

Syntech

DX-TX MASTER

Users Manual

Commodore 64/128



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DX/TX MASTER Owners' Manual for the Commodore 64

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By

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INTRODUCTION

Welcome to the ease and convenience of DX/TX Master, the DX/TX programmer and librarian from SYNTECH, Inc. We hope that the DX/TX MASTER will greatly enhance the pleasure of using your Yamaha DX or TX instrument.

Using the DX/TX MASTER you can create, edit and save on diskette "CARTRIDGES" of 32 DX/TX programs and functions. You can begin with a "CARTRIDGE" of programs from your DX or TX or start from scratch. And you can combine favorite programs from several CARTRIDGES into a new CARTRIDGE. Editing programs and functions with the easy-to-use DX/TX MASTER full screen editor makes "tweaking" a breeze. With the DX/TX MASTER librarian, rearranging patches within a CARTRIDGE is as easy as pressing a button. Finally, with the DX/TX MASTER you can print out a hard copy of any of your patches or functions.

DX/TX MASTER is designed to be used with a Commodore 64 or 128 computer, a Syntech, Passport Designs, Yamaha or Sequential MIDI-interface card and any of the Yamaha line of DX or TX instruments.

While DX/TX MASTER is intended to be simple and fun to use, even for a computer novice, not all of its functions are self-evident from looking at the computer screen. A short time spent reading this manual will more than pay for itself in time saved as you use the DX/TX MASTER.

CHECK LIST OF NECESSARY EQUIPMENT

You will need the following items to use your DX/TX MASTER:

1. DX/TX MASTER Master Diskette.
2. A new diskette for loading and saving data.
3. MIDI interface card (Syntech, Passport Designs, Yamaha or Sequential).
4. Commodore 64 or 128 Computer.
5. Television set (color or Black & White) or Video Monitor.
6. Commodore VIC-1541 disk drive.
7. One or more Yamaha DX or TX series Synthesizers.
8. Audio playback system (anything from a small guitar amp to a state-of-the-art audio system will do).
9. Assorted connecting cables.

START-UP PROCEDURE

1. Make sure the Commodore 64, disk drive, and video monitor are installed and operating properly.
2. WITH THE POWER OFF, insert your MIDI interface card into the cartridge slot of the Commodore 64.
3. Make sure the synthesizer and audio system are also installed and working properly.
4. Using standard MIDI cables (5-pin DIN), connect the MIDI OUT jack on your MIDI interface card to the MIDI IN jack on your synthesizer; then connect the MIDI OUT jack on your synthesizer to the MIDI IN jack on the interface card.
5. Turn on the power to your Commodore 64 and your VIC-1541 disk drive.
6. Insert your DX/TX MASTER Master Disk in the VIC-1541 disk drive.
7. If you are using a Sequential Model 64 MIDI interface card, press "E" on the Commodore 64 keyboard for "Load Expansion Software" and wait for your DX/TX MASTER to load. If you are using ANY OTHER MIDI INTERFACE CARD, proceed with the following instructions.
8. Type LOAD "*",8 on the Commodore 64 keyboard and press RETURN.
9. When the screen says "READY", type RUN and press RETURN. A new screen will announce "DX / TX MASTER FROM MUSIC DIGITAL".
10. After a brief pause you will be asked to select the MIDI interface card you will be using:

Press "1" for SYNTech

Press "2" for Passport/Yamaha

Press "3" for Sequential Model 242

As soon as you make your selection the disk drive will start to load the appropriate version of DX/TX MASTER.

11. Wait for your DX / TX MASTER to load. When the disk drive stops running, you will see a message which says:

PLEASE REMOVE YOUR FACTORY DISK

Remove your DX/TX MASTER Master Disk and press RETURN when you are ready.

12. If you are using a DX series synthesizer you must disable the memory protect as follows:

Press the 'MEMORY PROTECT INTERNAL' button on your DX then press the 'NO' button.

13. If you are using a DX series synthesizer you must make system information available as follows:

Press the 'FUNCTION' button on your DX then press the '8' button until you see "SYSTEM INFORMATION" in the DX message window. Now press the 'YES' button and finally press the 'INTERNAL' button.

OVERVIEW

MENUS AND FUNCTION KEYS

Most operations which you will perform with your DX/TX MASTER software are accessed by pressing one of the functions keys on the right hand side of your Commodore 64 computer keyboard. On the bottom three lines of your computer screen you will see a display called a MENU. The menu tells what each of the four function keys will do.

Each menu has four independent LEVELS. The first level is what you see if you are not touching the computer keyboard. When you hold down either "SHIFT" KEY you will see the second level. When you hold down the "CONTROL" KEY you will see the third level. And when you hold down the "CONTROL" KEY together with either "SHIFT" KEY you will see the fourth level. Each of these levels corresponds to different function key choices. For example, holding down a "SHIFT" KEY and pressing the "F1" KEY will have a different effect than pressing the "F1" KEY without holding down a "SHIFT" KEY. Once you get used to this system you will find that any of the sixteen different selections associated with a menu is easily and quickly accessed using your left hand for the "SHIFT" and "CONTROL" KEYS and using your right hand for the FUNCTION KEYS.

CHANGING MENUS

Most menu selections are indicated by a grey tab on the currently displayed menu level. These selections are operations which will be performed within the same menu (that is without changing menus). Occasionally a menu selection will be indicated on a light red (darker gray on a black and white monitor) tab. These menu selections are used to change to a different menu.

The first menu that you see is the MAIN MENU. Your DX/TX MASTER has two other menus: the EDIT MENU and the DISK MENU. The EDIT MENU is selected by holding down the CONTROL and pressing the "F1" KEY (i.e. LEVEL III - F1). The DISK MENU is selected by holding down the CONTROL and pressing the "F5" KEY (i.e. LEVEL III - "F5"). From either of these menus you can return to the MAIN MENU by pressing the "F7" KEY by itself (LEVEL I - "F7"). This selection is labeled "EXIT". You can also return to the MAIN MENU at any time by pressing the "RUN/STOP" and "RESTORE" KEYS simultaneously.

The last chapter of this manual provides a convenient map of the three menus of your DX/TX MASTER.

HIDDEN FUNCTIONS

Some operations which you will perform with your DX/TX MASTER are selected by pressing keys other than the function keys. These are called HIDDEN FUNCTIONS because they do not appear on any of the menus. Hidden functions work exactly the same way as menu selections except that you must know what they are.

The next to last chapter of this manual provides a convenient list of all hidden functions of your DX/TX MASTER.

CARTRIDGES

Your DX/TX MASTER works on groups of 32 programs and 64 functions at a time. These groups are called CARTRIDGES because they may be stored in your synthesizer's main memory or in an appropriate RAM CARTRIDGE in the same order and with the same names as appear on the MAIN MENU screen of your DX/TX MASTER.

Throughout this manual the term 'CARTRIDGE' will mean a DX/TX MASTER CARTRIDGE containing 32 programs and 64 functions. The first 32 functions in a cartridge are called TX functions and the last 32 are called DX functions. This is because a TX-7 can hold 32 programs and 64 functions (i.e. a full DX/TX MASTER CARTRIDGE) and when connected to a DX-7, will send the last 32 functions (the DX functions) to the DX individually as programs are called up on the DX. This feature of the DX and TX working together is emulated by DX/TX MASTER's "SEND MODE" (see the LIBRARIAN section of this manual).

NOTES: A DX-7 will hold 32 programs but only one function.
 A DX-7 will not send its function over MIDI.
 A TX-216 or TX-816 will hold 32 programs and 32 functions.

The purpose of the MAIN MENU is to allow you to transfer CARTRIDGES to and from your synthesizer and to rename and reorganize the programs within a CARTRIDGE.

The purpose of the DISK MENU is to allow you to transfer CARTRIDGES to and from floppy diskettes and to combine programs from different CARTRIDGES.

THE BUFFER

Your DX/TX MASTER sets aside a special work space called the buffer. The buffer can hold one program and one performance function. You can "GET" a program into the buffer from the synthesizer, from the current CARTRIDGE (i.e. the CARTRIDGE shown on the screen) or from a diskette. You can "SEND" the program in the buffer to the synthesizer, to the current CARTRIDGE or to a diskette.

The purpose of the EDIT MENU is to allow you to edit programs and functions while they are in the buffer.

INDICATORS

The top two lines of your screen are indicators of the current status of your DX/TX MASTER. On the MAIN MENU screen they appear as follows:

CARTRIDGE: ?	BUFFER: ?
MIDI CHANNEL: ?	V: ? PRG: ? ?/FNC: ??

with the "?" marks filled in.

The CARTRIDGE INDICATOR shows the name of the current CARTRIDGE in memory (the group or 32 programs and 64 functions shown in the box on the main screen). Each CARTRIDGE which is saved to or loaded from a diskette must have a name. (CARTRIDGES drawn from the synthesizer may not have a name but you will need to name them if you wish to save them on diskette.) CARTRIDGES may be assigned a name from the MAIN MENU.

The BUFFER INDICATOR shows the name of the program (and associated function) currently in the buffer. Program names are optional but highly recommended. The program in the buffer must have a name in order to be individually saved to or loaded from diskette. Programs may be assigned a name from the EDIT MENU.

The BUFFER INDICATOR will appear in 'reverse field' (i.e. black letters on gray background) if the program and function in the buffer have been the last thing sent to your synthesizer by DX/TX MASTER.

The MIDI CHANNEL INDICATOR shows the midi channel number over which all MIDI data will be transferred to and from your synthesizer. Make sure this number matches the midi channel number of your synthesizer. Press the "C" KEY on your computer keyboard to change the MIDI CHANNEL INDICATOR.

The V: INDICATOR shows the velocity (range 1 - 9) which will be used when notes are played manually from your computer keyboard rather than from your synthesizer keyboard. Use the "V" KEY to increase the velocity and use the "SHIFT" + "V" KEY to decrease the velocity.

The PRG INDICATOR shows whether program data will be included when data is transferred between DX/TX MASTER and your synthesizer or between the CARTRIDGE and the buffer. If the indicator reads 'PRG: ON' and is shown in reverse then program data will be transferred. If the indicator reads 'PRG: OFF' and is not in reverse then program data will not be transferred. Press the "P" KEY on your computer keyboard to change the PRG INDICATOR.

The FNC INDICATOR shows whether function data will be included when data is transferred between DX/TX MASTER and your synthesizer or between the CARTRIDGE and the buffer. If the indicator reads 'FNC: ON' and is shown in reverse then function data will be transferred. If the indicator reads 'FNC: OFF' and is not in reverse then function data will not be transferred. Press the "F" KEY on your computer keyboard to change the FNC INDICATOR.

The FNC INDICATOR also indicates which group of 32 functions is currently active. Recall that a DX/TX MASTER CARTRIDGE contains 32 programs and 64 functions. The first 32 functions are called TX functions and the last 32 are called DX functions. If the FNC INDICATOR reads 'TX/FNC' then the TX functions are active and if the FNC INDICATOR reads 'DX/FNC' then the DX functions are active. DX/TX MASTER transfers between the CARTRIDGE and the buffer only effect the active functions.

THE CURSOR

One area of your screen will be displayed in black characters on a yellow background (black on white if you are using a black and white monitor). This area is called THE CURSOR.

In the MAIN MENU the cursor indicates which program in the current CARTRIDGE will be used for data transfers to and from the buffer or your synthesizer. Use the "F1" KEY with or without the "SHIFT" KEY to move the cursor on the MAIN MENU SCREEN. The "HOME" KEY with or without the "SHIFT" KEY move the cursor to the first and last CARTRIDGE programs respectively.

In the EDIT MENU the cursor indicates which 'data field' will be changed when you edit program or function data. Use the "F1" or "F3" KEY either with or without the "SHIFT" key to move the cursor on the EDIT MENU screens. The "HOME" KEY with or without the "SHIFT" KEY move the cursor to the first and last data positions respectively.

DX/TX LIBRARIAN

The DX/TX LIBRARIAN is operated from the MAIN MENU of DX/TX MASTER. With the LIBRARIAN you can:

1. Transfer programs and/or functions between the CARTRIDGE and the buffer.
2. Transfer programs and/or functions between the buffer and the synthesizer.
3. Re-arrange, insert and delete programs in the CARTRIDGE.
4. Set-up DX/TX MASTER to accomodate the format of your printer.
5. Select individual CARTRIDGE programs with the CURSOR for transfer to and from your synthesizer and the BUFFER.

Below is a description of each of the menu selections and hidden functions available in the LIBRARIAN. It is assumed that you are now familiar with the information contained in the OVERVIEW section of this manual.

MENU LEVEL I
(F# KEYS ALONE)

PROGRAM +

Moves the cursor to the next program in the CARTRIDGE.

GET 1 P/F

Transfers one program and/or function from your DX or TX synthesizer to the DX/TX MASTER buffer.

What 'GET 1 P/F' will get depends on the status of the PRG and FNC indicators as follows:

PRG	FNC	RESULT
ON	DX/FNC: ON	PROGRAM ONLY (DX WON'T SEND FUNCTIONS)
ON	TX/FNC: ON	PROGRAM AND FUNCTION
ON	??/FNC: OFF	PROGRAM ONLY
OFF	DX/FNC: ON	NOTHING (DX WON'T SEND FUNCTIONS)
OFF	TX/FNC: ON	FUNCTION ONLY
OFF	??/FNC: OFF	NOTHING

IT IS IMPERATIVE THAT THE DX/TX SEGMENT OF THE FNC INDICATOR MATCH YOUR SYNTHESIZER WHEN SELECTING 'GET 1 P/F'.

When you select 'GET 1 P/F', the following message will appear at the bottom of your screen (temporarily replacing the menu):

GET 1 P / F FROM SYNTH ON CHANNEL #
PLEASE CONFIRM: PRESS "Y" OR "N"

DX/TX MASTER will get program data only if the "P" in this message is shown in reverse. Similarly, it will get function data only if the "F" is shown in reverse and ONLY IF YOU ARE USING A TX SYNTHESIZER. In any case it will request the data on the indicated channel. If any of the information in the message is not to your liking, press the "N" KEY on your computer. Otherwise press the "Y" KEY.

If you press "Y" the border of your screen will temporarily turn blue to indicate that data is being transferred. If you are using a DX synthesizer you will now be asked to select a program # on your DX. On TX synthesizers the data transfer is automatic. When the transfer is complete the border will return to black. If the border doesn't return to black in a few seconds then there has been a data transfer problem (perhaps a wrong MIDI channel number, improperly connected MIDI cables or a synthesizer turned off). You can escape from this predicament by pressing the "RETURN" KEY.

INSERT

Inserts the buffer program and/or function (depending on the PRG and FNC INDICATORS) in the CARTRIDGE at the current cursor position. Insert effectively pushes program #32 off the bottom of the CARTRIDGE into hyper-space, so if you want program #32, do not select insert. (Of course, you get an opportunity to change your mind.)

GET 32P/F

Gets all 32 programs and/or functions from the synthesizer into the CARTRIDGE. Otherwise, 'GET 32P/F' operates exactly like 'GET 1 P/F' described above.

With TX synthesizers the transfer is automatic. With a DX synthesizer you must do the following:

Press the "FUNCTION" button on your DX.

Press the "8" button until you see the "MIDI TRANSMIT" message in the DX window.

Press the "YES" button.

All 32 programs in your DX will now be transferred to DX/TX MASTER's CARTRIDGE. No functions are transferred since the DX doesn't remember functions.

MENU LEVEL II
(SHIFT + F# KEYS)

PROGRAM -

Moves the cursor to the previous program in the CARTRIDGE.

NAME CART

Allows you to name the current CARTRIDGE for purposes of transferring CARTRIDGES to and from diskette. A new cursor and eight dots will appear next to the CARTRIDGE indicator. This is DX/TX MASTER's pleasant way of asking you to type in the CARTRIDGE name. When you are finished, press the "RETURN" KEY.

DELETE

Deletes (erases) the program at the cursor in the CARTRIDGE. All programs below the cursor position are moved up one place and the buffer program is inserted in position #32 (see INSERT above). As with INSERT the result is irreversible so, if you want the program at the cursor, don't select DELETE. If you do so by accident, press "N".

SND 32P/F

Will transfer 32 programs and/or functions from the CARTRIDGE to your synthesizer. The table shown in 'GET 1 P/F' applies here as well.

In order for your synthesizer to receive the 32 programs and/or functions its memory protect must be turned off. If you are using a DX you have already done this as part of the start-up procedure for DX/TX MASTER (or you have already had considerable difficulty using this software).

It is imperative for 'SND 32P/F' that the DX-TX portion of the FNC INDICATOR match your synthesizer. If you are using a DX and the FNC INDICATOR reads 'TX/FNC: ON', DX/TX MASTER will try to send 32 functions to the DX. This will result in a MIDI DATA ERROR on the DX.

If you are using a TX synthesizer, be sure that the channel number shown in the MIDI CHANNEL INDICATOR matches your synthesizer's MIDI channel.

MENU LEVEL III
(CONTROL + F# KEYS)

EDIT

Changes to the EDIT MENU (see below). The buffer is automatically sent to the synthesizer whenever you select EDIT. Whether program and/or function data is sent depends on the PRG and FNC INDICATORS.

DISK

Changes to the DISK MENU (see below).

SET PRINT

Allows you to decide whether LINE FEEDS are sent after each line of printing. For the standard Commodore printer the answer is "N". If lines print over each other on your printer you should change this setting to "Y".

SWAP 2

Allows you to swap programs within the CARTRIDGE. When you select 'SWAP 2' a message will appear asking which program you wish to swap with the current cursor program. Use the "-" and "+" keys to position the "swap cursor" (shown in gray) and press "RETURN".

MENU LEVEL IV
(CONTROL + SHIFT + F# KEYS)

1PRG/BUFF

Transfers the program and/or function from the cursor position in the CARTRIDGE to the buffer. The PRG and FNC indicators determine whether programs and/or functions will be transferred. The FNC indicator also determines whether the DX or TX function will be transferred to the buffer. Note that buffer can hold only one function at a time.

INIT BUFF

Will set both the program and function data in the buffer to initialized values similar to those used in the DX when setting up a new program. This is the state of the buffer and all CARTRIDGE programs when you start-up DX/TX MASTER.

BUFF/ONE

Transfers the program and/or function from the buffer to the cursor position in the CARTRIDGE. The PRG and FNC indicators determine whether programs and/or functions will be transferred. The FNC indicator also determines whether the function in the buffer will be transferred to the program's DX or TX function.

BUFF/ALL

Transfers the program and/or function from the buffer to ALL the programs and/or functions in the CARTRIDGE. This is useful in returning the CARTRIDGE to the initialized state or for building a CARTRIDGE of modifications to one of your favorite sounds (e.g. a CARTRIDGE of horn sounds).

Whether program and/or function data is transferred depends on the PRG and FNC INDICATORS. Also, if function data is transferred, only one set of functions will be transferred (either the DX set or the TX set, depending on the FNC INDICATOR).

NOTE: A convenient way to use DX/TX MASTER to combine programs from several CARTRIDGES is to use your synthesizer as a temporary CARTRIDGE. For example, suppose you wish to combine the first 16 programs from a CARTRIDGE named "CART-1" with the first 16 programs from a CARTRIDGE named "CART-2". The steps below accomplish this in the shortest time.

1. Load CART-1 into DX/TX MASTER (see DISK OPERATIONS).
2. Use 'SND 32P/F' to transfer CART-1 to your synthesizer.

3. Load CART-2 into DX/TX MASTER.
4. Use 'GET 1 P/F' to get program #1 into the buffer.
5. Place the cursor at CARTRIDGE position #17 and use 'INSERT' to transfer the buffer to the cartridge.
6. Repeat steps #4 and #5 for programs #2 thru #16.
7. Use 'NAME CART' to give your cartridge a new name.
8. Save the DX/TX MASTER CARTRIDGE to disk.

MAIN MENU HIDDEN FUNCTIONS

Below is a table of keys on your computer keyboard which are active whenever you are at the MAIN MENU of DX/TX MASTER.

KEY	RESULT
C	Increment MIDI channel.
SHIFT C	Decrement MIDI channel.
F	Turn FNC INDICATOR on and off.
SHIFT L	Print MAIN MENU screen (CARTRIDGE contents).
P	Turn PRG INDICATOR on and off.
T	Change FNC INDICATOR form TX to DX and visa versa.
CRSR DOWN	Send buffer to synthesizer. The BUFFER INDICATOR will show in reverse to indicate that the buffer was the last thing sent to the synthesizer. The program and/or functions will be sent depending on the PRG and FNC INDICATORS.
CRSR RIGHT	Send CARTRIDGE program (at cursor) to synthesizer. If the BUFFER INDICATOR is in reverse it will return to normal to indicate that a CARTRIDGE program was sent last.
	BOTH CRSR KEYS SEND PROGRAMS TO THE SYNTHESIZER TEMPORARY BUFFER ONLY.
HOME	Move cursor to CARTRIDGE program #1.
SHIFT HOME	Move cursor to CARTRIDGE program #32.
V	Increment V: INDICATOR (velocity up).
SHIFT V	Decrement V: INDICATOR (velocity down).
A	Send an "A 440" (A3) to synthesizer. The purpose of this and "Q" and "Z" below is to provide a means of hearing a program when using a TX series synthesizer without a keyboard attached. The note is sent with the velocity (1 - 9) shown by the V: INDICATOR.
Q	Send an "A 1760" (A5) to synthesizer.
Z	Send an "A 110" (A1) to synthesizer.

MAIN MENU HIDDEN FUNCTIONS (con't)

KEY	RESULT
S	<p>Enter SEND MODE. This is for use with DX synthesizers only. When in SEND MODE, each time a program is selected on the DX front panel, the corresponding FUNCTION will be sent from the CARTRIDGE in DX/TX MASTER. Whether DX or TX functions are sent depends on the FNC INDICATOR (see "T" above).</p> <p>In order for SEND MODE to work the DX must have SYSTEM INFORMATION UNAVAILABLE. After exiting SEND MODE you must make SYSTEM INFORMATION AVAILABLE again.</p> <p>In SEND MODE a separate function can be accessed by each program in your DX. In essence, DX/TX MASTER is emulating this TX-7 feature.</p>

DX/TX PROGRAM & FUNCTION EDITOR

The DX/TX PROGRAM & FUNCTION EDITOR is operated from the EDIT MENU of DX/TX MASTER. To get to the EDIT MENU select 'EDIT' from Level-III of the MAIN MENU. (To return to the MAIN MENU select 'EXIT' or press the "UP ARROW" KEY.) With the EDITOR you can:

1. Make changes in the program and function data currently in the buffer.
2. Transfer programs and/or functions between the buffer and the synthesizer.
3. Transfer programs and/or functions from the CARTRIDGE to the synthesizer.
4. Name the program and function currently in the buffer.

DX/TX programs and functions contain so much data that DX/TX MASTER requires three screens to show all the data for editing. The first of these screens, the OPERATOR SCREEN, contains the data which applies to the individual operators. The second screen, the COMMON SCREEN, contains the data which applies to the program as a whole (i.e. applies to all operators). The third screen, the FUNCTION SCREEN, contains the function data for the program in the buffer.

The first two menu levels are the same for each of the three edit screens while levels III and IV are different. The hidden functions are the same for all screens.

NOTE: If the PRG INDICATOR is on, changes in program data are sent to the synthesizer immediately so that you can hear the effect of the change. The same applies to function data if the FNC INDICATOR is on.

IMPORTANT: In order for the PROGRAM & FUNCTION EDITOR to work with a DX series synthesizer, SYSTEM INFORMATION must be available and MEMORY PROTECT must be off (see START-UP PROCEDURES #12 and #13). Also your DX/TX MASTER must be set to the same MIDI channel as your synthesizer. If you experience problems with this section of DX/TX MASTER, check these things first.

Below is a description of the row labels appearing in the left hand column of the OPERATOR SCREEN:

LABEL	MEANING
-------	---------

RT1	RATE 1
-----	--------

LV1	LEVEL 1
-----	---------

BKPT	BREAKPOINT FOR KEYBOARD LEVEL SCALING CURVES)
------	---

LC/D	LEFT CURVE / DEPTH
------	--------------------

RC/D	RIGHT CURVE / DEPTH
------	---------------------

The LC/D and RC/D parameters have two cursor positions for each operator. The first is for the CURVE (Linear -, Linear +, Exponential - and Exponential +) and the second is for DEPTH (0 - 99).

RSCL	RATE SCALING
------	--------------

AMSN	AMPLITUDE MODULATION (AM) SENSITIVITY
------	---------------------------------------

VELO	VELOCITY SENSITIVITY
------	----------------------

OUTP	OUTPUT (AUDIO) LEVEL
------	----------------------

MODE	FREQUENCY MODE (RATIO OR FIXED)
------	---------------------------------

FREQ	FREQUENCY (2 CURSOR POSITIONS - COARSE & FINE)
------	--

DTUN	DETUNE
------	--------

Below is a description of each of the menu selections and hidden functions available in the EDITOR. It is assumed that you are now familiar with the information contained in the OVERVIEW section of this manual.

MENU LEVEL I (F# KEYS ALONE)

CURSOR RT

Moves the cursor one position to the right.

CURSOR DN

Moves the cursor one position down.

INC VALUE

Increases the value of the data under the cursor by one increment. One increment may be more or less than numerical 1 and in cases where the data is not numerical (e.g. "RATIO") an increment is not numerical.

EXIT

Returns you to the MAIN MENU.

MENU LEVEL II (SHIFT + F# KEYS)

CURSOR LT

Moves the cursor one position to the left.

CURSOR UP

Moves the cursor one position up.

DEC VALUE

Decreases the value of the data under the cursor by one decrement. One decrement may be more or less than numerical 1 and in cases where the data is not numerical (e.g. "RATIO") a decrement is not numerical.

EXIT

Returns you to the MAIN MENU.

OPERATOR SCREEN - MENU LEVEL III
(CONTROL + F# KEYS)

ALGORITHM+

Increases the algorithm number for this program by 1. The current algorithm number is shown at the left of line two of your screen. (This replaces the MIDI CHANNEL INDICATOR on the MAIN MENU screen.)

COPY OPS

Copies all the data in the operator column indicated by the cursor to another operator column. You will be prompted by a message to select the new operator column using the "-" and "+" keys. If you change your mind, simply press the "RETURN" KEY and the operator will be "copied to itself" thus having no effect.

SWAP OPS

Swaps all the data in the operator column indicated by the cursor with the data from another operator column. You will be prompted by a message to select the new operator column using the "-" and "+" keys. If you change your mind, simply press the "RETURN" KEY and the operator will be "swapped with itself" thus having no effect.

EXIT

Returns you to the MAIN MENU.

OPERATOR SCREEN - MENU LEVEL IV
(CONTROL + SHIFT + F# KEYS)

ALGORITHM-

Decreases the algorithm number for this program by 1. The current algorithm number is shown at the left of line two of your screen. (This replaces the MIDI CHANNEL INDICATOR on the MAIN MENU screen.)

INIT SCRIN

Returns all the data on the operator screen (only) to the initialized values. This selection is similar to INIT BUFF on the MAIN MENU except that ONLY THE VALUES ON THE OPERATOR SCREEN ARE EFFECTED.

GET 1 PRG

Gets one program from the synthesizer. This is exactly like GET 1 P/F on the MAIN MENU except that only program data is gotten regardless of the PRG and FNC INDICATORS. A TX will send its program automatically. With a DX you must select a program on the front panel after selecting 'GET 1 PRG'.

EXIT

Returns you to the MAIN MENU.

COMMON SCREEN - MENU LEVEL III
(CONTROL + F# KEYS)

NAME PROG

Allows you to name the program in the buffer. This name will be used if and when the buffer is transferred to the CARTRIDGE, to the synthesizer or to a diskette.

INIT SCRN

Returns all the data on the common screen (only) to the initialized values. This selection is similar to INIT BUFF on the MAIN MENU except that ONLY THE VALUES ON THE COMMON SCREEN ARE EFFECTED.

<blank>

The "F5" KEY has no effect on this menu.

EXIT

Returns you to the MAIN MENU.

COMMON SCREEN - MENU LEVEL IV
(CONTROL + SHIFT + F# KEYS)

*** SAME AS LEVEL III ***

FUNCTION SCREEN - MENU LEVEL III
(CONTROL + F# KEYS)

GET 1 FNC

Gets one function from the synthesizer. This is exactly like GET 1 P/F on the MAIN MENU except that only function data is gotten regardless of the PRG and FNC INDICATORS. If you are using a DX this selection will not work. You will have to enter DX function data manually.

INIT SCRIN

Returns all the data on the function screen (only) to the initialized values. This selection is similar to INIT BUFF on the MAIN MENU except that ONLY THE VALUES ON THE FUNCTION SCREEN ARE EFFECTED.

<blank>

The "F5" KEY has no effect on this menu.

EXIT

Returns you to the MAIN MENU.

FUNCTION SCREEN - MENU LEVEL IV
(CONTROL + SHIFT + F# KEYS)

*** SAME AS LEVEL III ***

EDIT MENU HIDDEN FUNCTIONS

Below is a table of keys on your computer keyboard which are active whenever you are at the EDIT MENU of DX/TX MASTER.

KEY	RESULT
F	Turn FNC INDICATOR on and off.
SHIFT L	Print current screen (operator, common or function).
P	Turn PRG INDICATOR on and off.
T	Change FNC INDICATOR from TX to DX and visa versa.
CRSR DOWN	Send buffer to synthesizer. The BUFFER INDICATOR will show in reverse to indicate that the buffer was the last thing sent to the synthesizer. The program and/or functions will be sent depending on the PRG and FNC INDICATORS.
CRSR RIGHT	Send CARTRIDGE program (at cursor) to synthesizer. The BUFFER INDICATOR will change to normal and read 'PRG # ?' to indicate which program from the CARTRIDGE was sent. A message will now appear on the screen (replacing the menu) to tell you that you can send other programs to your synthesizer by using the "-" and "+" keys. Also the screen display will show the program or function just sent. The purpose of this hidden function is to allow you to make aural and visual, "A/B" comparisons between the buffer and any CARTRIDGE program. Editing is temporarily suspended when you choose this selection. You may restore the buffer program to the synthesizer and the screen and return to editing by pressing the "RETURN" KEY.
HOME	Move cursor to top, left position on screen.
SHIFT HOME	Move cursor to bottom, right position on screen.
+	Increase the value under the cursor by ten increments. The purpose of this and "-" is to allow you to rapidly change data values which have a large range.
-	Decrease the value under the cursor by ten increments.

EDIT MENU HIDDEN FUNCTIONS (con't)

KEY	RESULT

V	Increment V: INDICATOR (velocity up).
SHIFT V	Decrement V: INDICATOR (velocity down).
A	Send an "A 440" (A3) to synthesizer. The purpose of this and "Q" and "Z" below is to provide a means of hearing a program when using a TX series synthesizer without a keyboard attached. The note is sent with the velocity (1 - 9) shown by the V: INDICATOR.
Q	Send an "A 1760" (A5) to synthesizer.
Z	Send an "A 110" (A1) to synthesizer.
1-6	Mute the operator corresponding to the number pressed.
LEFT-ARROW #	Solo the operator corresponding to the number pressed. (i.e. Mute all other operators.)
0	Un-mute all operators.
LEFT-ARROW 0	Mute all operators.

NOTES: ALL MUTES ARE CANCELLED WHEN EXITING FROM EDIT.

WHEN AN OPERATOR IS MUTED THE CORRESPONDING OPERATOR NUMBER (ON LINE 3 OF YOUR SCREEN) WILL BE BLANKED OUT. THIS IS HOW YOU TELL WHICH OPERATORS HAVE BEEN MUTED.

DISK OPERATIONS

Transferring data between the computer and floppy diskettes is accomplished from the DISK MENU of DX/TX MASTER. To get to the DISK MENU select 'DISK' from level III of the MAIN MENU. (To return to the MAIN MENU select 'EXIT' or press the "UP ARROW" KEY.) With the DISK MENU you can:

1. Transfer CARTRIDGES of data between the computer and floppy diskettes.
2. Transfer an individual program and one function between the buffer and floppy diskettes.
3. Delete (erase) CARTRIDGES and individual programs from floppy diskettes.
4. Examine the contents of floppy diskettes.
5. Format (prepare) new floppy diskettes for later use.

Below is a description of each of the menu selections and hidden functions available in the DISK MENU. It is assumed that you are now familiar with the information contained in the OVERVIEW section of this manual.

NOTE: The PRG and FNC INDICATORS have no effect on disk operations.

MENU LEVEL I (F# KEYS ALONE)

PROGRAM +

Moves the CARTRIDGE cursor one position down.

LOAD CART

Loads a full CARTRIDGE of data (32 programs and 64 functions) from diskette. You will first be asked to enter the name of the CARTRIDGE on diskette.

NOTE: ALL DATA CURRENTLY IN THE DX/TX MASTER CARTRIDGE IS DESTROYED BY 'LOAD CART'.

SAVE CART

Saves the current CARTRIDGE to floppy diskette. If the CARTRIDGE already has a name DX/TX MASTER will use it. Otherwise, you will be asked to give the CARTRIDGE a name.

If a cartidge by the same name is already on the diskette you will be asked if you wish to replace it. If you answer "N" then the save operation will be aborted. If you answer "Y" then the old CARTRIDGE will be erased and replaced with the DX/TX MASTER CARTRIDGE.

EXIT

Returns you to the MAIN MENU.

MENU LEVEL II
(SHIFT + F# KEYS)

PROGRAM -

Moves the CARTRIDGE cursor one position to up.

LOAD BUFF

Loads an individual program and function from diskette. You will first be asked to enter the name of the program on diskette and you must have previously saved an individual program and function using the 'SAVE BUFF' selection.

SAVE BUFF

Saves the current buffer program and function to floppy diskette. If the buffer already has a name DX/TX MASTER will use it. Otherwise, you will be asked to give the buffer a name.

If a program by the same name is already on the diskette you will be asked if you wish to replace it. If you answer "N" then the save operation will be aborted.

NOTE: If the program already has a name which contains ".", "/", or "-" you should rename it without these characters. DX/TX MASTER will not allow you to type these characters in a name and you will not be able to re-load a program from diskette if its name contains them.

EXIT

Returns you to the MAIN MENU.

MENU LEVEL III
(CONTROL + F# KEYS)

DIRECTORY

Displays the contents of the floppy diskette in your disk drive on the screen.

NOTE: All CARTRIDGES saved with DX/TX MASTER will appear on the directory as "CRT-YOURNAME". All individual programs will appear as "IND-YOURNAME".

NEW DISK

Formats (headers) a floppy diskette for future use. Any brand new diskette must be formatted before it can be used with DX/TX MASTER. An already used diskette may be re-formatted using this selection.

NOTE: FORMATTING AN ALREADY USED DISKETTE DESTROYS ALL INFORMATION PREVIOUSLY ON THE DISKETTE SO BE SURE THAT YOU DO NOT VALUE ANYTHING ON THE DISKETTE.

DLETE IND

Deletes (erases) an individual program from diskette.

DLET CART

Deletes (erases) a CARTRIDGE from diskette.

MENU LEVEL IV
(CONTROL + SHIFT + F# KEYS)

*** SAME AS LEVEL III ***

DISK MENU HIDDEN FUNCTIONS

*** SAME AS MAIN MENU HIDDEN FUNCTIONS ***

SUMMARY OF HIDDEN FUNCTIONS

Below is a table of keys on your computer keyboard which are active in some menu of DX/TX MASTER. Consult the LIBRARIAN, EDIT and DISK sections of this manual to see which keys are active.

KEY	RESULT

A	Send an "A 440" (A3) to synthesizer.
C	Increment MIDI channel.
SHIFT C	Decrement MIDI channel.
F	Turn FNC INDICATOR on and off.
SHIFT L	Print screen.
P	Turn PRG INDICATOR on and off.
Q	Send an "A 1760" (A5) to synthesizer.
T	Change FNC INDICATOR from TX to DX and visa versa.
V	Increment V: INDICATOR (velocity up).
SHIFT V	Decrement V: INDICATOR (velocity down).
Z	Send an "A 110" (A1) to synthesizer.
S	Enter SEND MODE.
CRSR DOWN	Send buffer to synthesizer.
CRSR RIGHT	Send CARTRIDGE program (at cursor) to synthesizer.
HOME	Move cursor to first position.
SHIFT HOME	Move cursor to last position.
+	Increase the value under the cursor by ten.
-	Decrease the value under the cursor by ten.
1-6	Mute operator.
LEFT-ARROW #	Solo operator.
0	Un-mute all operators.
LEFT-ARROW 0	Mute all operators.

DX/TX MASTER MENU MAP

MAIN MENU

Control	f1	f3	f5	f7
Regular	program +	get 1 p/f	insert	get 32p/f
Shifted	program -	name cart	delete	snd 32p/f
Ctrl	EDIT	DISK	set print	swap 2
Shft/Ctrl	1prg/buff	init buff	buff/one	buff/all

EDIT MENU

Control	f1	f3	f5	f7
Regular	cursor rt	cursor dn	inc value	EXIT
Shifted	cursor lt	cursor up	dec valuec	EXIT
Ctrl OPS COM FNC	algorithm+ name prog get 1 fnc	copy ops init scrn init scrn	swap ops	EXIT EXIT EXIT
Shft OPS + COM Ctrl FNC	algorithm- name prog get 1 fnc	init scrn init scrn init scrn	get 1 prg	EXIT EXIT EXIT

DISK MENU

Control	f1	f3	f5	f7
Regular	program +	load cart	save cart	EXIT
Shifted	program -	load buff	save buff	EXIT
Ctrl	directory	new disk	dlete ind	dlet cart
Shft/Ctrl	directory	new disk	dlete ind	dlet cart

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