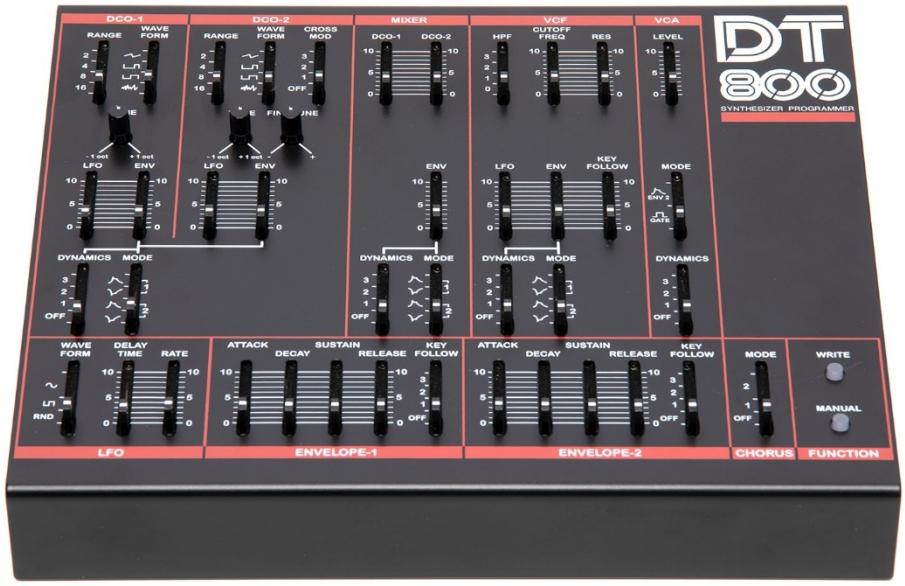


DT-800

User's Manual

Index

Document revisions

Date	Doc. revision	FW version	Change
25-04-2020	R1.0	V1.0	Initial document
19-12-2020	R1.1	V1.3	Added: - USB midi interface - USB midi channel - USB midiCC map editing

1 Setup

Intendeduse

The DT-800 is intended to create new sounds for your synthesizer.
The DT-800 is a programmer for the JX-8P, MKS-70 and the JX-10 synthesizers.

What is included

Please ensure that your DT-800 includes the following:

- DT-800 Programmer
- USB cable
- 6pin Male-Male MIDI Cable

Installation

Installation of the programmer to the synthesizeris simple and requires no tools. .

1. Make sure that the synthesizer is turned off
2. Connect the DIN jack on the programmer and the Programmer Input jack on the rear panel of the synthesizer with theDIN cord (6p)
3. Turn on the synthesizer.
   The synthesizer supplies power to the DT-800
4. When the DT800 is turned on, the Red LEDs will go on and off, showing everything is ok.
5. Push the Manual button , then synthesize your own sound

The DT800 has no sound source itself, therefore no sound is obtained unless connected tothe synthesizer.

The DT800 can edit the preset patches of the synthesizer.

2 Operation

By default the MANUAL led will be active on the DT-800 while turned ON.

Memory

The sound you have synthesized with the DT-800can be written into the synthesizer.
Follow the instructions in the owner's manual of each synthesizer.

Firmware version

When starting up the DT-800 the firmware version is displayed using the WRITE and MANUAL led located on the bottom right of the programmer. The version is calculated by the number of times the two leds are flashing. The version number can be displayed like: <WRITE>.<MANUAL>

Example: When the WRITE led flashes 2 times and the MANUAL led flashes 3 times the firmware version is 2.3

Firmware version update

To use the bootloader in the DT-800 to update the firmware in the DT-800 follow the following steps:

1. Press and hold the WRITE button
2. Connect the DT800 with a USB cable to a computer.
3. WRITE en MANUAL leds will lit to indicate bootloader mode.
4. Release WRITE button
5. Send firmware file with SysEx tool. (for example MIDI-OX)
6. During the upload the MANUAL led will flash.
7. When the upload is completed the DT-800 will reboot.

USB midi interface

The DT-800 can send midiCC commands over the USB midi interface. Every slider on the DT-800 has a specific midiCC command. The following midi map setting are default:

NR.	DESCRIPTION	DEC.	HEX.		NR.	DESCRIPTION	DEC.	HEX.
1	DCO-1 Range Selector	1	01		25	DCO-1 Envelope Mode Selector	25	19
2	DCO-1 Wave form Selector	2	02		26	MIXER Dynamics selector	26	1a
3	DCO-2 Range Selector	3	03		27	MIXER Envelope Mode Selector	27	1b
4	DCO-2 Wave form Selector	4	04		28	VCF Dynamics selector	28	1c
5	DCO-2 Cross Mod. selector	5	05		29	VCF Envelope Mode Selector	29	1d
6	DCO-1 Mixer Level	6	06		30	VCA Dynamics selector	30	1e
7	DCO-2 Mixer Level	7	07		31	LFO WaveformSelector	31	1f
8	VCF High Pass Filter Selector	8	08		32	LFO Delay Time	32	20
9	VCF Cutoff Frequency	9	09		33	LFO Rate	33	21
10	VCF Resonance	10	0a		34	Envelope 1Attack	34	22
11	VCA Level	11	0b		35	Envelope 1 Decay	35	23
12	DCO-1 Tune	12	0c		36	Envelope 1 Sustain	36	24
13	DCO-2 Tune	13	0d		37	Envelope 1 Release	37	25
14	DCO-2 Fine Tune	14	0e		38	Envelope 1 Key Follow selector	38	26
15	DCO-1 LFO Modulation	15	0f		39	Envelope 2 Attack	39	27
16	DCO-1 Envelopemodulation	16	10		40	Envelope 2 Decay	40	28
17	DCO-2 LFO Modulation	17	11		41	Envelope 2 Sustain	41	29
18	DCO-2 EnvelopeModulation	18	12		42	Envelope 2 Release	42	2a
19	MIXER EnvelopeModulation	19	13		43	Envelope 2 Key Follow selector	43	2b
20	VCF LFO Modulation	20	14		44	Chorus Mode Selector	44	2c
21	VCF EnvelopeModulation	21	15		45	Write Button	45	2d
22	VCF Key follow	22	16		46	Manual Button	46	2e
23	VCA Mode Selector	23	17					
24	DCO-1 Dynamics selector	24	18					

USB midi channel

By default the midi channel is set to 1.
In order to change the default midi channel the following SysEx command can be sent to the DT-800:

0xF0	0x00	0x21	0x1E	0x12	<Function>	<Number>	0xF7

<Function>:

- 0x00 change midi channel

The midi channel must be entered as a hexadecimal value.
For example to change to midi channel 2 (hex 0x02)

0xF0	0x00	0x21	0x1E	0x12	0x00	<0x02>	0xF7

USB midiCC map editing

In order to change the default midiCC mapping the following SysEx command two commands are available. It is possible to change a single midiCC value or you can change the whole midiCC map at once.

Edit single midiCC value:

0xF0	0x00	0x21	0x1E	0x12	<Function>	<Pot number>	<CC number>	0xF7

<Function>:

- 0x02 change single midiCC value

<Pot number>:

- Hexadecimal value of the pot number as shown in chapter 3 “panel description”

<CC number>:

- Hexadecimal value of the CC number. Value between 0 and 7f. Default is shown in chapter 3 “panel description” in this case,the CC number equals the number of the potmeter.

Example:

In order to change VCA LEVEL (pot 11, hex 0x0B) value to 44 (0x2C) the following command can be send:

0xF0	0x00	0x21	0x1E	0x12	<Function>	<Pot number>	<CC number>	0xF7

0xF0	0x00	0x21	0x1E	0x12	0x02	0x0B	0x2C	0xF7

Edit completemidiCCmap:

0xF0	0x00	0x21	0x1E	0x12	<Function>	<CC number>	0xF7

<Function>:

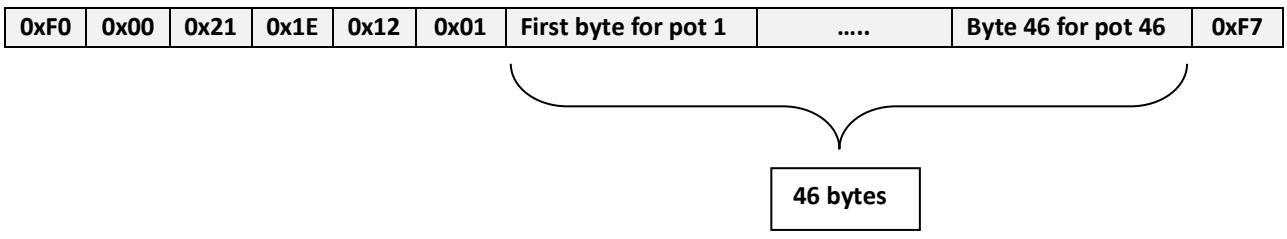
- 0x01 upload complete midiCC map.

<CC number>:

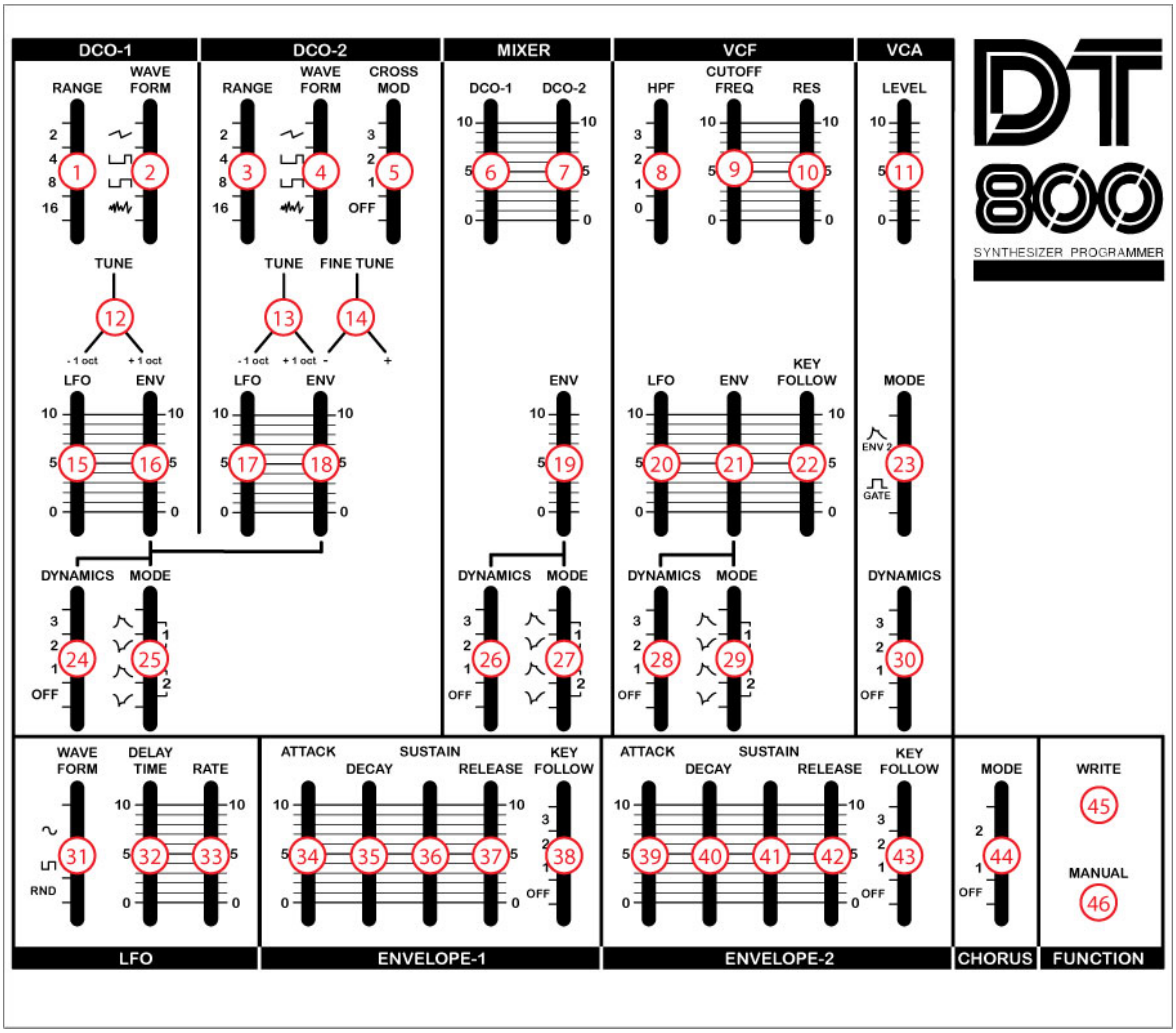
- Hexadecimal value of the CC number as shown in chapter 3 “panel description” The number of the pot equals the CC number.

The entire midiCCmap must be forwarded at once. So 46 midiCC messages have to be sent. It is not possible to adjust 1 single value.

Example:



3 Panel description



1. DCO-1 Range Selector
2. DCO-1 Wave formSelector
3. DCO-2 Range Selector
4. DCO-2 Wave form Selector
5. DCO-2 Cross Mod. selector
6. DCO-1 Mixer Level
7. DCO-2 Mixer Level
8. High Pass Filter Selector
9. VCF Cutoff Frequency
10. VCF Resonance
11. VCA Level
12. Tune
13. Tune
14. Fine Tune
15. LFO Modulation
16. Envelope modulation
17. LFO Modulation
18. Envelope Modulation
19. Envelope Modulation
20. LFO Modulation
21. Envelope Modulation
22. Key follow
23. VCA Mode Selector
24. Dynamics selector
25. Envelope Mode Selector
26. Dynamics selector
27. Envelope Mode Selector
28. Dynamics selector
29. Envelope Mode Selector
30. Dynamics selector
31. LFO Waveform Selector
32. LFO Delay Time
33. LFO Rate
34. Envelope 1Attack
35. Envelope 1 Decay
36. Envelope 1 Sustain
37. Envelope 1 Release
38. Envelope 1 Key Follow selector
39. Envelope 2 Attack
40. Envelope 2 Decay
41. Envelope 2 Sustain
42. Envelope 2 Release
43. Envelope 2 Key Follow selector
44. Chorus Mode Selector
45. Write Button
46. Manual Button

4 Specifications

[Programmer PG-800]

DCO-1
Range (2’, 4' , 8' , 16')
Waveform (⩘, ⊔⊓, ⊔⊓, noise)
Tune (+/- 1 oct)
Frequency Modulation (LFO, ENV)
Dynamics Selector
Envelope Mode

DCO-2
Range (2’, 4' , 8' , 16')
Waveform (⩘, ⊔⊓, ⊔⊓, noise)
Tune (+/- 1 oct)
Frequency Modulation (LFO, ENV)
Dynamics Selector
Envelope Mode
Cross Modulation
Fine Tune

Mixer
DCO-1, DCO-2 Level
Envelope Modulation
Dynamics Selector
Envelope Mode

VCF
HPF (High-pass Filter)
Cutoff Frequency
Resonance
LFO Modulation
Envelope Modulation
Key Follow
Dynamics Selector
Envelope Mode

VCA
Mode (ENV 2, Gate)
Level
Dynamics Selector

VCA
Mode (ENV 2, Gate)
Level
Dynamics Selector

ENV
Attack Time
Decay Time
Sustain Level
Release Time
Key Follow

LFO
Waveform (∿, ⊔⊓, RND)
Delay Time
Rate

Chorus
Mode Selector

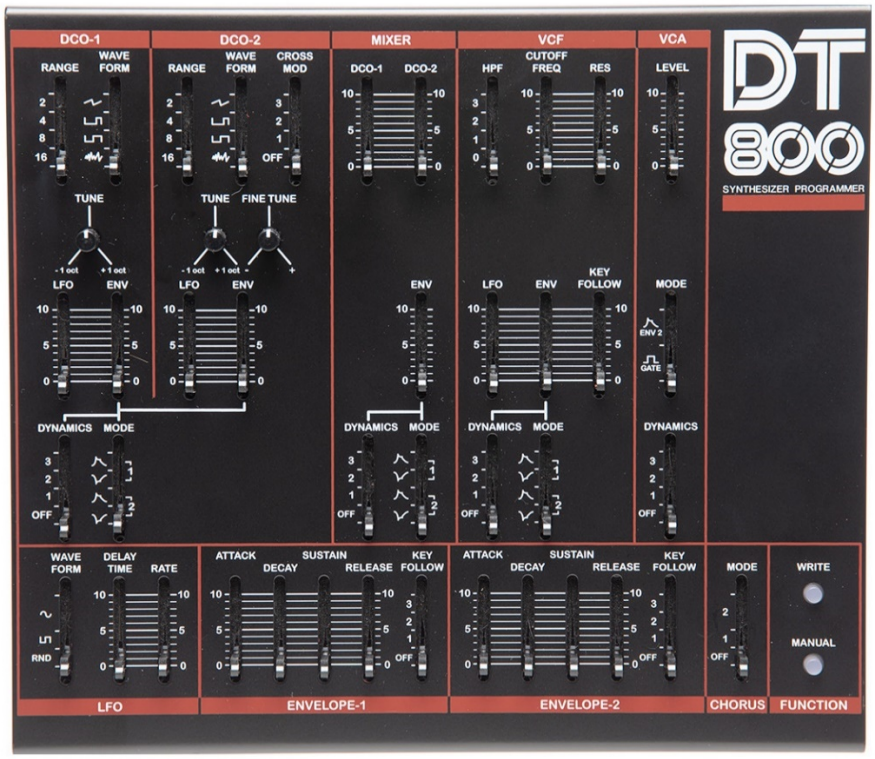
Function
Manual button
Write Button

Rear Panel
jack DIN6P

Dimensions DT-800 240(W) 210(D) x 45(H)mm
WeightDT-800 0.85 kg
Dimensions Box 330(W) 220(D) x 70(H)mm
Total weight box 1.088 kg
Power consumption USB or DIN: 60mA

Accessories
DIN cord (DIN6P)
USB Cable

Specifications are subject to changes without notice


DCO-1
DCO-2
MIXER
VCF
VCA
RANGE
WAVE FORM
CROSS MOD
TUNE
FINE TUNE
LFO
ENV
DYNAMICS
MODE
CUTOFF FREQ
HPF
RES
KEY FOLLOW
LEVEL
DT 800
SYNTHESIZER PROGRAMMER
DELAY TIME
RATE
ATTACK
DECAY
SUSTAIN
RELEASE
WRITE
MANUAL
LFO
ENVELOPE-1
ENVELOPE-2
CHORUS
FUNCTION


USB
SYNTH
DTRONICS