

Analogové elektronické nástroje	23
Obvody elektronických nástrojů	25
Oscilátory	27
Děliče frekvence	31
Generátory ladění	32
Klaviatury, spínací systémy a ovládací prvky	32
Filtry	36
Tvarovací obvody	40
Zesilovače	40
Generátory modulační obálky	41
Efektové jednotky	41
Analyzátory signálu	42
Obvody pro úpravu modulačních signálů	43
Singing Arc, Zpívající oblouk (1899)	43
Burstynův nástroj (1911)	44
Audion Piano (1915)	44
Electrical System For Producing Musical Tones (1915)	45
Optofonické piano (1916)	46
Theremin, Těrmenvox, Thereminvox, Etherphone, Aerophon (1920)	47
Elektrofon, Sphärophon, Kurbelsphärophon (1921)	53
Hmatníkový Theremin, Theremin Cello (1922)	55
Staccatone (1923)	56
Violena, Neo-violena (1924)	56
Pianorad (1926)	56
Clavier à lampe, Clavier muet, Piano radioélectrique, Piano Givelet (1927)	57
Elektrické harmonium (1927)	57
Elektronische Zauberigeige (1927)	58

Dynaphone (1927)	58
Ondes Martenot, Ondes musicales, Martenot, Martenotovy vlny (1928)	58
Klaviatursphärophon, Kaleidophon, Partiturophon (~1928)	62
Hellertion (1928)	63
Croix sonore (1929)	65
Emicon (1929)	65
Orgue des ondes, Orgue radio, varhany Coupleux-Givelet (~1930)	66
Trautonium (1930)	68
Sonar (1930)	71
Westinghouse Organ, Hitchcock Organ (1930)	72
Ondium Péchadre (1930)	73
Klávesový Theremin (1930)	74
Electronde (~1930)	74
Terpsitone (~1931)	74
Saraga-Generator (~1931)	75
Ekvodin (~1931)	75
Emiriton (1932)	76
Grosstonorgel, KdF Orgel, Kraft durch Freude Orgel, Kock-Vierling Orgel (1934)	76
Warbo Formant Organ (1937)	77
Melodium (1938)	78
Novachord (1938)	78
Voder, Vocoder (1939)	80
Varhany Allen (1939)	87
Solovox (1940)	89
Ondioline (1941)	90
Organo (1941)	91
Varhany Minshall (~1946)	92
Varhany Baldwin (1946)	93
Connsonata (1946)	96
Clavioline (1947)	98
Melochord (1947)	99
Heliophon (1947)	100
Varhany Artisan (~1947)	100
Electronic Sackbut (1948)	101
Polychord (1950)	102
Electronium, Bassophon (1950)	102
Electronium Pi (~1950)	102

Monochord (~1950)	103
Univox (1951)	103
Tuttivox (~1953)	104
Touch Sensitive Organ, Touch Sensitive Keyboard (1953)	105
Combichord (1953)	106
Varhany Lowrey (1954)	106
Varhany Estey (~1955)	108
Varhany Silvertone (~1955)	109
Varhany Schober (1955)	109
Varhany Thomas (1956)	110
Clavivox (1956)	112
Varhany Kinsman (1956)	113
Varhany Gulbransen (1957)	114
Ionika EMP-1 (1957)	115
Oscillator Bank (1957)	116
Tannerin, Electro-Theremin, Therevox (1958)	117
Varhany Rodgers (1958)	117
Accorgan (~1958)	118
Regency (~1958)	119
Musitron (1959)	120
Varhany Yamaha, Electone (~1959)	120
Varhany Wurlitzer (1959)	121
Dermatron (~1959)	122
Varhany Kawai (1960)	122
Varhany Saville (~1960)	122
Extravoice (1961)	123
EMP-2 (1961)	123
Philicorda (1961)	123
Varhany Kimball (1961)	126
Šumofon (~1961)	126
Varhany Vox (~1962)	127
Subharchord (~1962)	129
Transicord (~1962)	130
Phonosynth (1963)	131
Buchla 100, Buchla Electronic Music System (1963)	131
Varhany Seeburg (1963)	133
Moog Modular Synthesizer (1964)	134

MS-1, MS-2 (1964)	136
Varhany Farfisa (1964)	137
Varhany Weltmeister, Matador, EMP-3 (1964)	140
Sonocon (1964)	142
Synket (1965)	142
Stringer (1966)	143
Band Organ (1966)	143
RMI Explorer (1966)	143
Yamaha A3 (1966)	144
Tubon (1966)	144
Combo (1966)	145
Simeon (~1966)	146
Ekosonic Combo Organ, Doric (~1967)	146
Lark Combo Organ (1967)	147
Rock-Si-Chord, Rocksichord, Roxichord (1967)	147
Electra-Piano (1967)	148
Stylophone (1967)	150
Black Monster, ElectroComp (1968)	151
Sonde (1968)	152
Varhany Keio, Korg Organ, Korgue (1968)	153
EMS VCS3, Putney (~1968)	153
Calliope (1969)	155
TONTO (~1970)	155
GTR Orgatron (~1970)	156
Minimoog (1970)	156
ARP 2500 (1970)	157
ARP 2600 (1970)	159
Soloist, Pro-Soloist (1970)	161
Polyphone (1970)	163
Synthi A, Synthi AK, Synthi AKS, Synthi E, Synthi P (1971)	164
Buchla 200, Electric Music Box (1971)	165
Eμ 25, Blue Box (1971)	167
ASYZ (~1971)	168
Music Easel (1972)	169
PAiA (1972)	169
Odyssey, Axxe (1972)	169
Moog Sonic (1972)	171

Fenix (~1972)	172
Baldwin Synth-a-Sound (~1973)	173
E μ Modular (1973)	173
Roland SH-1, SH-2, SH-3, SH-5, SH-7, SH-9 (1973)	175
Roland SH-1000, SH-2000 (1973)	176
Mini-Korg 700 (1973)	178
Moog Satellite, Minitmoog (1973)	179
Synthi 1055 (1973)	179
Univox K-1, K-2, K-3, K-4, K-5 (1973)	180
Crumar Compac, Roadrunner, Roadracer, Roady (1973)	180
Logan String Melody, String Orchestra (1973)	182
Roland EP-10, EP-20, EP-30 (1973)	182
Pianomate (~1973)	183
Lyricon (1974)	183
Oberheim SEM (1974)	185
ARP Explorer (1974)	185
Solina String Ensemble (1974)	186
Crumar Pianoman, Jazzman, Stringman, Brassman (1974)	187
Crumar Organizer, Traveller, Toccata (1974)	188
Elka Rhapsody (1974)	188
Yamaha GX-1 (1974)	189
Gnome (1974)	191
Scalatron (1974)	192
Constellation, Apollo, Lyra (1974)	193
Yamaha SY1, SY2 (~1975)	193
Micromoog, Multimoog (1975)	194
Basset, Bass 2, Bass 3 (~1975)	194
Varhany a elektrická piana Cordovox (~1975)	195
Serge Modular Music Systems (1975)	197
Roland System-100 (1975)	198
Polyfusion (1975)	199
Oberheim Two Voice, Four Voice, Eight Voice (1975)	199
Solina String Synthesizer (1975)	201
ARP Omni (1975)	201
Roland RS-101, RS-202, RS-505 (1975)	202
Maxi-Korg 800DV (1975)	203
Synthe-Bass SB-100 (1975)	203

Taurus (1975)	203
Korg 900-PS (1975)	204
EVI, EWI, Steinerphone (1975)	205
Synthacon (1975)	206
Polymoog (~1975)	206
Aries (~1975)	208
Multiman, Orchestrator, Performer (1975)	210
Korg 770 (1976)	210
Syndrum (1976)	211
Yamaha CS-50, CS-60, CS-80 (1976)	212
Avatar (1976)	213
RSF Modular, Melisson (1976)	213
Korg Polyphonic Ensemble PE-1000, PE-2000 (1976)	214
Roland System-700 (1976)	215
Cat, Kitten (1976)	216
SynKey (~1976)	218
Yamaha CS-5, CS-10, CS-15, CS-30 (1977)	218
Teisco/Kawai S (1977)	219
Korg M-500 MicroPreset (1977)	219
Korg Polyphonic Synthesizer PS-3100, PS-3300 (1977)	220
Roland GR-100, GR-300, GR-500, GR-700 (1977)	221
Roland VK-6, VK-9 (1977)	223
Synare (1977)	224
Čislizvuk (1977)	224
Wersi String Orchestra (~1977)	225
Poly-Box (~1977)	226
Antares (1978)	226
Syn-Bow (1978)	227
ARP Quadra (1978)	227
Korg MS10, MS20, MS50 (1978)	228
Polysynthi (1978)	229
Roland System-100m (1978)	230
Roland MP-700 (1978)	231
Elka Soloist 505 (1978)	231
Simmons SDS-3, SDS-4, SDS-5, SDS-V, SDS-8, SDS-200, SDS-400, SDS-800 (~1978)	232
Spectre (~1978)	234

Elektronické bicí Electro-Harmonix (~1979)	235
Korg Delta, Lambda, Sigma (1979)	235
Prodigy, Rogue (1979)	236
Yamaha CP20, CP30, CP25, CP35 (1979)	237
Korg BX3, CX3 (1979)	237
Syntar (1979)	238
Siel Orchestra, Cruise, Mono (~1979)	239
Synton Modular (~1979)	240
Delicia MINI (~1979)	241
Korg X-911 (~1979)	241
Resynator (~1979)	242
Pro-One (1980)	242
Korg LP-10 (1980)	243
Variophon (1980)	243
Liberation (1980)	245
Electro-Harmonix Mini-Synthesizer (1980)	245
Crumar Baby Grand (~1981)	246
Tronichord, Omnichord (~1981)	246
Concertmate MG-1(1981)	247
Korg Mono/Poly (1981)	247
Kustom 88 (1981)	248
RSF Blackbox (1981)	248
College (~1981)	248
Hohner String Performer (~1981)	248
Roland SH-101 (1982)	249
Syrinx (1983)	249
Crumar Synthaphone (1983)	250
Crumar Spirit (1983)	250
Vermona Synthesizer (1983)	252
Korg EPS-1 (1983)	252
Delta Music Research Modular (~1985)	253
Tonika (1986)	253
Spectral Audio ProTone, Neptune (1995)	253
Syntheremin (1995)	254
Microcon, Selector (1996)	254
Ondéa, Ondinata (1999)	254
Wretch Machine (~2000)	255

Automatické analogové elektronické nástroje	257
Synthétiseur Givelet-Coupleux (1929)	258
Piano-orgue des ondes, Piano radioélectrique, Orgue electro-tonique (1932)	259
Hanert Synthesizer, Hanert Electric Orchestra (1945)	259
Karloff (1948)	262
Electronic Music Box, Kent Music Box (1951)	262
Free Music Machine, Electric Eye Tone Tool (1951)	262
Composer-Tron (1953)	265
Wall of Sound (~1954)	265
RCA Synthesizer, Olson-Belar Synthesizer (1955)	266
Electronium (~1958)	267
Siemens Synthesizer (1959)	268
Side Man (1959)	270
Circle Machine (~1959)	271
Oramics (1962)	271
Donca Matic, Mini Pops (1963)	272
Rhythm Ace (1964)	274
EMS Computer Studio, MUSYS (1967)	276
Serial Sound Structure Generator (~1967)	277
CEMS (1969)	277
Sal-Mar Construction (1969)	277
Hybrid (1970)	278
Groove (1970)	278
Synthi 100 (1971)	280
Roland TR-33, TR-55, TR-66, TR-77 (1972)	281
Paramus (1973)	282
Programově řízený syntezátor VÚRT (1974)	283
Electro-Harmonix Rhythm-12, DRM (~1975)	284
Musicaid Clap Trap (~1975)	284
Computer Synthi (~1976)	285
Vermona ER-9 (1976)	286
Roland CR-68, CR-78, CR-800, CR-8000 (1978)	286
Elektronická tampinga (~1978)	287
Elektronický šruti box (~1978)	288
Roland TR-808 (~1979)	288
Boss DR-55 (1979)	289
Roland TR-606, TB-303 (1982)	290

Korg KPR-77 (1982)	290
Crumar OMB-2 (1982)	291
Vermona DRM (1987)	291
Digitálně řízené analogové elektronické nástroje	293
Buchla 300, Buchla 500 (1971)	294
ETI, Maplin (1973)	294
Strider DCS (1976)	295
Oberheim OB-1 (1978)	295
Korg Polyphonic Synthesizer PS-3200 (1978)	296
Prophet 5, Prophet 10, Prophet 8 (1978)	296
Jupiter-4, Promars (1978)	298
Crumar DS-1, DS-2 (1978)	299
Kobol, Polykobol (1978)	299
Oberheim OB-X, OB-8 (1979)	300
Korg Trident (~1979)	301
Audity (1980)	302
Jupiter-8, Jupiter-6, Super Jupiter, MKS-80 (1981)	302
Moog Source (1981)	304
McLeyvier, MMS (1981)	304
Korg Polysix (1981)	305
Teisco/Kawai SX (~1981)	306
MemoryMoog (1982)	307
Crumar Trilogy, Stratus, Composer (1982)	307
Prophet 600, Prophet T8 (1982)	309
Juno (1982)	310
Korg Poly-61 (1982)	311
Chroma, Polaris (1982)	312
Synthex, EK-22, EM-22 (1982)	313
Voyetra Eight, Voyetra One (1983)	313
Roland JX-3P, JX-8P, JX-10 (1983)	315
Korg Poly-800 (1983)	316
Akai AX60, AX73, AX80 (1984)	317
Oberheim Xpander, Matrix (1984)	318
Six-Trak, Multi-Trak, Max (1985)	319
Bit (1985)	320
Tiracon 6V (~1985)	321

Cheetah MS6 (1988)	321
BassStation (1993)	322
Oberheim OB-Mx (1994)	322
Doepfer MS-404 (1994)	323
Waldorf Pulse (1996)	323
Moog Voyager, Little Phatty (2002)	323
Persephone (2004)	325

Hybridní elektronické nástroje 327

RMI Harmonic Synthesizer, Keyboard Computer (1974)	328
Wasp, Gnat (1978)	329
RMI Digital Keyboard DK-20 (1979)	330
Touché (~1979)	331
Casiotone (1980)	331
Emulator (1981)	333
PPG Wave, EVU, PRK (1981)	336
OSCar (1983)	337
Ensoniq Mirage (1984)	338
Simmons SDS-1, SDS-7, SDS-9, SDS-1000, SDS-2000, SDX, X-Rack (1984)	339
Clavia Digital Percussion Plate 1, ddrum (1984)	344
Korg Digital Waveform Synthesizer (1984)	345
E-drum (1984)	346
Casio DH (~1985)	346
Akai S612, S700, X7000 (1985)	347
Fairlight CMI III (1985)	348
Prophet 2000, Prophet 3000 (1985)	349
Delta PCM Synthesizer (~1985)	350
Dynacord ADD-One (~1985)	350
Korg DSS-1 (1986)	351
Oberheim DPX-1 (1986)	352
Prophet VS (1986)	352
Ensoniq ESQ-1, SQ-80 (1986)	353
Kawai K3 (1986)	354
Casio DG-1, DG-10, DG-20 (1987)	354
Microwave, Wave (1990)	356
Syntrack (1998)	356
SidStation (1999)	357

Waldorf Q+ (2002)	358
Evolver (2002)	358
Automatické hybridní elektronické nástroje	361
Oberheim DMX, DX (~1981)	361
MCS (~1981)	362
Buchla 400 (1982)	362
Drumulator, SP-12, SP-1200 (1983)	363
Roland TR-909 (1984)	365
Buchla 700 (1987)	365
Digitální elektronické nástroje	367
Allen Computer Organ (1971)	368
DDS (1972)	369
Structure Sound Synthesis Project (1976)	370
Synclavier (1977)	370
Systems Concepts Digital Synthesizer, Samson Box (1977)	372
Melodian (~1977)	372
Wave Computer (1978)	372
Casheab Syn10 (1978)	373
Coupland Digital Music Synthesizer (~1978)	374
Alles Synthesizer, GDS, Synergy (1979)	375
Fairlight CMI (1979)	376
Con Brio ADS (1980)	378
alphaSyntauri (1980)	379
Sound Chaser System (~1981)	380
Casio VL (1981)	380
Synchoros (1981)	382
KineticSound Prism (1981)	383
Basyn Minstrel (1981)	383
Yamaha GS1, GS2 (1982)	384
Yamaha CE20, CE25 (1982)	385
Synthia (1982)	386
Yamaha FM (1983)	387
Yamaha PF10, PF15, PF70, PF80 (1983)	391
Korg SAS-20 (1983)	392
Kurzweil K (1984)	392

Technos 16π, Acxel (~1984)	395
Casio CZ (1984)	396
Seiko DS-310 (1984)	397
Mellotron Studio Symphony (1985)	398
Korg MR-16 (1985)	398
Korg DVP-1 (1986)	399
Casio SK-1 (1986)	400
Realizer (1986)	400
Samplery Akai (1986)	401
Samplery Roland (1986)	403
Kurzweil K150 (1986)	404
Korg Sampled Grand (1986)	404
Roland RD-1000 (1986)	405
Silicon Mallet, Multi Mallet (1986)	405
Simmons SDE (1986)	406
Elka EK-44 (~1986)	406
Roland D-50, D550, MT-32 (1987)	407
Kawai K5 (1987)	408
Korg DS-8, 707 (1987)	409
AudioFrame (1987)	409
Technics SX-AX7 (1987)	410
Casio PG (1987)	410
Forat F-16 (~1987)	411
Casio VZ-1 (1988)	412
Korg M1, T, 01/W, X, N (1988)	412
Ensoniq EPS, ASR (1988)	413
Roland U-110, U-220, U-20 (1988)	414
Roland Digital Harpsichord (1988)	415
Roland E-20 (1988)	415
Kawai K1 (1988)	416
Dynacord ADS, ADD-Two (1988)	416
Cheetah MD8, MD16 (1988)	417
Yamaha SY22, SY35, TG33 (1989)	418
Roland W-30 (1989)	418
Kawai K4 (1989)	419
Emax II (1989)	419
Proteus, Pro/Cussion, Morpheus (1989)	420

Rhodes MK-80, MK-60, VK-1000, 660, 760 (1989)	421
Ensoniq VFX, SQ, SD, KS, MR, Fizmo (1989)	422
Roland GR-30, GR-50 (1989)	423
Korg Z3 (1989)	424
Cheetah SX16 (1989)	424
Wavestation (1990)	424
Alesis SR-16 (1990)	425
Roland JD-800 (1991)	426
Roland SC-55 (1991)	426
Kawai XS-1, KC10 (1991)	427
Cheetah MS800 (1991)	427
Alesis D4, DM5, DM Pro (1991)	428
Roland JV, XP (1992)	428
Roland TD-7 (1992)	429
Hammond XB, XC, XK, New B-3 (~1993)	430
Emulator IIIx, ESI (1993)	431
Yamaha VL, VP1 (1993)	432
Kawai GMega, K11 (1993)	434
Korg i (1993)	435
ddrum3, ddrum4 (1993)	435
Quasar, Caruso, Technox, Raven (1993)	436
Wavedrum (1994)	437
Korg Prophecy, Z1 (1995)	438
Trinity, Triton, Karma (1995)	438
Nord Lead (1995)	439
Roland M (1995)	440
Handsonic (1995)	440
Kurzweil PC, SP (~1995)	441
Lightning II (1996)	441
DrumStation (1996)	442
Yamaha CS-1x, CS-2x (1996)	442
Roland JP-8000 (1997)	443
V-Drums (1997)	443
Roland VK-7, VK-8 (1997)	444
Virus (1997)	445
Nucleus, Polymorph (1997)	446
Delta Music Research (~1997)	446

Nord Modular (1998)	447
Supernova, Nova (1998)	448
Microwave II (1998)	449
Electribe (1999)	449
Waldorf Q, Micro Q (1999)	449
Korg Stage Piano (1999)	450
Guitariano (~2000)	451
Korg MS2000, microKorg (2000)	452
Nord Electro (2000)	452
Korg Pa (2000)	453
Roland VP-9000 (2000)	454
Q-Chord (2000)	454
Marimba Lumina (2000)	455
A-Station, K-Station (2001)	455
Motif (2001)	456
Fantom (2001)	457
Roland RS-9, RS-6 (2001)	458
Akai Z4, Z8 (2002)	458
Kaoss Pad (2002)	458
Oberheim OB-12 (2002)	459
V-Synth (2003)	460
Piano Bar (2003)	461
V-Accordion (2004)	461
Hand Roll Piano (2004)	462
Mediastation X-76 (2004)	462
Juno-D (2004)	463
EWI-4000S (2005)	464
OASYS (2005)	464
Nord Stage (2005)	466
Memotron (2006)	466
Roland SH-201 (2006)	467
Xio Synth (2006)	468

Automatické digitální elektronické nástroje 469

Muse (1972)	469
UPIC (1977)	470
LinnDrum, LM-1 (1980)	470

Drumtraks (1984)	473
Roland TR-707, TR-727, TR-505 (1985)	473
Korg DDM-110, DDM-220, DDD-1, DDD-5, DRM-1 (1985)	474
Korg PSS-50, PSS-60 (1985)	475
Akai MPC (1987)	475
Alesis HR-16 (1987)	478
Korg S1, S3 (1988)	479
Roland R-5, R-8, R-70 (1989)	479
Boss DR-550, DR-660 (1990)	480
Groovebox Roland MC-303, MC-505, MC-909 (1996)	480
Rave-O-Lution 309 (1996)	481
Elektronické součástky	483
Vodič	483
Zdroj	483
Odpor	484
Kondenzátor	485
Cívka	487
Transformátor	488
Krystal	488
Elektronky	489
Dioda	490
Tranzistor	491
Tyristor, Diak, Triak	493
Operační zesilovač	493
Číslicové obvody	494
D/A převodník, A/D převodník	495
Prameny	497
Literatura	497
Rejstřík	501