

Broadway OSC

Universal audio console control over UDP

Version 1.0.2

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Abstract

BroadwayOSC is an open protocol for bidirectional control of professional audio consoles over UDP. It extends Open Sound Control (OSC 1.0/1.1) with a richer type system, wildcard index-range addressing, and a human-readable namespace that maps directly to the Broadway universal audio model.

All float values are in **engineering units** — dB, Hz, ms, μ s — as produced by the console's value converters. The server translates to and from console wire format internally. Clients never deal with raw wire values.

Fully backward compatible with OSC 1.0 for scalar float/int/string messages.

Related standards:

- OSC 1.0 / 1.1 — base transport, framing, array types, boolean tags
 - ADM-OSC — complementary spatial audio standard; namespaces do not conflict (/adm/ vs /ChannelType/)
-

1. Connecting

Protocol: UDP

Default port: 8765

No handshake required. Send any BroadwayOSC message and you are registered as a client. Send /Unsubscribe/* to cleanly disconnect.

Multiple clients are supported simultaneously. Each client is identified by "ip:port" and maintains its own independent subscription set.

2. Message Intent

Every BroadwayOSC message is a SET, GET, SUBSCRIBE, or UNSUBSCRIBE. Intent is determined by the path prefix and the presence or absence of a value argument.

SET — Send a value

Include a value argument. The console parameter is updated immediately.

/Input/1/Level	,f 0.0	← unity (0 dB)
/Input/3/Mute	,T	← mute on
/Dca/2/Level	,f 0.0	← DCA at unity
/Bus/4/Mute	,F	← mute off

Use the explicit prefix if your client requires it:

/Set/Input/1/Level	,f -10.0	← set to -10 dB
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GET — Request the current value

Send the path with no arguments. The current value is returned and you are **auto-subscribed** to all future changes for that address.

```
/Input/1/Level
/Input/3/Mute
```

Explicit prefix form:

```
/Get/Input/1/Level
```

If the value is not yet known, the server subscribes to it from the console and pushes it as soon as it arrives. No re-request needed.

SUBSCRIBE — Register for ongoing updates

```
/Subscribe/Input/1/Level
/Subscribe/Input/1/Mute
/Subscribe/Dca/1/Level
```

UNSUBSCRIBE — Stop receiving updates

```
/Unsubscribe/Input/1/Level    ← stop this address
/Unsubscribe/*                ← remove client entirely
```

3. Address Format

```
/ChannelType/index/Parameter
/ChannelType/index/ProcessingBlock/Parameter
/ChannelType/index/ProcessingBlock/SubBlock/Parameter
/ChannelType/index/ChannelType/index/Parameter
```

Processing blocks (Comp, Gate, Hpf, Lpf, Preamp, Eq) take no index in the OSC path. Sub-blocks (Filter, Parallel) extend a processing block without adding an index. Crosspoints (sends from one channel to a bus) require both channel indices.

Tokens are **case-insensitive** — /input/1/level and /Input/1/Level are equivalent.

Examples:

/Input/1/Level	Input 1 fader
/Input/1/Mute	Input 1 mute
/Aux/3/Level	Aux bus 3 fader
/Input/1/Aux/3/Level	Input 1 send to Aux 3
/Dca/1/Level	DCA 1 fader
/MainStereo/1/Level	Main LR fader

/Input/1/Comp/Threshold	Input 1 compressor threshold
/Input/1/Comp/Filter/Freq	Input 1 comp sidechain filter freq
/Input/1/Hpf/Freq	Input 1 HPF frequency
/Input/1/Gate/Enable	Input 1 gate on/off
/Input/1/Gate/Filter/Source	Input 1 gate sidechain source
/Input/1/Preamp/Trim	Input 1 preamp trim
/Input/1/Eq/Enable	Input 1 EQ in/out
/Input/1/Eq/2/Gain	Input 1 EQ band 2 gain

Index Ranges and Sets

Notation	Example	Meaning
Single	3	Channel 3 only
Range	1-32	Channels 1 through 32 inclusive
Set	1,4,5-8	Channels 1, 4, 5, 6, 7, 8
Wildcard	*	All channels of that type (inventory-resolved)

Multiple expanded positions produce the Cartesian product:

/Input/1-32/Level	,f 0.0	← set all 32 inputs to unity
/Input/1-8/Mute	,T	← mute inputs 1-8
/Input/1,4,7/Mute	,T	← mute inputs 1, 4, and 7
/Input/1-32/Aux/1-16/Level		← 512 crosspoints in one message
/Dca/1-8/Level	,	← get all DCA faders
/Input/*/Name	,	← get all input names

On SET: the same value is applied to every expanded address.

On GET/SUBSCRIBE: each expanded address is handled individually.

4. Channel Types

Tokens are case-insensitive. Indices start at **1**.

Input Channels

Token	Description	AHNet (dLive)	X32/M32
Input	Mono input channel	Up to 128	32
InputStereo	Stereo input channel	✓ linked pairs	✓ linked pairs

Token	Description	AHNet (dLive)	X32/M32
AuxInput	Aux input (mono)	✓	8
AuxInputStereo	Aux input (stereo)	✓ linked pairs	✓ linked pairs
FxReturn	FX return (mono)	✓	8
FxReturnStereo	FX return (stereo)	✓	—

Mix Buses

Token	Description	AHNet (dLive)	X32/M32
Aux	Aux bus (mono)	✓	—
AuxStereo	Aux bus (stereo)	✓	—
Group	Group/subgroup (mono)	✓	—
GroupStereo	Group/subgroup (stereo)	✓	—
Bus	Bus (mono)	✓	16
BusStereo	Bus (stereo)	✓	✓ linked pairs
Matrix	Matrix output (mono)	✓	6
MatrixStereo	Matrix output (stereo)	✓	—
FxSend	FX send (mono)	✓	—
FxSendStereo	FX send (stereo)	✓	—
Output	Output (mono)	✓	—
OutputStereo	Output (stereo)	✓	—
MainStereo	Main LR stereo bus	✓	✓
MainCentre	Main mono/centre	✓	✓ (/main/m)
MainSub	Main sub/LFE	✓	—

Token	Description	AHNet (dLive)	X32/M32
MainSum	Main Msum	✓	—
MainSurround	Main surround	✓	—
Mon	Monitor/P AFL bus	✓	—

Groups

Token	Description	AHNet	X32/M32
Dca	DCA group	24	8
MuteGroup	Mute group	✓	✓

5. Parameters

All float values are engineering units. The server converts to/from console wire format internally.

Fader and Level

Token	Type	Range	Description
Level	f	-90.0 to +10.0 dB	Fader level. Unity = 0.0 dB. -90.0 = fully off ($-\infty$).
Pan	f	-100.0 to +100.0	Pan position. -100 = full left, 0.0 = centre, +100 = full right.
LevelDCA	f	-90.0 to +10.0 dB	DCA-adjusted effective level — read only

Fader calibration anchors (AHNet/dLive):

dB	Wire value
+10.0	35328
0.0 (unity)	32780
-10.0	30204
-20.0	27648
-30.0	25089
-40.0	22540
-90.0 (off)	0

Fader calibration anchors (X32/M32, 0.0–1.0 wire float):

dB	Wire float
+10.0	1.0
0.0 (unity)	0.75
-10.0	0.5
-30.0	0.25
-60.0	0.0625
-∞ (off)	0.0

Mute and Solo

Token	Type	Description
Mute	T/F	Mute on (T) / off (F). Note: X32/M32 wire convention is inverted (1=unmuted) — this is handled internally.
Solo	T/F	Solo/PFL state — read only

Identity

Token	Type	Description
Name	s	Channel name string (up to 8 characters on most consoles) — read only
Color	R	Channel colour packed 0x00RRGGBB — read only. See colour palette below.

Colour palette (X32/M32, 16 colours):

Index	Label	RGB
0	Off	0x000000
1	Red	0x990000
2	Green	0x009900
3	Yellow	0x999900
4	Blue	0x000099
5	Magenta	0x990099
6	Cyan	0x009999
7	White	0x999999
8–15	Inverted variants	Full-saturation equivalents

Preamp

Addressed as /Input/n/Preamp/Parameter

Token	Type	Range	Description
Trim	f	±24.0 dB	Input trim/attenuator. 0.0 = no gain. Linear 256 counts/dB internally (0x8000 = 0 dB).
Phase	T/F	—	Phase invert. T = inverted.
Phantom	T/F	—	48V phantom power. T = on.

High-Pass Filter

Addressed as /Input/n/Hpf/Parameter

Token	Type	Range	Description
Freq	f	20.0–200 00.0 Hz	HPF cutoff frequency. Log scale: $\text{Hz} = 10^{((\text{raw}+9216.7)/15307.67)}$
Enable	T/F	—	HPF in circuit (T) / bypassed (F)
Slope	i	console-d ependent	Filter slope in dB/oct

Low-Pass Filter

Addressed as /Input/n/Lpf/Parameter

Token	Type	Range	Description
Freq	f	20.0–200 00.0 Hz	LPF cutoff frequency. Same log scale as HPF.
Enable	T/F	—	LPF in circuit (T) / bypassed (F)

Gate

Addressed as /Input/n/Gate/Parameter

Token	Type	Range	Description
Threshold	f	-80.0 to 0.0 dB	Gate open threshold
Enable	T/F	—	Gate in circuit (T) / bypassed (F)
Attack	f	0.0–120.0 ms	Gate open time
Release	f	4.0–4000. 0 ms	Gate close time. Log scale: $\text{ms} = 10^{((\text{raw}-17874.3)/5957.7)}$
Hold	f	1.0–200.0 ms	Minimum hold time before release begins
Range	f	3.0–60.0 dB	Attenuation depth when gate is closed

Gate Sidechain Filter

Addressed as /Input/n/Gate/Filter/Parameter

Token	Type	Range	Description
Type	s	"Flat" "Lowpass" "Highpass" "Bandpass"	SC filter shape
Freq	f	20.0–20000.0 Hz	SC filter frequency
Q	f	0.44–10.0	SC filter Q factor
Source	s	"SELF" or "CH.n"	Sidechain source. "SELF" = own signal. "CH.3" = from input channel 3.

Compressor

Addressed as /Input/n/Comp/Parameter

Token	Type	Range	Description
Threshold	f	±24.0 dB	Compression onset threshold. Linear 256 counts/dB (0x8000 = 0 dB).
Enable	T/F	—	Compressor in circuit (T) / bypassed (F)
Ratio	f	e.g. 1.5, 2.0, 4.0	Compression ratio where 4.0 = 4:1
Attack	f	µs	Compressor attack time in microseconds. Log scale: $\mu s = 10^{((raw-0.6)/5957.9)}$. Note: µs not ms.
Release	f	4.0–4000.0 ms	Compressor release time in ms. Same log scale as gate release.
Knee	f	dB	Soft knee width
Makeup	f	±24.0 dB	Makeup gain. Linear 256 counts/dB.
Model	s	e.g. "Opto" "VCA" "FET" "Tube"	Compressor character/model

Compressor Sidechain Filter

Addressed as /Input/n/Comp/Filter/Parameter

Token	Type	Range	Description
Enable	T/F	—	SC filter in circuit (T) / bypassed (F)
Type	s	"Flat" "Lowpass" "Highpass" "Bandpass"	SC filter shape
Freq	f	20.0–20000.0 Hz	SC filter frequency
Source	s	"SELF" or "CH.n"	Sidechain source

Compressor Parallel

Addressed as `/Input/n/Comp/Parallel/Parameter`

Token	Type	Range	Description
Enable	T/F	—	Parallel compression path enabled
Wet	f	±24.0 dB	Compressed signal level in parallel mix
Dry	f	±24.0 dB	Dry signal level in parallel mix

EQ

Addressed as `/Input/n/Eq/Enable` and `/Input/n/Eq/{band}/Parameter`

Bands are numbered from 1. AHNNet/dLive provides 4 parametric bands per channel.

Token	Type	Range	Description
Enable	T/F	—	EQ in circuit (T) / bypassed (F)
Freq	f	20.0–200 00.0 Hz	Band centre/corner frequency. Log scale: same formula as HPF.
Gain	f	±24.0 dB	Band boost/cut. 0.0 = flat. Linear 256 counts/dB.
Q	f	octaves	Bandwidth in octaves. 2-segment piecewise-linear on wire. Range ~0.1–1.5 oct.
Type	s	"Bell" "Hig hshelf" "Lowshelf" "Hp" "Lp" "Bandpas s" "Notch"	Band filter shape

```

/Input/1/Eq/Enable      , T
/Input/1/Eq/2/Freq      , f 1000.0    ← 1 kHz
/Input/1/Eq/2/Gain      , f 3.0        ← +3 dB boost
/Input/1/Eq/2/Q         , f 1.0        ← 1 octave bandwidth
/Input/1/Eq/2/Type      , s "Bell"

```

GEQ (mix buses only)

Addressed as `/Group/n/Geq/Enable`, `/Group/n/Geq/Type`, `/Group/n/Geq/{band}/Gain`

Available on Group, Aux, Matrix buses. Not available on input channels.

Token	Type	Range	Description
Enable	T/F	—	GEQ in circuit (T) / bypassed (F)
Type	s	"constant-Q" "propor tional-Q" "hybrid" "NEQ12"	GEQ algorithm type

Token	Type	Range	Description
Gain	f	±15.0 dB	Band gain. Linear 256 counts/dB.

Delay

Addressed as /Input/n/Delay/Parameter

Token	Type	Range	Description
Enable	T/F	—	Delay in circuit (T) / bypassed (F)
Time	f	ms	Delay time in milliseconds. Log scale.

Insert

Addressed as /Input/n/Insert/{slot}/Enable

Slots: 1 = Insert A, 2 = Insert B.

```
/Input/1/Insert/1/Enable ,T ← insert slot A on
/Input/1/Insert/2/Enable ,F ← insert slot B off
```

DCA Assignment

Addressed as /Input/n/Dca/{dca}/Enable

```
/Input/1/Dca/3/Enable ,T ← assign input 1 to DCA 3
/Input/1/Dca/3/Enable ,F ← remove input 1 from DCA 3
```

Crosspoint Sends

Addressed as /Input/n/BusType/m/Parameter

Supported bus types for AHNet/dLive: Aux, Group, FxSend, Matrix

Supported bus types for X32/M32: Bus (flat numbered)

Token	Type	Range	Description
Level	f	-90.0 to +10.0 dB	Send level. Unity = 0.0 dB.
Enable	T/F	—	Send active (T) / off (F)
Pre	T/F	—	Pre-fader = T, post-fader = F

```
/Input/1/Aux/3/Level ,f 0.0 ← send at unity (0 dB)
/Input/1/Aux/3/Level ,f -6.0 ← send at -6 dB
/Input/1/Aux/3/Level ,f -90.0 ← send off
/Input/1/Aux/3/Enable ,T
/Input/1/Aux/3/Pre ,F ← post-fader
```

DCA

Address	Type	Range	Description
/Dca/n/Level	f	-90.0 to +10.0 dB	DCA fader. Unity = 0.0.
/Dca/n/Mute	T/F	—	DCA mute
/Dca/n/Name	s	—	DCA name (up to 8 chars) — read only
/Dca/n/Color	R	0x00RRG GBB	DCA colour — read only

Scenes and Cues

Address	Type	Description
/Cues/1/Go	l	Fire the standby scene
/Cues/1/StandbyCue	i	Set standby scene index (0-based)
/Cues/1/ActiveCueID	i	Active scene index — read only
/Cues/1/Show	s	Active show name — read only
/Cues/1/CueList	—	GET: full scene list

6. Processing Block Availability by Channel Type

Not all processing blocks are available on all channel types. This table shows what is supported.

Block	Input	Group/Aux/Bu s	Matrix	FxSend	FxReturn	DCA
Preamp	✓	✓	✓	✓	✓	—
Hpfi	✓	—	—	—	—	—
Lpf	✓	—	—	—	—	—
Gate	✓	—	—	—	—	—
Gate/Filter	✓	—	—	—	—	—
Comp	✓	✓	✓	—	—	—
Comp/Filter	✓	✓	✓	—	—	—
Comp/Parallel	✓	✓	✓	—	—	—
Eq (PEQ)	✓	✓	✓	—	—	—
Geq	—	✓	✓	—	—	—
Delay	✓	✓	✓	—	—	—
Insert	✓	✓	✓	—	—	—
Dca (assign)	✓	✓	—	—	—	—

Source: *AHNetOSCTemplate.capabilities matrix* — hardware maximums. X32/M32 supports a subset.

7. Value Types

Tag	Source	Type	Range / Notes
i	OSC 1.0	int32	4 bytes, big-endian signed
f	OSC 1.0	float32	4 bytes, IEEE 754 big-endian. Always engineering units.
s	OSC 1.0	string	UTF-8, null-terminated, 4-byte padded
b	OSC 1.0	blob	int32 size + bytes, 4-byte padded
T	OSC 1.1	true	no data bytes
F	OSC 1.1	false	no data bytes
N	OSC 1.1	null	no data bytes — GET intent
I	OSC 1.1	impulse/trigger	no data bytes — use for actions like Go
d	OSC 1.1	float64	8 bytes, IEEE 754 big-endian
h	OSC 1.1	int64	8 bytes, big-endian signed
[]	OSC 1.1	array	no data bytes
u	Broadway OSC	uint16	4 bytes, big-endian unsigned (zero-padded)
R	Broadway OSC	RGB colour	4 bytes, 0x00RRGGBB big-endian
P	Broadway OSC	pair	4 bytes: int16 token + int16 index, big-endian

Engineering Unit Summary

Parameter type	Unit	Typical range	Internal wire scale
Fader / send level	dB	-90.0 to +10.0	Piecewise-linear lookup (see calibration tables above)
Trim / EQ gain / makeup	dB	±24.0	Linear: 256 counts/dB, wire 0x8000 = 0 dB
Threshold	dB	±24.0 (comp) / -80 to 0 (gate)	Linear: 256 counts/dB
Frequency	Hz	20.0–20000.0	Log: Hz = $10^{((\text{raw}+9216.7)/15307.67)}$
Release / hold / delay	ms	4.0–4000.0	Log: ms = $10^{((\text{raw}-17874.3)/5957.7)}$
Attack (compressor/gate)	µs	~50–120000 µs	Log: µs = $10^{((\text{raw}-0.6)/5957.9)}$
EQ bandwidth	octaves	0.1–1.5	2-segment piecewise-linear
Pan	-100 to +100	-100 L, 0 C, +100 R	AHNet: raw uint16. X32: (wire-0.5)×200
Ratio	n:1	1.5, 2.0, 4.0	Linear

Parameter type	Unit	Typical range	Internal wire scale
GEQ band gain	dB	±15.0	Linear: 256 counts/dB

Collection Encoding

Broadway collection values use OSC 1.1 arrays [. . .]:

Value	Type Tag	Use
bools	,[TTF]	routing enables
floats	,[fff]	routing levels (dB)
ints	,[iii]	pre/post flags
pairs	,[PP]	channel pair list

8. Client Model

Registration

Clients are registered automatically on first inbound packet, identified by "ip:port". No handshake needed.

Subscriptions

Each client maintains its own subscription set. Pushes are only sent for addresses in the set. Build your set via:

- GET (no value) — auto-subscribes the address
- /Subscribe/ — explicit subscription

Lazy Wire Subscription

When a client GETs an address not yet known to the server:

1. Address added to client subscription set
2. Server fires a wire GET to the connected console
3. Console responds → value stored in bridge state → pushed to all subscribed clients
4. Address remains active — all future console changes are pushed automatically

No re-subscription needed across console reconnections within a session.

Unsolicited Console Pushes

When an operator moves a control on the desk, the push flows through the bridge and is forwarded to all clients subscribed to that address. Clients receive live console state without polling.

9. Quick Reference

```

SET to unity:           /Input/1/Level           ,f  0.0
SET to -10 dB:          /Input/1/Level           ,f -10.0
SET off:                /Input/1/Level           ,f -90.0
GET fader:              /Input/1/Level
Mute on:                /Input/1/Mute            ,T
Mute off:               /Input/1/Mute            ,F
Pan centre:             /Input/1/Pan             ,f  0.0
Pan hard left:          /Input/1/Pan             ,f -100.0
Get name:               /Input/1/Name
Subscribe mute:         /Subscribe/Input/1/Mute
Unsubscribe all:        /Unsubscribe/*
Fire scene:             /Cues/1/Go               ,I
DCA unity:              /Dca/1/Level             ,f  0.0
Input→aux unity:        /Input/1/Aux/3/Level     ,f  0.0
Input→aux -6 dB:        /Input/1/Aux/3/Level     ,f -6.0
Input→aux off:          /Input/1/Aux/3/Level     ,f -90.0
Comp threshold:         /Input/1/Comp/Threshold  ,f -18.0
Comp attack:            /Input/1/Comp/Attack     ,f 500.0 ← 500 µs
Comp release:           /Input/1/Comp/Release    ,f 100.0 ← 100 ms
HPF at 80 Hz:           /Input/1/Hpf/Freq        ,f  80.0
HPF on:                 /Input/1/Hpf/Enable      ,T
EQ boost +3 dB:         /Input/1/Eq/2/Gain       ,f  3.0
EQ band freq:           /Input/1/Eq/2/Freq       ,f 1000.0
Comp SC filter on:      /Input/1/Comp/Filter/Enable ,T
Comp SC freq:           /Input/1/Comp/Filter/Freq ,f 200.0
Assign to DCA 3:        /Input/1/Dca/3/Enable    ,T
Range mute:             /Input/1-8/Mute          ,T
Range GET:              /Input/1-32/Level
Set notation:           /Input/1,4,5-8/Mute      ,T
All inputs:             /Input/*/Mute
All crosspoints:        /Input/*/Aux/*/Level     ,f  0.0

```

10. Packet Format

Standard OSC framing:

[address string]	null-terminated, 4-byte padded
[type tag string]	starts with ',', null-terminated, 4-byte padded
[arguments]	per type tag, each 4-byte padded

All multi-byte values big-endian. OSC 1.1 bundles (#bundle) accepted and processed sequentially.

11. Relationship to ADM-OSC

ADM-OSC (/adm/obj/n/...) and BroadwayOSC (/channelType/n/...) occupy non-overlapping namespaces and may coexist on the same UDP port. A server implementing both routes by path prefix.

Appendix A — Token Reference

All tokens are case-insensitive. Canonical form is PascalCase.

Channel Types

Input	InputStereo	Group	GroupStereo
Aux	AuxStereo	Matrix	MatrixStereo
Bus	BusStereo	Mix	MixStereo
Output	OutputStereo	FxSend	FxSendStereo
FxReturn	FxReturnStereo	AuxInput	AuxInputStereo
MainStereo	MainCentre	MainSub	MainSum
MainSurround	Mon	Dca	DcaGroup
MuteGroup	UfxSend	UfxReturn	

Parameters

Level	LevelDCA	Mute	Pan
Trim	Delay	Color	Eq
Comp	Gate	Send	Solo
Phase	Preamp	Phantom	HpF
Lpf	Invert	Insert	Source
Automix	Name	Select	RoutingSet
RoutingPool	AltSource	Panner	Geq

Processing Sub-blocks

Filter	Parallel
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Actions

Recall	Store	Copy	Paste
Reset	Clear	Fire	Stop
Play	Pause	Record	Go

Previous	Next	Toggle	Undo
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Sub-parameters

Freq	Gain	Q	Attack
Release	Threshold	Ratio	Bypass
Enable	Knee	Range	Hold
Keyfilter	Makeup	Auto	Peak
Rms	Pre	Post	Type
Slope	Width	Balance	Time
Depth	Rate	Feedback	Size
Model	Wet	Dry	

Filter / EQ Shape Values (used with `Type` parameter)

Bell	Highshelf	Lowshelf	Hpf
Lpf	Bandpass	Notch	Peq

Compressor Model Values (used with `Model` parameter)

Opto	Vca	Fet	Tube
Bus	Ducker	PeakLimiter	

GEQ Type Values (used with `Type` parameter on Geq)

constant-Q	proportional-Q	hybrid	NEQ12
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Cues / Scenes

Cues	CueList	Scene	Snapshot
Show	ActiveCueID	StandbyCue	Go

System

System	Config
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Appendix B — BroadwayOSC vs OSC 1.0 vs ADM-OSC

Feature	OSC 1.0	OSC 1.1	ADM-OSC	BroadwayOSC
Basic types (i,f,s,b)	✓	✓	✓	✓
Boolean T/F tags	—	✓	—	✓

Feature	OSC 1.0	OSC 1.1	ADM-OSC	BroadwayOSC
Null/Impulse tags	—	✓	—	✓
Arrays []	—	✓	—	✓
uint16 tag	—	—	—	✓
RGB tag	—	—	—	✓
Pair tag	—	—	—	✓
Index range syntax	—	—	—	✓
Index set syntax	—	—	—	✓
Wildcard *	path glob	path glob	—	inventory-resolved
Bundles	—	✓	✓	✓
Multi-client	—	—	—	✓
Lazy wire subscription	—	—	—	✓
Engineering unit values	—	—	—	✓
Console abstraction layer	—	—	—	✓
Spatial/object namespace	—	—	✓	—
Console control namespace	—	—	—	✓

Appendix C — Implementation Notes (Version T)

BroadwayOSC is implemented at the bridge layer. Three files handle all protocol work:

File	Purpose
BridgeOSCManager.swift	UDP socket, client registry, wildcard expansion, dispatch, push
BridgeOSCParser.swift	OSC packet → parsed command; path → Broadway semantics + indices
BridgeOSCEncoder.swift	BroadwayADDRESS + BroadwayVALUE → OSC packet Data

BridgeOSCManager is owned by BridgeManager and started after full console inventory is available. All bridge results pass through `oscManager.pushToClients()` — OSC clients receive the same live state as the Version T UI. Values are BroadwayVALUE instances in engineering units, passed through unchanged at the OSC boundary.

Supported adaptors:

Adaptor	Console family	Notes
AHNet	Allen & Heath dLive, Avantis, SQ	Full processing block support
WING	Behringer WING	Native float dB on wire

Adaptor	Console family	Notes
OSC32	Behringer X32 / Midas M32	Fixed channel counts (see Section 4)