INTRODUCTION TO MIDI

MIDI (Musical Instrumentation Digital Interface) is the communication specification defined by the world's musical instrument manufacturers to allow one electronic device to talk to another. The specification was initially intended to allow keyboards to communicate with other keyboards and computers, and thus, the specification includes codes to represent note on, note off, volume dynamics, pitch bend, patch change, etc. In fact, an examination of the controls of a synthesizer gives a good indication of the types of commands that the MIDI specification covers—anything that you can control in the synth can also be controlled through the use of MIDI.

While a portion of the MIDI specification deals exclusively with music generation, i.e. note on, note off, pitch bend, and other commands, the rest of the MIDI specification provides a means to control the function of electronic hardware. The MIDI program and control change commands offer a wide range of possibilities for controlling patch bays, internal routing of signals in mixers, effects units, and many other digitally accessed audio related equipment. The ability of the PDS-3500, THE MIDI PEDAL, to store in memory up to 1,984 different presets and transmit these MIDI control codes to various pieces of equipment makes it a very powerful tool for the performing musician and MIDI studio.

INTRODUCTION TO THE PDS-3500, THE MIDI PEDAL

The PDS-3500, THE MIDI PEDAL, is a foot controller that will let you enter a series of MIDI program changes and recall them at the tap of your foot. Although the PDS-3500 is in a foot switch format, the touch pads can be actuated with the gentle touch of your finger so that you could use the unit on top of your keyboard. With the addition of the FX-17, Wah/Volume controller pedal, the PDS-3500 can be used to control MIDI specification continuous controllers like volume and modulation depth, as well as pitch bend and channel pressure.

The PDS-3500 is housed in a DigiTech dual foot switch cast-metal housing. The left foot switch pad is the BANK/STORE switch. It is used to advance the BANK number and to store data when programming. The right foot switch is the PRESET/

INCREMENT switch and it is used to advance the PRESET number and increment the data values during programming. The top of the housing has two three-position slide switches. The left-hand slide switch is the MODE SWITCH. It selects the OPERATE mode, the PROGRAM mode, or selects the PEDAL STATUS number during programming. The right-hand slide switch is the DATA SWITCH. It selects during OPERATE(ing), one of two operating modes: BANK/PRESET or BANK DUMP, or during PROGRAM(ming) selects: BANK and PRESET, PROGRAM CHANGE number or MIDI CHANNEL number.

The PDS-3500 also has a four-number LED display mounted on the top of the chassis.

On the right side of the PDS-3500 chassis are two jacks: the 0 to +5 volt input from the FX-17 pedal and the A.C. power adapter jack.

The PDS-3500 requires the use of an A.C. power adapter (DOD PS-3 A.C. power adapter) to operate.

> NOTE: *The use of any other A.C. adapter other than a DigiTech or DOD power adapter will void the warranty.*

The 9-volt battery found under the plastic cover on the top of the unit is to back up the settings programmed into the PDS-3500 when the A.C. power adapter is withdrawn from the unit.

On the left side of the PDS-3500 is the MIDI output jack.

USEFUL TERMINOLOGY

PRESET: a group of numbers that are transmitted to MIDI devices to effect changes in the way the MIDI devices operate. A PRESET in the PDS-3500 consists of: a BANK number, a PRESET number, a MIDI PROGRAM CHANGE number, a MIDI CHANNEL number, and an optional PEDAL STATUS number.

BANK: a group of up to 31 presets. Access to the number of presets in a BANK may be limited by the use of the END-OF-BANK or the END-OF-PROGRAM markers.

END-OF-BANK marker: The use of the END-OF-BANK marker ("Eb") in a preset limits the access to presets to those which precede the marker. When the END-OF-BANK marker is encountered, the PDS-3500 resets the preset number back to "0" within that bank.

END-OF-PROGRAM marker: The use of the END-OF-PROGRAM marker ("EP") limits the access to those presets and banks which precede the marker. When the END-OF-PROGRAM marker is encountered in a BANK, the PDS-3500 resets the PRESET number back to "0" within the BANK. When the END-OF-PROGRAM marker is encountered when advancing BANK numbers, the PDS-3500 resets the BANK number back to BANK number "1".

PROGRAM: a group of up to 63 banks. Access to the number of BANKS may be limited to those BANK numbers which precede the END-OF-PROGRAM marker.
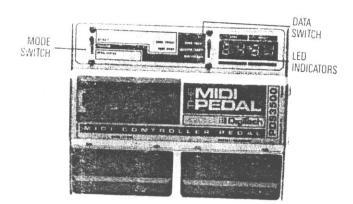
CONTROL DESCRIPTIONS

MODE SWITCH: This is a three position slide switch which selects either the operating mode or the programming mode. It also enables the pedal status number input when the PDS-3500 is in the programming mode.

DATA SWITCH: This is a three position slide switch. When the MODE SWITCH is in the OPERATE MODE, the DATA SWITCH selects either the BANK/PRESET MODE of operation or the BANK

DUMP MODE of operation. When the MODE SWITCH is in the PROGRAM MODE, the DATA SWITCH selects the BANK/PRESET, MIDI PROGRAM CHANGE NUMBER, or the MIDI CHANNEL NUMBER for data input.

BANK/STORE FOOT SWITCH: This is the foot switch on the left side of the pedal unit. When the PDS-3500 is in the OPERATE MODE, this foot switch advances the BANK NUMBER. When the PDS-3500 is in the PROGRAM MODE, this foot switch stores the values selected.

PRESET/INCREMENT FOOT SWITCH: This is the foot switch on the right side of the pedal unit. When the PDS-3500 is in the OPERATE MODE, this foot switch

The DigiTech PDS-3500 — THE MIDI PEDAL

advances the PRESET NUMBER. When the PDS-3500 is in the PROGRAM MODE, this foot switch advances the data value being programmed. If the foot switch is held down, the values advance at about ten per second after a moment's pause.

The capacity of the PDS-3500 is 64 banks with 31 presets in each bank. Each preset consists of: (1) a program change number, (2) a MIDI channel number, and (3) a pedal status number. The pedal status number assigns the function of the FX-17 to one of the defined MIDI continuous controllers, pitch bend, or channel pressure.

Apply power to the PDS-3500 with the switches in the OPERATE and BANK/PRESET positions. If the LED display does not read "1 0," remove and re-apply power to the unit.

The PDS-3500 has two operating modes, the BANK/PRESET mode or the BANK DUMP mode.

As you increment through the BANK numbers, the PRESET number shown on the LED display is "0." This is a null preset that does not transmit any data, but acts as a starting point for either of the two operating modes.

The BANK/PRESET MODE allows you to step through the presets in each bank one at a time, the left foot switch selecting the bank number and the right foot switch selecting the preset number. When the right foot switch is depressed, the PRESET NUMBER is advanced by one, the MIDI PROGRAM CHANGE number stored in memory for that preset is dis-played momentarily and the preset data is transmitted.

The BANK DUMP MODE sends out all of the presets in the selected bank. This mode allows you to set up many different effects units with different corresponding MIDI program numbers with one tap of your foot. You can assign each effect device to listen on a different MIDI channel, then in each preset in order, program a different MIDI program number for each MIDI channel (the continuous controller definition being the last preset). Put the left hand switch in the OPERATE mode and the right hand switch in the BANK DUMP mode, select the BANK number with the left (BANK/STORE) foot switch. Only when you depress the right (PRESET/INCREMENT) foot switch are all of the presets in the bank transmitted in the order of the preset numbers. The LED display will show " . . . . " while all of the presets in the bank are being transmitted.

PROGRAMMING THE PDS-3500, THE MIDI PEDAL

Programming the PDS-3500 is straightforward. With the use of the left and right three-position switches and the two foot switches, the BANK number, the PRESET number, the MIDI PROGRAM number, the MIDI CHANNEL number, and the PEDAL STATUS number are quickly programmed into THE MIDI PEDAL. The programmed settings are stored until changed and are backed up by a battery when power is removed from the unit.

The first step in programming the PDS-3500 is to determine what you wish to put into the unit. The approach you will take to programming the PDS-3500 is dependent on your external MIDI controlled effects and devices and how you are able to program them individually and their ability to he controlled by external devices to them:

1. You can preset the effects and patches you want in your external units so that you may access the combination of effects and patches with one MIDI program change number. Or,

2. You may "tune" each of your external devices to a different MIDI channel (this allows you to control up to 16 different units independently), and "assemble" the setup you want with a combination of MIDI program change numbers trans-mitted over different MIDI channels to the respective devices you wish to change. With this approach to programming the unit, it is necessary to limit your presets to 16, as there are only 16 channels over which you can send MIDI program change numbers.

One additional concept is useful in programming the PDS-3500. When in the BANK/PRESET MODE, think of the BANK as a song and the PRESETS as different setups for sounds within the song and organize your songs into sets. And when in the BANK DUMP MODE, think of each bank with its assigned presets as a single sound setup, and that to change to another sound or setup, you will have to change to another BANK. With good planning THE MIDI PEDAL can be a super tool to help you control your effects and other MIDI devices. Randomly accessing disorganized bank and presets can be awkward.

Prior planning prevents poor performances.

Whatever approach you may choose, organizing your setups is more easily accomplished by filling out a chart like the following:

BANK NUMBER	PRESET NUMBER	PROGRAM NUMBER	CHANNEL NUMBER	PEDAL STATUS	COMMENTS

You will find one of these charts at the back of the manual. It is a good idea to photocopy more charts from this original as you need them.

The chart helps you to plan each PRE-SET in a BANK, by thinking through and writing down the MIDI PROGRAM number, the MIDI CHANNEL number, and the PEDAL STATUS number.

There are 64 banks. You may store up to 31 presets per bank. In programming for the BANK DUMP MODE, it is important to remember that *all* of the presets in the selected bank will be transmitted, that the last preset in the bank should be used to determine the PEDAL STATUS definition, and that there are only 16 different channels you may transmit data on.

To Enter Program Information

You must first supply power to the PDS-3500 by inserting the A.C. power adapter into the 3.5mm jack on the right side to the rear of the chassis.

To select the BANK and PRESET numbers: put the MODE SWITCH in the PROGRAM mode and put the DATA SWITCH in the BANK/PRESET position. Select the BANK you wish to enter data into by pushing the left foot switch (BANK/STORE). The BANK number will advance one number at a time at a single push of the foot switch or, if the foot switch is held down, the BANK numbers will advance at the rate of about ten numbers per second. The BANK numbers are shown on the left hand portion of the LED display. When you have reached the desired BANK number, select the desired PRESET number in the same manner using the right foot switch. The PRESET numbers are shown on the right hand portion of the LED display. Should you overshoot the number, you may either continue to depress the foot switch until the desired number comes around again, or you may switch the MODE SWITCH to OPERATE and back to PROGRAM which will reset

the BANK number and the PRESET number back to 1 and 0 respectively.

To enter the PROGRAM CHANGE number: with the MODE SWITCH still in the PROGRAM mode, put the DATA SWITCH in the PROGRAM CHANGE position. Use the right foot switch to advance the PROGRAM CHANGE numbers as with the PRESET numbers above. The PROGRAM CHANGE numbers will appear on the LED display with one dot (. X X X) in front of the number. The LED display will show the value that is presently stored in memory for that preset. You change the number by incrementing up starting at that displayed number. If you fail to store the number you have incremented to, the previously stored number will remain in memory. Store this number in the memory of the PDS-3500 by depressing the left foot switch. A series of four dashes (- - - -) will appear indicating that the PROGRAM CHANGE number has been stored. It is not necessary to store each parameter individually; you may store all three preset values at a time by depressing the left foot switch once, when the values for PROGRAM CHANGE, MIDI CHANNEL, and PEDAL STATUS numbers have been selected. You must, however, store the preset values *before* you place the DATA SWITCH back into the BANK/

PRESET position or the preset numbers will all be reset to default values.

Entering the MIDI CHANNEL number: is done in the same manner as the PROGRAM CHANGE number, by putting the DATA SWITCH in the MIDI CHANNEL position and advancing the number with the right foot switch. The MIDI CHANNEL numbers are shown on the LED display with two dots (. . X X) in front of the numbers.

NOTE: *The PDS-3500 operates in an "edit mode" when programming. This means that whatever values that were previously stored in that bank and preset number are retained and displayed in the programming mode. To change these values to new ones, simply advance the numbers with the foot switches. You may have to "roll around" to the lower number value you desire by advancing the number past the greatest number value for that parameter back to 1. If you fail to store the newly incremented number, the number stored in memory will remain as the active number for that preset.*

USING THE PDS-3500 WITH A CONTINUOUS CONTROLLER PEDAL

The PEDAL STATUS number is really only necessary when you intend to use the PDS-3500 with a 0 to +5 volt controller pedal like the DOD FX-17. If you

do not wish to use a continuous controller pedal with the PDS-3500, the unit is programmed to the default value of the PEDAL STATUS number, *pedal disabled,* indicated by "Pd" on the LED display. You may simply store the PROGRAM CHANGE number and the MIDI CHANNEL number values without selecting the PEDAL STATUS number and the PDS-3500 will disable the pedal function and not transmit any information relating to a continuous controller.

Should you program a continuous controller definition into the PDS-3500, but not have the FX-17 plugged in, zero values will be transmitted. This will result in the minimum value for that controller being sent. The volume will be at the minimum, or there will be no modulation, or any of the other continuous controllers won't work. The use of the PDS-3500 with the controller pedal allows you access to all of the MIDI defined continuous controllers.

The PDS-3500 uses 7 bit resolution for the continuous controller function, and 8 bit resolution for the pitch bend. This, combined with the coarseness of the foot controller, may not be of a sufficient resolution to perform some of the continuous controller functions well. An example may be pitch bend, where the unit will toggle between two values and yield an unsatisfactory performance.

The following table shows some of the more useful definitions available. For a more complete list of the currently accepted defined numbers, refer to the listing of the continuous controllers in the back of the manual.

MIDI NO.	DESCRIPTION
1	modulation wheel or lever
5	portamento time
7	main volume
10	pan controller
92	tremolo depth
93	chorus depth
95	phaser depth
Cp	channel pressure
Pb	pitch bend
Pd	pedal disabled

Entering the PEDAL STATUS number: is done by switching the MODE SWITCH to the PEDAL STATUS position. Depress the right foot switch, advancing the PEDAL STATUS number to the desired value. This is usually the last value selected, so it is usually appropriate to store the selected values at this point by depressing the left foot switch.

The continuous controller pedal transmits data to the function selected by the PEDAL STATUS number. The position of the 0 to +5 volt controller pedal determines what data is sent and indirectly what effect is controlled in what manner.

IMPORTANT NOTES: *Care must be taken when using the continuous controller and changing to another preset without the same continuous controller definition. The last state which the continuous controller transmits to the effect will remain when you change presets. For example, if you were using the controller pedal as a main volume control (PEDAL STATUS number 7), and you reduce the volume to minimum then change to another preset in which the pedal is disabled, the main volume will remain at minimum.*

If you call for a continuous controller definition, but do not have the FX#17 pedal attached, the minimum value for the controller will be transmitted. This may result in no volume or lowest pitch, or any other minimum function of the continuous controller's definition.

END-OF-BANK AND END-OF-PROGRAM MARKERS

To mark the last preset in a bank of presets, you may use the END-OF-BANK marker. This marker, when arrived at during operation of the PDS–3500, will re-cycle you back to the top of the current bank from whatever point you insert it. When you have programmed and stored the last preset you want on a bank, advance to the next PRESET number, place the DATA switch in the PROGRAM CHANGE position and cycle through all 128 program numbers. When you reach program number 128, advance the program number one more. The display will read "Eb" for END-OF-BANK. Store the END-OF-BANK as you would a preset.

The END-OF-BANK marker (Eb) causes the PDS–3500 to recycle to the beginning of the particular bank in which you're operating. You may place the END-OF-BANK marker at any preset number in the bank, even though you may have more stored presets after the marker. During operation, when you reach the END-OF-BANK marker, you will be recycled to the beginning of the bank without accessing the presets that come after the marker. You may access the next BANK by simply pressing the BANK/STORE FOOT SWITCH.

The END-OF-PROGRAM marker (EP) causes the PDS–3500 to reset to the first bank when this marker is encountered. The END-OF-PROGRAM marker is placed in the same manner as the END-OF-BANK marker. The END-OF-PROGRAM marker is used in place of the END-OF-BANK marker when you have reached both the end of a bank and the end of your pro-grammed settings. During programming, after you have put the DATA switch in the PROGRAM CHANGE position and cycled through the 128 program numbers and reached the "Eb" marker, advance the PROGRAM CHANGE number to the "EP"

marker which is right after the "Eb" marker. When you encounter the END-OF-PROGRAM marker while advancing through presets, you will be recycled to the beginning of the bank in which you are operating. When you attempt to advance to the next bank, the PDS-3500 will recycle to the first bank, even though there may be other presets in the next banks that have been programmed.

These two markers allow you to more quickly get to the banks and presets you may want to use rather than having to cycle through unwanted programmed material.

TYPICAL EXAMPLE PRESET PROGRAMMING

Let's take the following preset example as illustrated on the programming planning chart:

BANK NUMBER	PRESET NUMBER	PROGRAM NUMBER	CHANNEL NUMBER	PEDAL STATUS	COMMENTS
2	15	23	1	7	volume pedal
2	16	Eb	—	—	end of bank marker

To enter this preset:

Place the MODE SWITCH in the PROGRAM position and the DATA SWITCH in the BANK/PRESET position. Advance the BANK number with the left foot switch until the number "2" appears in the left portion of the LED display, and advance the PRESET number with the right foot switch until the number "15" appears in the right side of the LED display.

Place the DATA SWITCH in the PROGRAM CHANGE position and advance the number with the right foot switch until ".23" appears in the LED display.

Place the DATA SWITCH in the MIDI CHANNEL position and advance the number with the right foot switch until 1 appears in the LED display.

Place the MODE SWITCH in the PEDAL STATUS position and advance the number with the right foot switch until "7" appears in the LED display.

Depress the left foot switch to store the preset in memory. Four dashes "- - -" appear in the LED display confirming that the preset is being stored.

To enter the END-OF-BANK marker:

After you have stored the preset as shown above, return MODE SWITCH to PROGRAM and the DATA SWITCH to the BANK/PRESET position. Advance the PRESET number to number 16. The LED indicator will show " 216" to indicate that you are now programming bank #2, preset #16.

Place the DATA SWITCH in the PROGRAM CHANGE position and advance through all 128 numbers and stop when the display reads "Eb."

Store the END-OF-BANK marker by depressing the left foot switch. Four dashes "- - -" will appear on the LED display indicating that the END-OF-BANK marker is being stored.

To recall and transmit the preset:

Place the MODE SWITCH in the OPERATE position and the DATA SWITCH in the BANK/PRESET position. Depress the left foot switch until "2" appears in the left portion of the LED display and depress the right foot switch until "15" appears in the right portion of the LED display. Upon arriving at the preset number, the LED display moemntarily displays ".23" indicating that PROGRAM CHANGE number 23, the MIDI CHANNEL number selected and the PEDAL STATUS number selected have been transmitted.

With the END-OF-BANK marker at preset #16 in bank #2, when you advance to the next PRESET, the PDS-3500 will recycle to the beginning of the bank. The LED display will not show the END-OF-BANK marker but will go directly to bank #2 preset #0.

MASTER RESETTING OF THE MEMORY

Sometimes it may become more convenient to clear the entire memory of all presets rather than reprogram them. This may be the case when you add another effect unit in your effects chain, or replace effects with an effects unit from a different manufacturer that requires different programming.

Resetting of the memory is accomplished by powering down the unit, placing the MODE SWITCH in the OPERATE position, the DATA SWITCH in the MIDI

CHANNEL position, and depressing only the PRESET/INCREMENT foot switch while you apply power to the unit. The LED display will chow "CLrd" indicating that the memory has reset. All presets will be reset to PROGRAM CHANGE: 1, MIDI CHANNEL: 1, and PEDAL STATUS: DISABLED. Do not depress both foot switch pedals or just the BANK/STORE foot switch pedal as you apply power to the PDS-3500 or the unit MAY BE DAMAGED.

CAUTION! *MASTER RESETTING OF THE MEMORY COMPLETELY REMOVES ALL PREVIOUSLY PROGRAMMED MATERIAL. BE CERTAIN THAT YOU MAKE A RECORD OF THE PRESETS YOU WISH TO REPROGRAM INTO THE PDS-3500 BEFORE YOU RESET THE MEMORY.*

REPLACING THE BATTERY

The 9 volt battery backs up the programmed settings of the PDS-3500 in the memory when the power is removed from the unit. The operational life of the battery is judged to be over a year. However, it is suggested that you replace the battery more often than that to prevent accidental loss of your programmed data. To replace the battery and avoid accidental loss of data: apply power to the PDS-3500, open the battery compartment and remove the old battery, replace with a new battery (EverReady® Energizer® battery No. 522), close the battery compartment, and remove the power to the unit. It is absolutely necessary to replace the battery with the power on to prevent the loss of your presets.

SUMMARY

The PDS-3500 stores MIDI control data in 1,984 presets 64 banks x 31 presets. Each preset consists of a MIDI PROGRAM CHANGE number, a MIDI CHANNEL number, and a PEDAL STATUS number. END-OF-BANK and END-OF-PROGRAM markers allow you to limit the access range of the PDS-3500 so as to give you faster access to the presets you want. The BANK/PRESET OPERATING MODE allows you to advance one preset at a time in a BANK. The BANK DUMP MODE transmits all of the presets in that BANK at once allowing sophisticated music and effects setups at a single touch of the foot switch.

In Case of Difficulty

In the unlikely event that you experience difficulty with the PDS-3500, please check the A.C. power adapter. The 9 volt battery under the cover on the top of the chassis backs up the memory settings programmed into the unit. Should you begin to lose these settings, please check and/or replace the battery. Replace the used battery with an EverReady® Energizer® 9 volt alkaline battery No. 522.

The use of any other A.C. power adapter other than a DOD/DigiTech PS-3 or FX-105 will void the warranty.

Unauthorized repair of the PDS-3500 by anyone other than the factory voids the warranty. Contact your DigiTech dealer for return/repair procedures.

DigiTech Warranty

1. The warranty registration card must be mailed within ten days after purchase date to validate this warranty.

2. DigiTech warrants this product, when used solely within the U.S., to be free from defects in material and workmanship under normal use and service.

3. DigiTech Electronics' liability under this warranty is limited to repairing or replacing defective materials that show evidence of defect, provided the product is returned through the original dealer, where all parts and labor will be covered up to a period of one year. The company shall not be liable for any consequential damage as a result of the product's use in any circuit or assembly.

4. Proof of date of purchase is considered to be the burden of the consumer.

5. If this product is battery operated: Batteries are not covered by this warranty. Please remove weak or dead batteries in order to prevent corrosion damage.

6. DigiTech reserves the right to make changes in design or make additions to or improvements upon this product without incurring any obligation to install the same on PRODUCTS PREVIOUSLY MANUFACTURED.

7. The foregoing is in lieu of all other warranties, expressed or implied, and DigiTech neither assumes nor authorizes any person to assume for it any obligation or liability in connection with the sale of this product. In no event shall DigiTech or its dealers be liable for special or consequential damages or from any delay in the performances of this warranty due to causes beyond their control.

DigiTech is a trademark of the DOD Electronics Corp.

DEFINED CONTINUOUS CONTROLLER NUMBERS

CONTROL NUMBER	CONTROL FUNCTION
0	Undefined
1	Modulation wheel or lever
2	Breath Controller
3	Undefined
4	Foot Controller
5	Portamento time
6	Data entry MSB
7	Main Volume
8	Balance
9	Undefined
10	Pan
11	Expression controller
12-15	Undefined
16-19	General purpose controllers (#'s 1-4)
20-31	Undefined
32-63	LSB for values 0-31
64	Damper pedal (sustain)
65	Portamento
66	Sostenuto
67	Soft pedal
68	Undefined
69	Hold 2
70-79	Undefined
80-83	General purpose controllers (#'s 5-8)
84-91	Undefined
92	Tremelo Depth
93	Chorus Depth
94	Celeste (Detune) Depth
95	Phaser Depth
96	Data Increment
97	Data Decrement
98	Non-registered Parameter Number LSB
99	Non-registered Parameter Number MSB
100	Registered Parameter Number LSB
101	Registered Parameter Number MSB
102-121	Undefined
122-127	Channel Mode Messages

DigiTech

BANK NUMBER	PRESET NUMBER	PROGRAM NUMBER	CHANNEL NUMBER	PEDAL STATUS	COMMENTS

Photocopy this programming chart. Leave the chart blank for future use.

BANK NUMBER	PRESET NUMBER	PROGRAM NUMBER	CHANNEL NUMBER	PEDAL STATUS	COMMENTS

Photocopy this programming chart. Leave the chart blank for future use.

:::DigiTech

BANK NUMBER	PRESET NUMBER	PROGRAM NUMBER	CHANNEL NUMBER	PEDAL STATUS	COMMENTS

Photocopy this programming chart. Leave the chart blank for future use.

DigiTech

BANK NUMBER	PRESET NUMBER	PROGRAM NUMBER	CHANNEL NUMBER	PEDAL STATUS	COMMENTS

Photocopy this programming chart. Leave the chart blank for future use.