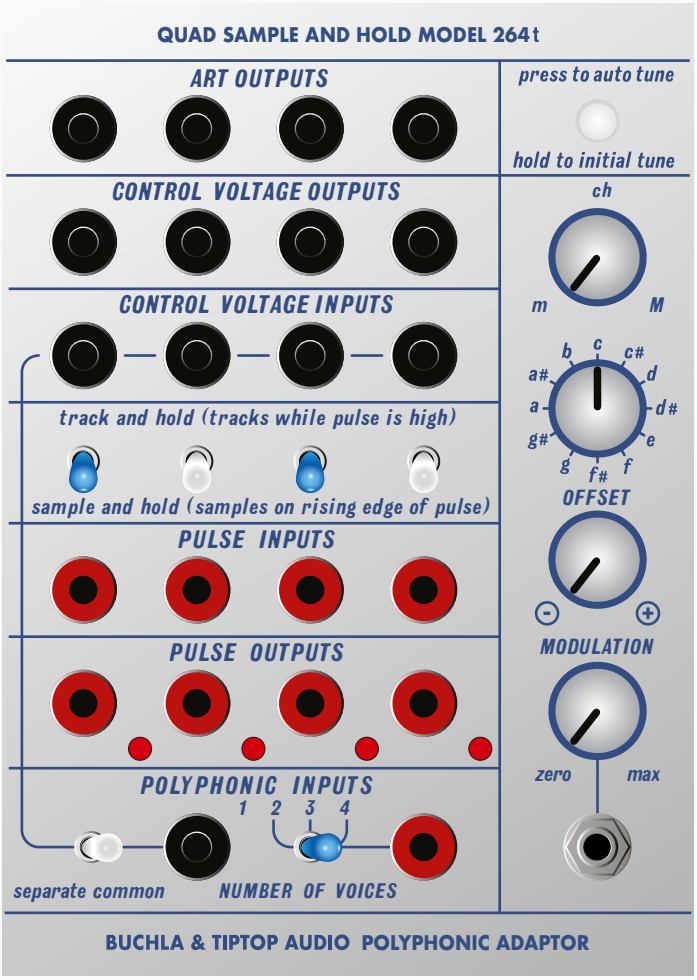
QUAD SAMPLE-AND-HOLD/POLYPHONIC ADAPTOR MODEL 264t



Four independent sample-and-hold circuits, plus a specialized logic circuit for expediently implementing polyphonic patches.

Sample-and-hold's are essentially one-cell analog memories. They are useful for "remembering" the instantaneous value of a control voltage (a detected envelope, for example), for generating equally spaced steps from a constant slope input (as from a 281t envelope generator), and for converting any continuously changing voltage (a random voltage, for instance) into a series of discrete values.

The 264's sample-and-hold circuits have two operating modes: sample and track. In the sample mode, the value of the input is sampled and applied to the output whenever a pulse is received. The output remains at this value until the next pulse arrives. The track mode differs in that an input is applied to the output for the duration of the pulse. The output tracks the input until the end of the pulse and remains at a constant value until the next pulse.

To use the 264t as four independent channels set the separate/common switch to separate. A single CV can be set to all four channels by setting the operate/common to common and plug CV in the the back jack on the with right side.

The Model 264t includes a polyphonic adaptor, which performs the logic necessary to implement four-voice polyphony. Facilities are incorporated for fine tuning and f.m. modulating the oscillators; light emitters display the adaptor's operation.

ART Quantizer
The four voltage control outputs are internally routed to a quad-channel quantizer with four ART outputs for use with ART-equipped oscillators, such as the 259t Complex Oscillator. A 12-stage switch selects the key, while the knob above chooses the scale: Minor (m), Chromatic (ch), or Major (M).

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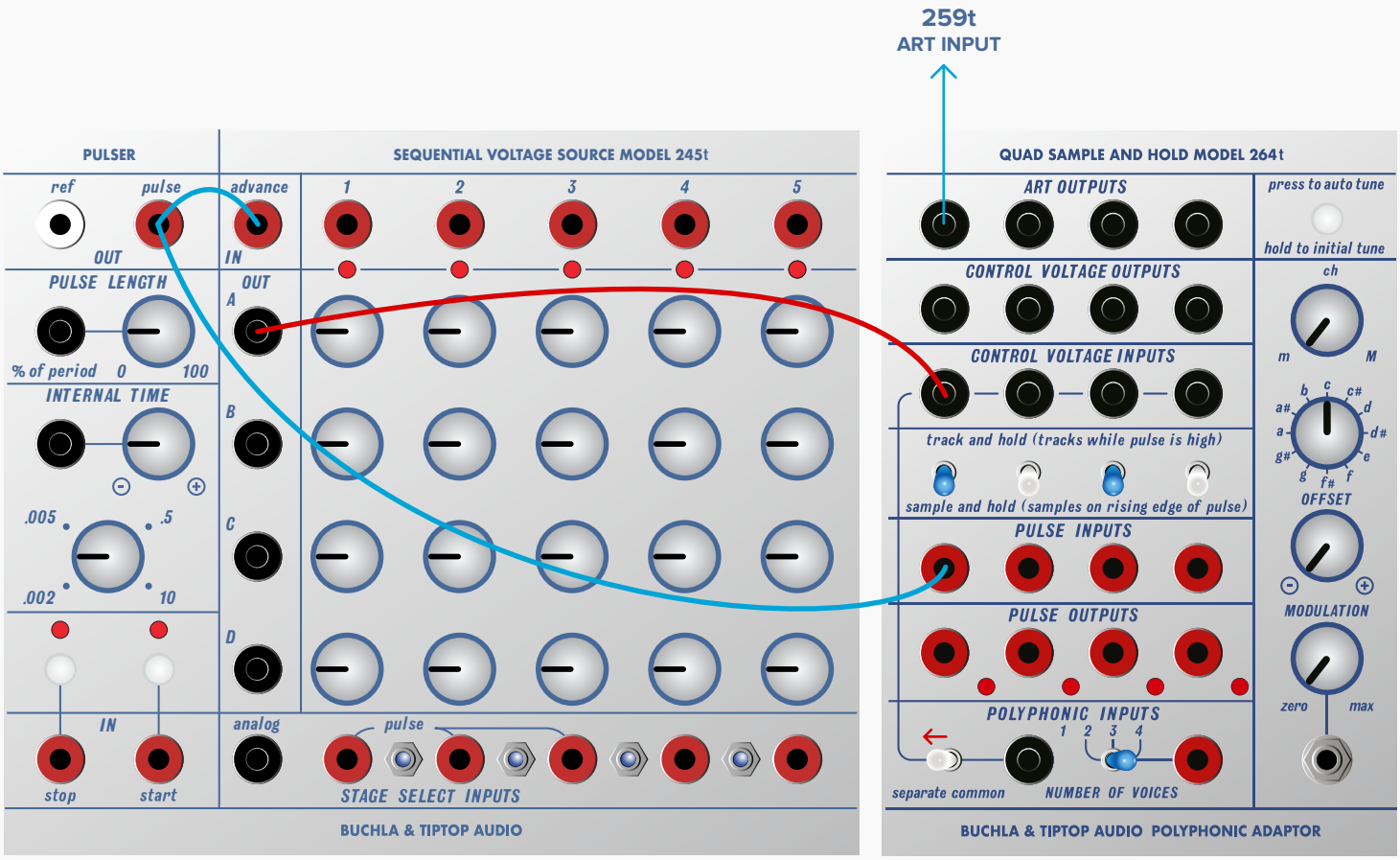
First step: Oscillator Calibration (Quick Start)
A push switch sends either **Auto-Tune** or **Initial Tuning** command via the ART outputs to the oscillators. Both functions are explained in detail in the 259t user manual, which also provides additional ART-related information worth knowing.
To quickly set up the 259t:

1 Connect any ART output to the 259t oscillators and set them to **ART mode**.
2 Let the oscillators warm up for a minimum of **30–40 minutes**.
3 Hold down the **264t tuning switch**—the 259t will begin **Initial Tuning**, calibrating each oscillator one at a time. The LED will turn off, then start blinking as it tunes the first oscillator.
4 Once tuning is complete, the oscillators can play notes via ART.

Auto-Tune can be sent periodically to correct tuning if it sounds like the oscillates are out of tune. (Beware that the fine tune knobs on the 259t needs to be set fully CCW for the note center pitch) To send an **Auto-Tune** command short press the tuning switch on the 264t.

Playing Notes
The ART Quantizer is tied to the **Sample and Hold** function. When a **gate pulse** is sent to the **gate input**, the control voltage is converted into a note value and sent via ART to the oscillator.
- The **gate pulse length** determines the note length at the oscillator.
- In Track and Hold mode, the 264t ART output follows changes in input voltage **as long as the gate is high**.



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Input Range Jumper

A jumper on the back of the module adjusts the quantizer's CV range for ART.

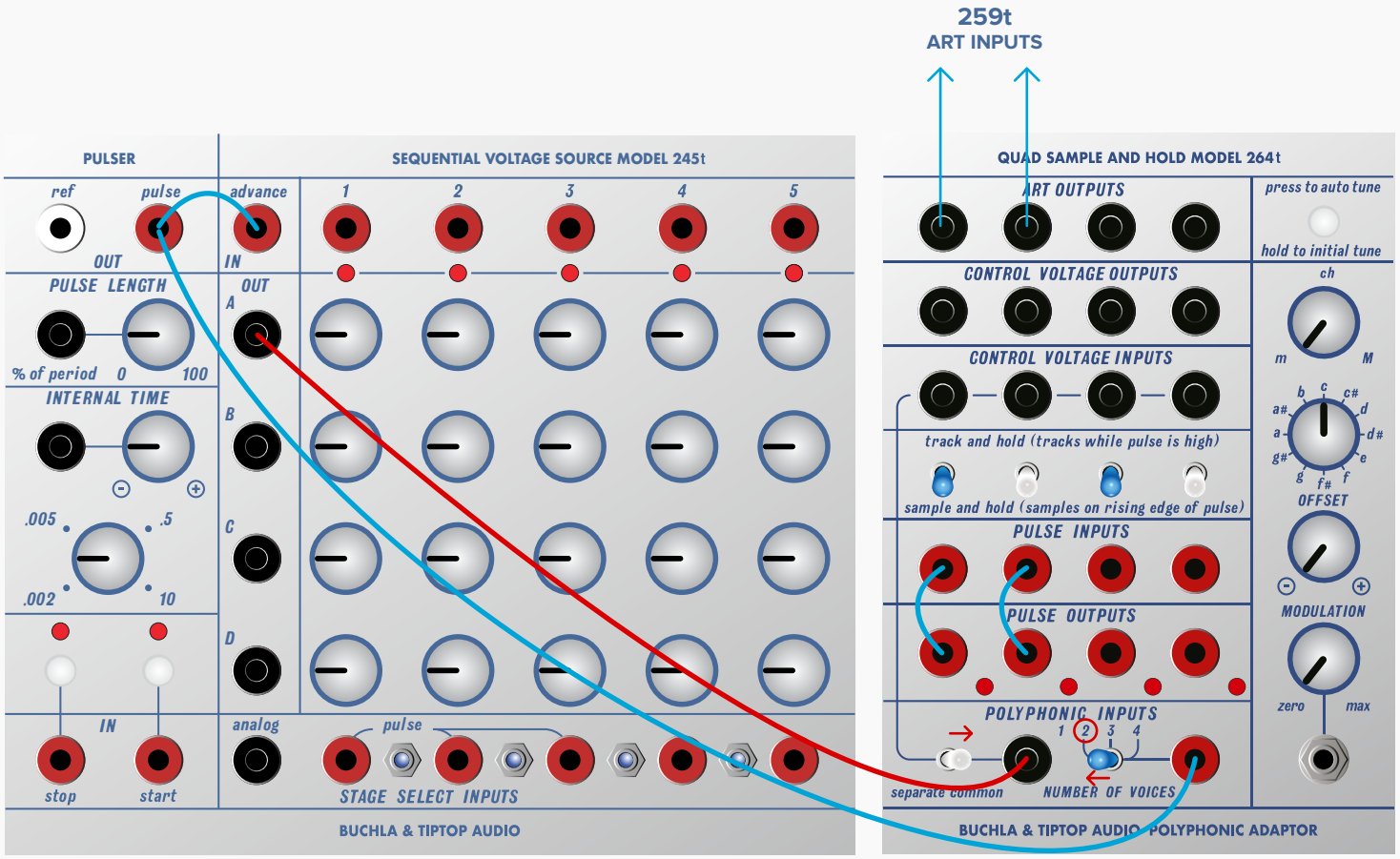
- **Default 10 (0–10V range)**: Works with standard Buchla signals but may exceed the 259t's **8-octave** range. This can be handy to mute notes when using the **245t sequencer**.
- **Scaled 5**: Matches the **259t's 8-octave range**.

Both settings have their advantages—experiment to find what works best for you.

Polyphonic Adapter

The polyphonic adapter can be patched creatively. Below, we demonstrate a basic patch of a two-voice polyphonic arpeggio. The 245t CV is plugged into the common CV input, with the switch set to "common." The 245t pulser output is triggering the adapter's voices jack, with the switch set to "2 voices." The pulse outputs of voice 1 and voice 2 are plugged into gate inputs 1 and 2 of the sample and hold channels. Controlling the oscillators pitch can be made from either the control voltage outputs or the ART outputs for quantized notes.

Two voice poly



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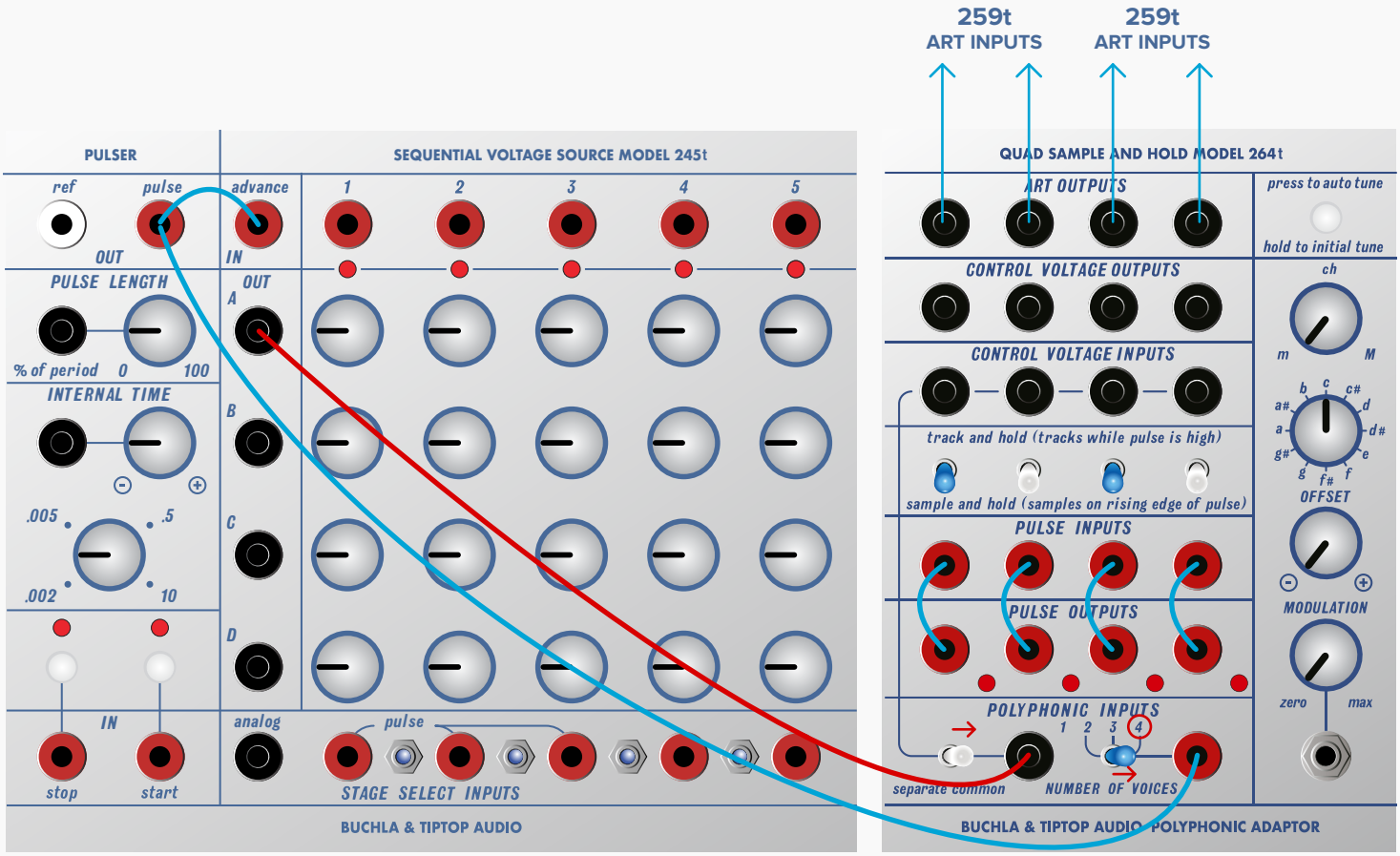
Four voice poly



Specifications:

Size: 18 HP - Depth: 45mm
Power: +12V 60mA / -12V 30mA

Buchla TIPTOP audio

Eurorack 200 series