

Base 5 Optical Music Encoding System

Value	0	1	2	3	4
Singal	All High	High R	High G	High B	All Low
Color	White	Red	Green	Blue	Black

Paper Strip Layout

0	1	2	3	4	5	6	7	8
		Instrument 1			Instrument 2			Instrument 3
		Opcode	Immediate		Opcode	Immediate		Opcode Immediate
9	10	11	12	13	14	15		
		Chord					Marker	
		Extensions	Triad Quality	Root Note	Octave	Command Digit		

Instrument Instruction Set

Format (Base 5): [Opcode: 1 digit] [Immediate: 2 digits]

Name	Opcode	Description
Play Note	0 - 2	if(Immediate != 0) Play((Opcode * 25) + toDecimal(Immediate) + offset)
Shift Positive	3	Instrument = min(Instrument + Immediate, 127)
Shift Negative	4	Instrument = max(Instrument - Immediate, 0)

Chord Instruction Set

Format (Base 5): [Extension: 2 digits] [Triad: 1 digit] [Root: 2 digits] [Octave: 1 digit]

Behavior: Latched. State persists until new chord or mute (Octave == 4) is received

Extensions	Value	7th Toggle	9th Toggle	Power Toggle
	0 0	-	-	-
	0 1	-	-	On
	0 2	-	9th	-
	0 3	-	9th	On
	0 4	-	Flat	-
	1 0	-	Flat	On
	1 1	7th	-	-
	1 2	7th	-	On
	1 3	7th	9th	-
	1 4	7th	9th	On
	2 0	7th	Flat	-
	2 1	7th	Flat	On
	2 2	Major	-	-
	2 3	Major	-	On
	2 4	Major	9th	-
	3 0	Major	9th	On
	3 1	Major	Flat	-
	3 2	Major	Flat	On

Triad Quality	Value	Quality
	0	Major
	1	Minor
	2	Diminished
	3	Augmented
	4	Suspended 4

Root Note	Value	Note (Octave 0)	Value	Note (Octave +1)	Special
	0 1	C	2 3	C	0 0: No-Op
	0 2	C#	2 4	C#	
	0 3	D	3 0	D	
	0 4	D#	3 1	D#	
	1 0	E	3 2	E	
	1 1	F	3 3	F	
	1 2	F#	3 4	F#	
	1 3	G	4 0	G	
	1 4	G#	4 1	G#	
	2 0	A	4 2	A	
	2 1	A#	4 3	A#	
	2 2	B	4 4	B	

Octave	Value	Octave	Special
	0	3	4: Mute
	1	1	
	2	5	
	3	7	