

ADDITIONAL DATA

**DONNÉES
SUPPLÉMENTAIRES**

ZUSATZDATEN

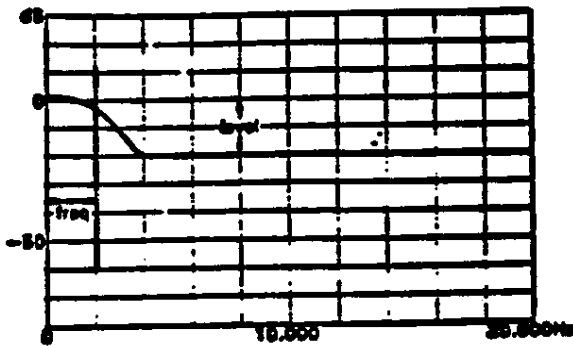
**Filter Table Data
Données d'un tableau de filtre
Filtertabellendaten**

**Data Disk Contents
Contenu des disquettes de données
Inhalt der Datendisketten**

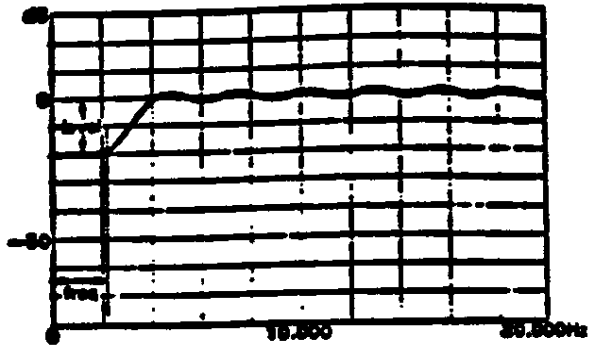
**Separately Available Sound Disks
Disques de sons disponibles séparément
Grsondert erhältliche Songs-Disketten**

System Exclusive Messages

Implementation Chart



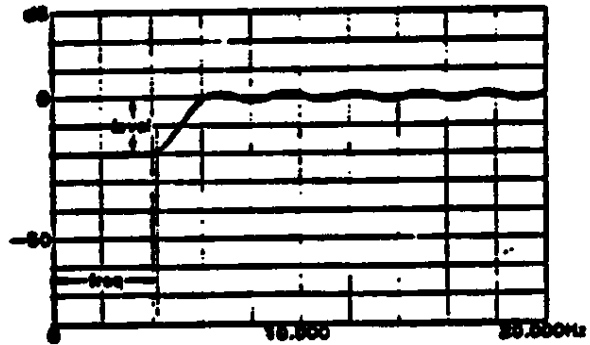
LOW_LPF
 Low pass filter (low frequency range)
 Filtre passe-bas (gamme de basse fréquence)
 Tiefpaßfilter (niedriger Frequenzbereich)
 $300\text{Hz} \leq \text{freq} \leq 3300\text{Hz}$
 $0\text{dB} \leq \text{level} \leq 30\text{dB}$



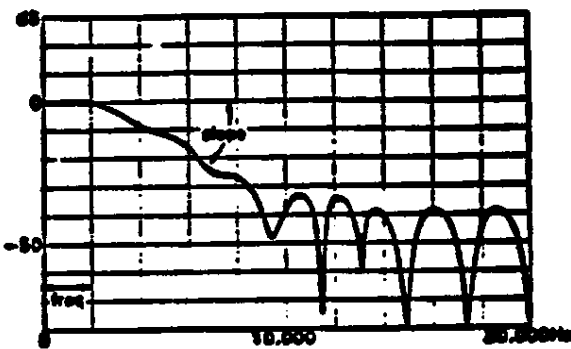
LOW_HPF
 High pass filter (low frequency range)
 Filtre passe-haut (gamme de basse fréquence)
 Hochpaßfilter (niedriger Frequenzbereich)
 $300\text{Hz} \leq \text{freq} \leq 3300\text{Hz}$
 $0\text{dB} \leq \text{level} \leq 30\text{dB}$



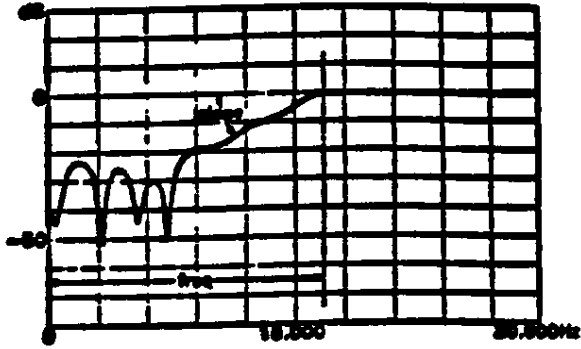
HIGH_LPF
 Low pass filter (high frequency range)
 Filtre passe-bas (gamme de haute fréquence)
 Tiefpaßfilter (Hoher Frequenzbereich)
 $2100\text{Hz} \leq \text{freq} \leq 8100\text{Hz}$
 $0\text{dB} \leq \text{level} \leq 30\text{dB}$



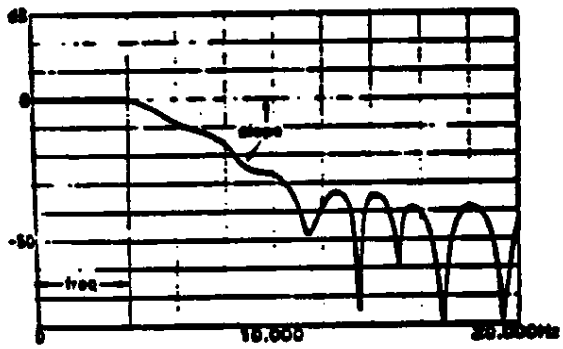
HIGH_HPF
 High pass filter (high frequency range)
 Filtre passe-haut (gamme de haute fréquence)
 Hochpaßfilter (Hoher Frequenzbereich)
 $2100\text{Hz} \leq \text{freq} \leq 8100\text{Hz}$
 $0\text{dB} \leq \text{level} \leq 30\text{dB}$



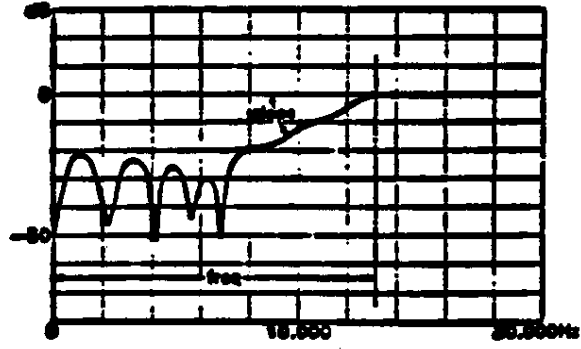
LOSL LPF
 Sloping low pass filter (low frequency range)
 Filtre passe-bas incliné (gamme de basse fréquence)
 Tiefpaßfilter mit sanft fallender Flanke
 (niedriger Frequenzbereich)
 $300\text{Hz} \leq \text{freq} \leq 3300\text{Hz}$
 $0\text{dB/kHz} \leq \text{slope} \leq 4\text{dB/kHz}$



LOSL HPF
 Sloping low pass filter (high frequency range)
 Filtre passe-haut incliné (gamme de haute fréquence)
 Hochpaßfilter mit sanft fallender Flanke
 (hoher Frequenzbereich)
 $11300\text{Hz} \leq \text{freq} \leq 14300\text{Hz}$
 $0\text{dB/kHz} \leq \text{slope} \leq 4\text{dB/kHz}$



HISL LPF
 Sloping high pass filter (low frequency range)
 Filtre passe-bas incliné (gamme de haute fréquence)
 Hochpaßfilter mit sanft fallender Flanke
 (niedriger Frequenzbereich)
 $2100\text{Hz} \leq \text{freq} \leq 8100\text{Hz}$
 $0\text{dB/kHz} \leq \text{slope} \leq 4\text{dB/kHz}$



HISL HPF
 Sloping high pass filter (high frequency range)
 Filtre passe-haut incliné (gamme de haute fréquence)
 Hochpaßfilter mit sanft fallender Flanke
 (hoher Frequenzbereich)
 $13100\text{Hz} \leq \text{freq} \leq 18100\text{Hz}$
 $0\text{dB/kHz} \leq \text{slope} \leq 4\text{dB/kHz}$

SEPARATELY AVAILABLE SOUND DISKS DISQUES DE SONS DISPONIBLES SÉPARÉMENT GESONDERT ERHALTLICHE SONGS-DISKETTEN

- The following TX16W DBS series library disks are available from Yamaha.
- Des disquettes bibliothèques de la série TX16W DBS sont disponibles auprès de Yamaha.
- Folgende Archivdisketten der TX16W DBS-Serie sind von Yamaha erhältlich.

No	GROUP NAME	TITLE
N°	NOM DE GROUPE	TITRE
Nr	GRUPPENNAME	TITEL
101	KEYBOARD 1	PIANO 2
102	KEYBOARD 2	HARPICHOORD 1
103	KEYBOARD 3	CELESTA 1
201	STRINGS 2	4 STRING INSTRUMENTS 1
202	STRINGS 3	VIOLA & VIOLIN 1
203	STRINGS 4	C-BASS & CELLO 1
204	STRINGS 5	TREMOLLO 1
205	STRINGS 6	PIZZICATO 1
206	STRINGS 7	MT STRINGS 1
301	WOODWIND 1	FLUTE & PICCOLO 1
302	WOODWIND 2	BASSOON (BAGDY), ENGLISH HORN & OBOE 1
303	WOODWIND 3	B CLARINET & CLARINET
304	BRASS 2	TROMBONE & TRUMPET 1
305	BRASS 3	TUBA & HORN 1
306	BRASS 4	HORN SECTION 1
307	BRASS 5	CHORD SECTION 1
308	SAX 1	FOUR SAXES 1
309	SAX 2	BARTONE & TENOR 1
310	SAX 3	ALTO & SOPRANO 1
401	GUITAR 2	E GUITAR LEAD 1
402	GUITAR 3	E GUITAR CHORD 1
403	GUITAR 4	A GUITAR LEAD 1
404	HARP 1	SCALE 1
405	HARP 2	PHRASE 1

No	GROUP NAME	TITLE
N°	NOM DE GROUPE	TITRE
Nr	GRUPPENNAME	TITEL
501	CHOR 2	POP'S VOICE (FEMALE) 1
601	DRUMS 1	KIT 1
602	DRUMS 2	KIT 2
603	TUNED PERCUSSION 1	VIBE 1
604	TUNED PERCUSSION 2	MARIMBA 1
605	TUNED PERCUSSION 3	BLOCKEN 1
606	TUNED PERCUSSION 4	YAPANI & GONG
607	TUNED PERCUSSION 5	TUBULAR BELLS 1 & STEEL DRUMS 1
608	PERCUSSION 1	LATIN 1
609	PERCUSSION 2	WIND CHIME & HANDBELL
610	PERCUSSION 3	CYMBALS & GRAN CASSA
701	ETHNIC 1	SHAMISEN 1
702	ETHNIC 2	OTO 1
703	ETHNIC 3	PHRASE 1
801	SOUND EFFECT 1	NATURE 1
802	SOUND EFFECT 2	ANIMALS & HUMANS 1
803	SOUND EFFECT 3	MACHINE 1
901	COMBINATION 1	ORCHESTRA KIT

Table 1 - Details of Bulk Dump / Condition Setup

Type	byte count	?	c
system setup	244	S	0
performance	200	U	0 - 31 (internal) 32 (edit buffer)
voice	316	V	0 - 31 (internal) 32 - 63 (edit buffer)
timbre	82	R	0 - 127 (internal) 0 - 127 (edit buffer)
wave sinc	12	W	0 - 63
filter	148	F	0 - 31 (internal) 32 - 63 (edit buffer)
filter table	522	T	0 - 15 (Note 2)

Note 1: For internal memory, the data of the currently selected bank will be transmitted. There is one edit buffer common to all banks.

Note 2: Since each filter table occupies 8k bytes, each table is transmitted or received as 16 blocks of 512 bytes each. From the byte count to the check sum of each block will total 525 bytes. In order to correctly transmit or receive the data, there must be an interval of at least 100 ms between blocks.

2.2 Universal System Exclusive Messages

(1) Sample dump header

Status	0110000	(PM)
Non-realtime ID	01111110	(PM)
Device no.	00000000	
Sub ID	00000001	(M)
Sample no. (LSB)	00000000	
Sample no. (MSB)	00000000	
Sample format	0001100	(M)
Sampling rate (LSB)	00000000	*
(0 bytes)	00000000	
Data length (LSB)	00000000	**
(0 bytes)	00000000	
Sustain loop start point (LSB)	00000000	
(0 bytes)	00000000	
Sustain loop end point (LSB)	00000000	
(0 bytes)	00000000	
Loop time	00000000	(M)-forward 30000000
Check sum	00000000	
EOX	1110111	(M)

NOTE: * Sampling rate is expressed as microseconds "Sampling rate".

98.7 kHz : 00H, 04H, 08H
 24.3 kHz : 00H, 04H, 08H
 10 kHz : 00H, 04H, 08H

** Data length, sustain loop start point and sustain loop end point are expressed as a word-count address. The TX10W uses 12-bit words.

4. RECEPTION DATA

System data is received only when the device number of the TX10W matches the device number of the incoming message, or when the device number of the TX10W is set to "GAIN".

4.1 System Exclusive Messages

(1) Universal bulk dump

These messages are received only when internal memory protect is off. The data format is the same as for transmission.

(2) Dump request

Format A

Status	11110000	(F0H)	
ID no.	01000011	(43H)	
Sub status	0010nnnn	(2nH)	nn=Device number
Format no.	01111100	(7CH)	
EOX	11110111	(77H)	

Format B

Status	11110000	(F0H)	
ID no.	01000011	(43H)	
Sub status	0010nnnn	(2nH)	nn=Device number
Format no.	01111110	(7EH)	
Classification name (4 bytes)	00000000	ASCII	L M LJ LJ
Data format name (8 bytes)	00000000	ASCII	S 0 0 2 Y 0
EOX	00000000 11110111	Binary (77H)	

The data format names are the same as for transmission.

4.2 Universal System Exclusive Messages

(1) Sample dump header

These messages are received only when internal memory protect is off. The data format is the same as for transmission.

(2) Sample dump data packet

These messages are received only when internal memory protect is off. The data format is the same as for transmission.

(3) Sample dump request

Status	11110000	(F0H)
Non-realtime ID	01111110	(7EH)
Device no.	00000000	
Sub ID	00000011	(00H)
Sample no. (LSB)	00000000	
Sample no. (MSB)	00000000	
EOX	11110111	(77H)

(4) Wait, Cancel, NAK and ACK are the same as for transmission.

Table 3 - Performance Parameter Change

Ch	P	DATA		PARAMETER	NOTE
		1st	2nd		
21H	00H	-	-	Performance	dd=1-32 (voice number) =33(--) on =34(--) off
	01H	dd	-	Voice assign	
	:				
	10H				
	11H	dd	-	Receive channel	dd=0-15 (channel) =17 alt on =18 alt off
	:				
	20H				
	21H	dd	-	Output assign	dd=0-3(off.I, II.)
	:				
	30H				
	31H	dd	-	Volume	dd=0-99
	:				
	40H				
	41H	dd	-	Detune	dd=0-14 (-77)
	:				
	50H				
	51H	dd	-	Key mode	dd=0,1 0..mono 1..poly
	:				
	60H				
	61H	dd	-	LFO wave	dd=0-4 0..sine 1..triangle 2..sav up 3..sav down 4..square
	:				
	62H	dd	-	LFO speed	dd=0-99
	63H	dd	-	LFO delay	dd=0-99
	64H	dd	-	LFO sync	dd=0,1 0..on 1..off
	:				
	65H	dd	-	LFO AND	dd=0-99
	66H	dd	-	LFO PHD	dd=0-99
	:				
	67H	dd	-	MIDI note shift	dd=0-48 (-24~24)
	:				
	76H				
	77H	dd	-	External trigger level	dd=0-99
	78H	dd	-	key	0-127
	79H	dd	-	gate time	0-99
	7AH	dd	-	MIDI channel	0-15

(2)

gh	p	DATA		PARAMETER	NOTE
		1st	2nd		
23H	00H	-	-	Voice	
	01H	dd	-	Timbre assign	dd=0-53
	02H	dd	-	Position	
	03H	dd	-	Lowest key	dd=13-108
					Cf-1 - C7
	04H	dd	-	Highest key	dd=13-108
					Cf-1 - C7
	05H	dd	-	Original pitch key	dd=1-125
					Cf-1 - C8
	06H	dd	-	Key crossfade	dd=0-9
	07H	dd	-	Wave assign	dd=1-54
	08H	dd	-	Filter assign	dd=0-31
	09H	dd	-	Timbre volume	dd=0-99
	0AH	dd	-	Velocity curve Switch	dd=0,1
					0..off 1..on
	0BH	dd	-	Break point 1	dd=0-99
	0CH	dd	-	Level 1	dd=0-99
	0DH	dd	-	Depth 1	dd=0-127
					(-50~50)
	0EH	dd	-	Break point 2	dd=0-99
	0FH	dd	-	Level 2	dd=0-99
	10H	dd	-	Depth 2	dd=0-127
					(-50~50)
	11H	dd	-	Pitch EG Rate 1	dd=0-99
	12H	dd	-	Rate 2	dd=0-99
	13H	dd	-	Rate 3	dd=0-99
	14H	dd	-	Rate 4	dd=0-99
	15H	dd	-	Level 1	dd=0-99
	16H	dd	-	Level 2	dd=0-99
	17H	dd	-	Level 3	dd=0-99
	18H	dd	-	Level 4	dd=0-99
	19H	dd	-	Individual LFO Speed	dd=0-7
					(1 - 8)
	1AH	dd	-	PKD	dd=0-7
	1BH	dd	-	AND	dd=0-3
	1CH	dd	-	Pitch bend range	dd=0-12
	1DH	dd	-	step	dd=0-12

(* 1)

cc	dd
0 : Program change	0..off,1..all,2 ¹⁸ ..g1 ¹⁶
1 : Control change	0..off,1..normal,2 ¹⁸ ..g1 ¹⁶
2 : After touch	0..off,1..normal,2 ¹⁸ ..g1 ¹⁶
3 : Pitch bend	0..off,1..normal,2 ¹⁸ ..g1 ¹⁶
4 : Note on/off	0..all,1..odd,2..even

(* 2)

cc upper 7 bit
 dd lower 7 bit

```

** case 400 ( decimal ) .....
*
*   400 --> 0x190 ( hex )
*           cc = 0x03
*           dd = 0x10
* .....
  
```

240	0 ... 17 (2)	MIDI switch program change 0 off 1 all 2 - 17 g1 - g16
241	0 ... 17 (1)	MIDI switch control change 0 off 1 norm 2 - 17 g1 - g16
242	0 ... 17 (1)	MIDI switch after touch 0 off 1 norm 2 - 17 g1 - g16
243	0 ... 17 (1)	MIDI switch pitch bend 0 off 1 norm 2 - 17 g1 - g16
244	0 ... 2 (0)	MIDI switch note on/off 0 all 1 odd 2 even

184	0, 1 (0)	individual output 0 off 1 on
185		reserved
186	0 ... 15 (0)	external trigger MIDI channel 0 - 15 ch1 - ch16
187	1 ... 95 (81)	external trigger key number
188	0 ... 99 (50)	external trigger level
189	0 ... 99 (50)	external trigger gate time
190 - 193	0 ... \$ffff	key mode bit map (Note 1) (Note 5)
194	0, 1 (0)	channel sync mode 0 off 1 on
195 - 199		reserved

Table 8 - Timbre Memory Bulk Dump

byte count	data (init)	Description
0 - 9	LN 8062an	header 00 ... timbre number 00 - 0127 internal 00 - 0127 edit buffer
10	0 ... 03 (0)	wave number
11		reserved
12	0 ... 03 (0)	filter number
13	0 ... 12 (2)	pitch bend range
14	0 ... 12 (0)	pitch bend step
15	0 ... 7 (0)	individual LFO speed
16	0 ... 7 (0)	individual LFO PHD
17	0 ... 3 (0)	individual LFO AND
18	0 ... 99 (50)	EG rate scaling
19	0, 1 (0)	velocity bias mode 0 normal 1 zero bias
20 - 23	-200 ... 200 (0)	tune (Note 1)
24	0 ... 99 (99)	amplitude EG D1L
25	0 ... 99 (99)	amplitude EG D2L
26	0 ... 99 (99)	amplitude EG AR
27	0 ... 99 (99)	amplitude EG D1R
28	0 ... 99 (99)	amplitude EG D2R
29	0 ... 99 (99)	amplitude EG RR
30	0 ... 99 (99)	pitch EG R1
31	0 ... 99 (99)	pitch EG R2
32	0 ... 99 (99)	pitch EG R3
33	0 ... 99 (99)	pitch EG R4
34	0 ... 99 (50)	pitch EG L1
35	0 ... 99 (50)	pitch EG L2
36	0 ... 99 (50)	pitch EG L3
37	0 ... 99 (50)	pitch EG L4

Table 10 - Wave Name Bulk Dump

byte count	data (init)	Description
0 - 9	LN 8062Vn	header n ... wave number (0 - 63)
10 - 17	ASCII character (space (\$20) 8M)	wave name

Table 11 - Filter Memory Bulk Dump

From byte count 10-125, even numbered bytes are not used.

byte count	data (init)	Description
0 - 9	LN 8062Fn	header n ... filter number 0 - 31 internal 32 - 63 edit buffer
11	0 ... 15,127 (127)	filter table number 127 thru
13	0, 1 (0)	dynamic axis number 0 X axis 1 Y axis
15	0 ... 99 (99)	Value of the X axis when X axis = dynamic.
17	0 ... 99 (99)	Value of the Y axis when X axis = dynamic.
19	0 ... 99 (99)	Value of the X axis when Y axis = dynamic.
21	0 ... 99 (99)	Value of the Y axis when Y axis = dynamic.
23	0 ... 99 (99)	EG R1
25	0 ... 99 (99)	EG R2
27	0 ... 99 (99)	EG R3
29	0 ... 99 (99)	EG R4
31	0 ... 99 (50)	EG L1
33	0 ... 99 (50)	EG L2
35	0 ... 99 (50)	EG L3
37	0 ... 99 (50)	EG L4
39	0 ... 99 (30)	LFO speed
41	0 ... 99 (0)	LFO delay
43	0 ... 99 (0)	LFO depth
45	0 ... 4 (4)	LFO wave 0 triangle 1 saw down 2 saw up

Table 12 - Filter Table Bulk Dump

byte count	data (init)	Description
0 - 9	LN 8062In	header n ... filter table number(0-15)
10 - 7744	.	filter table data (Note 2)
7745 - 7754	ASCII character (space (\$20)x10)	X axis name
7755 - 7764	ASCII character (space (\$20)x10)	Y axis name

Note 1: Only the lower 4 bits of 4 bytes of data are used, making 1 word (16 bits) of data. (MS nibble first)

Note 2: Only the lower 4 bits of 2 bytes of data are used, making 1 byte (8 bits) of data. (MS nibble first)

END