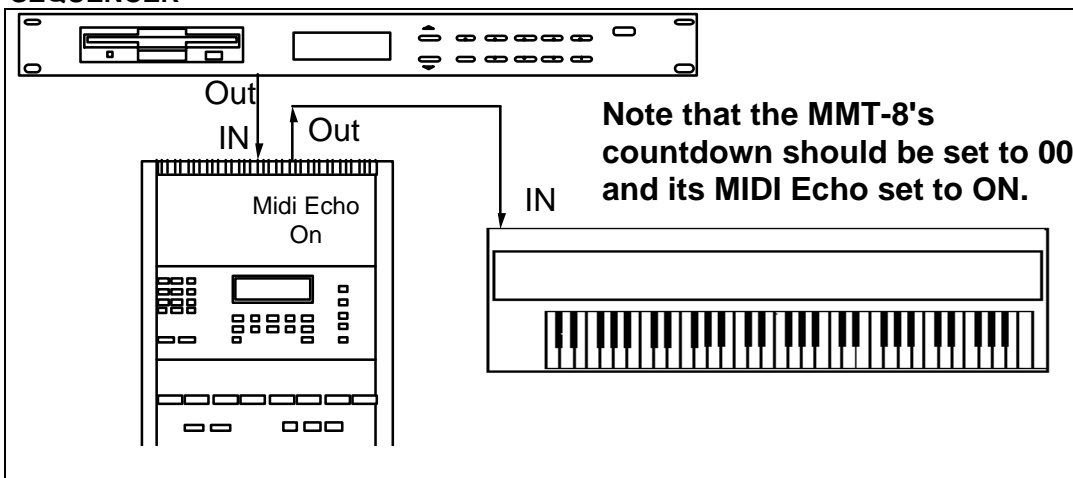
```
┌─────────────────────────┐
│      OPERATION          │
│      ABORTED            │
└─────────────────────────┘
```

The display will then return to the Send File MIDI Sequence page. If a MIDI Sequence is aborted while being sent or if a MIDI Stop command is received while the file is being sent, the **DataDisk** will automatically send the following:

1) MIDI Stop Command
2) Controller #64 "sustain pedal" OFF (all 16 channels)
3) Note-offs for all playing notes (all 16 channels)

NOTE: The **DataDisk** will not merge MIDI data being sent with data being received when the MIDI Echo function is enabled.

MONITORING DATA BEING SENT FROM THE *DATADISK* TO ANOTHER SEQUENCER

SYNCING *DataDisk* TO A SEQUENCER

It is possible to have the **DataDisk** play along in sync with an external sequencer or drum machine.

1) Press the **MIDI** button *three* times. The display will read:

```
┌─────────────────────────┐
│     EXT MIDI SYNC        │
│         OFF              │
└─────────────────────────┘
```

2) Press the "up" **SCROLL** button. The display will now read:

```
┌─────────────────────────┐
│      EXT MIDI SYNC       │
│           O̲N            │
└─────────────────────────┘
```

3)   Now press the **SEND** button. The display will read:

```
┌─────────────────────────┐
│      SEND FILE MIDI      │
│     Seqnce FILE ZZ   ?   │
└─────────────────────────┘
```

4)   Use the **SCROLL** buttons to select the desired sequence to playback.

5)   When the desired sequence is found, press the **DO/YES** button. The display will then read:

```
┌─────────────────────────┐
│      Waiting for MIDI    │
│     Start/Continue .   . │
└─────────────────────────┘
```

6)   Start the external sequencer or drum machine. Once a MIDI Start or Continue command is received, the display will read:

```
┌─────────────────────────┐
│      SENDING:  MIDI      │
│       Seqnce File ZZ     │
└─────────────────────────┘
```

Where File ZZ is a file name (the same as sending any other file).

PLEASE NOTE:
a)   The sequence recorded by the *DataDisk* MUST be recorded with MIDI clock in order to use the external sync feature. If the file does not contain MIDI clock, then all file data will be sent with the first MIDI CLOCK received.

b)   *DataDisk* will assume that the start of the MIDI Sequence file is the start of the song, as far as Start, Continue, and Song Position Pointer commands are concerned. For example, if the sequence was recorded in the *DataDisk* starting at bar 2, beat 1, then that point becomes the beginning of the sequence as far as *DataDisk* is concerned. When the file is played back from the *DataDisk* (synced to MIDI Clock), a Start command will start playing from the beginning of the file, which will be 1 bar ahead of the original sequence's start location. Continue and Song Position Pointer commands will be 1 bar ahead of the original sequence's location as well.

c)   Since a Continue command may occur anywhere within a MIDI Sequence File, there may be a slight delay while the *DataDisk* searches

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through the disk for the specified location before executing the command. The ***DataDisk*** will, however, remain in sync.

d)   If, while syncing to an external sequencer, the ***DataDisk*** is connected to the sequencer (such as an MMT-8) in a MIDI loop (that is, sequencer MIDI output to ***DataDisk*** MIDI input and ***DataDisk*** MIDI output to Sequencer MIDI input as in figures 2A and 4 of the ***DataDisk*** user's manual), then either the MIDI Clock must be filtered from the ***DataDisk's*** output, or the sequencer should be set to not receive MIDI Clock. This is done to make sure that the speed of the sequence playback remains constant, and is accomplished in the following manner:

　　　　1)   Press the **MIDI** button *four* times. The display will then read:

```
+---------------------------+
|     MIDI CLOCK OUT        |
|      FILTER:  OFF         |
+---------------------------+
```

　　　　2)   Press the "up" **SCROLL** button. The display will read:

```
+---------------------------+
|     MIDI CLOCK OUT        |
|      FILTER:  ON          |
+---------------------------+
```
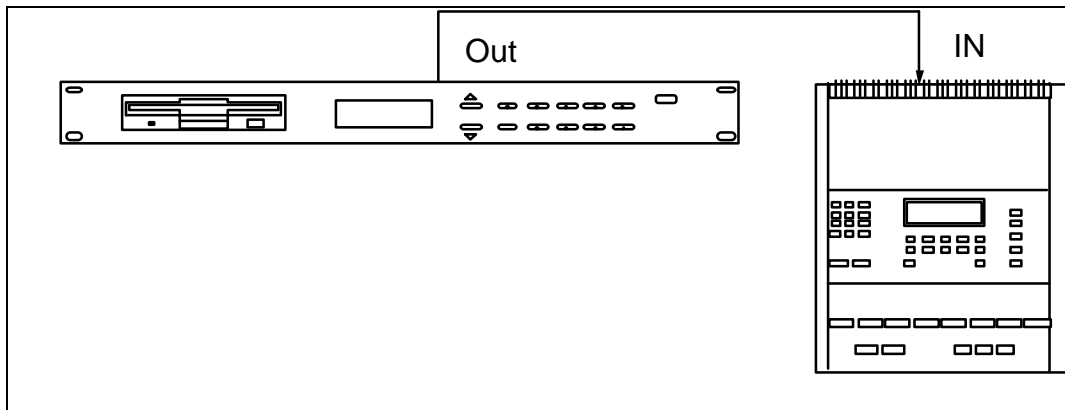
This means that when the sequence is sent, MIDI Clock, Song Position Pointer (SPP), Start, Stop, and Continue messages are filtered out (not sent), thereby preventing these messages from interfering with the timing of the sequencer that the ***DataDisk*** is syncing to.

APPLICATIONS

To record a MIDI sequence from the *DataDisk* to the Alesis MMT-8 MIDI Recorder for editing purposes:
　　　　1)   Connect both units as shown:

a) Place the MMT-8 into MIDI & INTERNAL

b) The MMT-8's countdown should be set to 00, and length should be changed either to the highest number available or the known length of the sequence.

c) The **DataDisk**'s EXT MIDI SYNC and MIDI Clock Out filter should both be set to OFF

2)   Select the MMT-8 track that you wish to record on. Press Record on the MMT-8

3)   Enable record without pressing the PLAY button on the MMT-8 (a MIDI Start command at the beginning of the sequence file sent to the MMT-8 will place the MMT-8 into record mode)

4)   Press the **DataDisk**'s Send button and use the scroll buttons to select the file that you wish to send

5)   Press the **DataDisk**'s Do/Yes button

6)   When the **DataDisk** has finished sending the file, press the Stop button on the MMT-8 to stop recording.

7)   Press Edit while in the part that you have just recorded to on the MMT-8, then scroll through the sequence to determine the total number of beats. Change the length of the sequence to equal the number of beats . This will eliminate any empty beats at the end of the sequence.

Synchronizing the *DataDisk* to a Sequencer
In a closed loop configuration (see page 13, fig. 4 of the **DataDisk** User's Guide), to prevent timing errors caused by MIDI clock returning to the sequencer, you must either:

1)   Set the sequencer's clock source to INTERNAL ONLY (ignore incoming MIDI clock), or

2)   Set the **DataDisk**'s MIDI clock filter to ON.

NOTE: In either case MIDI echo on the DataDisk should be set to OFF.

STORAGE OF DATADISK MIDI SETUP PER DISK

It is possible to store the *DataDisk* MIDI parameters (MIDI Echo, MIDI Program Change Channel, MIDI Sync, and MIDI Filter) to disk. When a new disk is loaded, the MIDI setup will be automatically loaded as well. This means that the MIDI setup can be unique per disk.

TO STORE THE *DataDisk* MIDI PARAMETERS TO DISK

1)   Press the **MIDI** button. The display will read:

```
┌─────────────────────────┐
│        MIDI ECHO        │
│          OFF            │
└─────────────────────────┘
```

2)   After setting the *DataDisk* MIDI parameters as desired (see page 35 of the *DataDisk* user's manual), press the **DO/YES** button while on any MIDI page to store any MIDI parameters to disk. The display will temporarily read:

```
┌─────────────────────────┐
│      MIDI Parameters    │
│         Stored          │
└─────────────────────────┘
```

The display will then return to the current MIDI page.

> **PLEASE NOTE:**   a)   If   no MIDI setup is stored on the inserted disk, the current MIDI parameter settings in   the *DataDisk* will not be altered.
>   b)   If the *DataDisk* is powered-on with a disk that has no MIDI setup stored on it, all MIDI   parameters will default to OFF.