1. Introduction

Module **A-185** (**Bus Access**) enables the user to have **access** to the **internal system bus** of the System A-100. This is an active connection, with **booster amplification** (see fig. 1), to maintain correct levels for CV and gate signals, and to avoid the signal losses and consequent problems that a simple passive link-up might cause.

The gate and CV inputs on the A-185 are used to patch **external gate and/or CV signals** into the A-100 system bus; while the **internal system bus CV and gate signals** are available at the gate and CV outputs of the A-185. Two LEDs provide a visual indication of the signals.
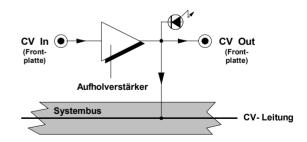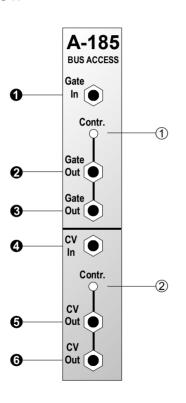
fig. 1: patching an external CV into the system bus

2. Overview

A-185

BUS ACCESS

Gate
In ❶

Contr. ①

Gate
Out ❷

Gate
Out ❸

CV
In ❹

Contr. ②

CV
Out ❺

CV
Out ❻

Controls:

① **Contr.** :   system bus gate indicator LED

② **Contr.** :   system bus CV indicator LED

In / Outputs:

❶ **Gate In** :   input for external gate signal

❷, ❸ **Gate Out** : outputs (internally linked) for whatever gate signal is present on the internal system bus

❸ **CV In** :   input for external CV signal

❹, ❺ **CV Out** : outputs (internally linked) for whatever CV signal is present on the internal system bus

3. Controls

① **Contr.**

LED indicator ① shows the state of the gate signal on the system bus.

② **Contr.**

LED indicator ② gives a visual indication of the CV present on the system bus.

4. In / Outputs

❶ **Gate In**

Use **gate input** ❶ for patching in **external gate signals**.

❷ **Gate Out**   •   ❸ **Gate Out**

The two internally linked **gate outputs** ❷ and ❸ provide access to any gate signal present in the internal system bus.

❹ **CV In**

Use **CV input** ❹ for patching in **external CV signals**.

❺ **CV Out**   •   ❻ **CV Out**

The two internally linked CV outputs ❺ and ❻ provide access to any CV signal present in the internal system bus.

5. User examples

Creating a common system bus for an A-100 with more than one 6U rack system

If your System A-100 fits into just one 6U rack, and you want to connect up the upper and lower system busses so that their CV and gate signals are linked, you can usually just connect them internally with the optional **A-100BC** cable (see the A-100 main system manual, chapter 3, page 10).

But if you want to connect the CV and gate signals on **two or more 6U racks**, then module **A-185** comes into its own.

Fig. 2 (see next page) shows the basic connection plan.

⚠️ **Important note concerning the A-190:**

If, as in fig.1, you connect up the signals from an A-190 MIDI interface to the system bus via an A-185, **you must disconnect the A-190's internal connection from the system bus** (see the A-190 manual, p. 4).

Compensation for signal losses

There are also times when an A-185 is useful even with just one 6U rack. Particularly if you're running **more than two VCOs from the same common system bus**, the internal CV voltage can drop sufficiently for the keyboard scaling to go slightly out, causing high notes to be annoyingly out of tune. The booster amplifier if the A-185 will avoid any such problems.

Losses of the gate voltage normally cause no problems as low threshold values (~2...3 V) are required to trigger gate inputs (e.g. ADSR A-140). However for pitch control voltages even a few millivolts will cause an audible detuning.

When feeding external pitch CVs to the A-100 (e.g. from an external MIDI-to-CV interface or from one our sequencers MAQ16/3, Schaltwerk or Regelwerk) the usage of an A-185 is recommended - especially if more than one VCO is driven by the external CV.

Even for voltage losses of other pitch processing modules (e.g. the slew limiters A-170 or A-171) the A-185 may help in case of detuning problems.
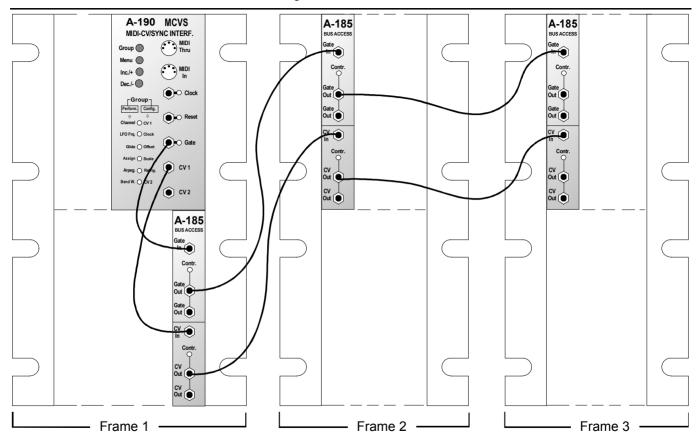
fig. 2: Connecting the system busses on a multiple-rack A-100 system

6. Appendix

Module A-185 has two internal jumpers on its circuit board, which are factory-set to send **external CV and gate signals** to the system bus (see fig. 1).

By re-aligning these jumpers, you can convert the A-185 so that it doesn't take gate and CV signals from the input sockets, but simply **'reads'** them from the system bus, and sends them out to the front panel CV and gate output sockets. In this "read-only" mode, the input sockets are disconnected from the system bus (see fig. 3).
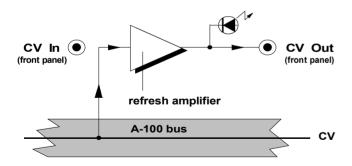
In practice, there aren't admittedly going to be a lot of occasions when this is required, so we won't go into any more detail here.

☞   As delivered from the factory, the jumpers are set so that the module sends CV and gate signals to the system bus.

fig. 3: example of "read-only" mode with CVs

7. Patch-Sheet

The following diagrams of the module can help you recall your own **Patches**. They're designed so that a complete 19" rack of modules will fit onto an A4 sheet of paper.

Photocopy this page, and cut out the pictures of this and your other modules. You can then stick them onto another piece of paper, and create a diagram of your own system.

Make multiple copies of your composite diagram, and use them for remembering good patches and set-ups.

Draw in patchleads with colored pens.