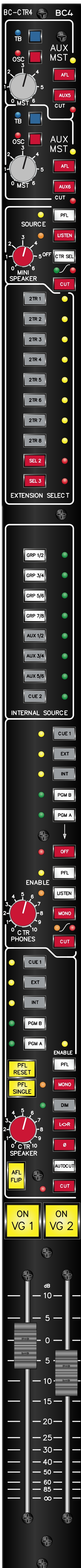


BC-CTR4

Broadcast Control Room Module



The Control Room Module BC-CTR4 must be installed in every BC4 console. It combines the main source selectors and regulators for the control room speakers, an additional stereo speaker system, the control room headphones, the PFL master and control sections and two aux master amplifiers.

- Extensive control room source selection facilities
Eight inputs for internal sources, and 24 sources for External stereo sources in total
- Separate selectors and output sections for Control room speakers, mini speakers and Control room headphones
- PFL master amplifiers and status control
- Two aux master sections
- Two VCA group masters

Aux Master Amplifiers

The two **Aux Master Amplifiers** are used for the auxiliary busses 5 and 6. The units are identical to the master sections that are included with the program master modules BC-PM6. Each section contains a bus amp, a rotary type master fader with 6 dB of additional gain, a CUT and an AFL switch. If the switch TB is pressed, the Talkback to Aux signal is mixed into the particular aux output. The OSC switch mixes the oscillator output signal into the particular aux bus rail, if the ‚Oscillator to Aux‘ function is enabled. AFL operates in non-latched mode always. It is not affected by any other PFL functions and routes the aux master signal to the PFL bus as long the switch is pressed. It is default configured ‚AFL‘; however, internal jumpers can change the function to PFL. The master outputs are electronically balanced.

The Control Room Source Select Section

The control room source selection is divided into several stages. The internal source selector and the extension source selector are used as pre-selects. The outputs of these select units are available on each output section and on the studio speakers and headphone stages in the BC-STU4b module as well. All selectors operate as mutual released switch blocks.

The **Internal Select** has eight switches in total. This selector makes it possible to select the eight audio groups in stereo pairs, the six aux masters in stereo pairs and the cue2, stereo auxiliary. The default assignment can be rearranged by several jumper blocks. If you would like to have a special configuration installed, please, let us know.

The **Extension Select** combines three switch blocks with a total of 24 balanced, stereo inputs. The main switch block with 10 switches is installed in the control room module. The switch arrays two and three are installed in the playback module BC-STU4b and the talkback module BC-TBO4b. These two selectors have eight switches each. The outputs of these switches are connected to the SEL2 and SEL3 switches of the main extension selector in the console's frame. It is possible to use one or both the extension selectors for a different purpose, in this case, the fixed connection can be opened and the related switch can be used as a normal stereo select input. This principle offers very high variability of the entire select section.

The extension select can be used for external stereo sources and for internal sources as well. Therefore, it is possible to use eight switches to connect the eight audio subgroups in mono in addition to the stereo combination that are installed with the internal select. This can be done by external wiring, or - if you let us know - by internal wiring as well.

The **CUE1** master output is primarily used as a main playback bus. For this reason, it is available on a separate switch on each selector of the particular output section. This is also the case for the program master outputs that can be directly selected on each output section.

The source select switches of the program master B can be used alternatively for the ‚Air‘ input, that makes possible to install the output of a ‚post transmitter‘ control. In this case, the default connection of this input to the program master B has to be opened. With this setting, the Program Master B output is assigned to one of the switches of the extension select.

The Mini Speaker Section

The Mini Speaker section allows source and level control of an active speaker that in most cases is installed in the console's meter bridge. Of course, any external speaker can be installed alternatively. The output section is implemented in stereo but it is possible to force the output to ‚always mono‘ by a jumper. The default source for these speakers is the selected control room source. It can be muted by the CTR SEL OFF switch. The PFL switch enables the PFL master output and the LISTEN switch routes incoming talkback to this speaker output. PFL and Listen are mixed. If the control room select is not disabled it will be automatically switched off with PFL and or Listen. Single LED's display the actual state. A Cut switch mutes the entire output.

The Control Room Headphones Section

The Control Room Headphones are implemented as a separate section with an own source selector and output driver. The output stage has enough power to drive approximately 3 headphones in parallel. The source select section of the control headphone section has five switches. In addition to the internal and external selectors, both the program master outputs and the Cue1, stereo auxiliary can be selected. The output of this selector, that operates in mutual release mode, feeds the PFL and LISTEN insert section. The OFF switch makes it possible to mute the selector output and use the headphone for PFL/AFL and incoming talkback only. The OFF switch can be alternatively configured as ‚follow Speakers‘ by jumpers. With this setting, the switch selects the source of the control room speakers instead of the headphone selector's output.

The PFL switch enables the automatic switching to PFL if at least one PFL or AFL is activated in the console. LISTEN selects the incoming talkback section as additional source signal. Details about the console's listen system can be found in the description of the oscillator and talkback module BC-TBO4. The headphone stereo speaker section operates in stereo unless the MONO switch inserts a mono matrix stage. In addition to the rotary volume control, a CUT switch mutes the headphone output. The headphone output is available on the connector panel. In addition, a 1/4" TRS connector is installed in the meter bridge. Additional connectors can be added on request.

The Control Room Speakers Section

The local select section of the main control room speaker output is not different from the headphone selector. The output of the selector drives the speakers regulator circuitry via the PFL relay. If PFL is enabled by the related switch, the output of the PFL master amplifier will be automatically switched to the control room speakers. The MONO switch inserts a matrix stage that can be operated in either 3 dB or 6 dB mode. With mono, both speakers or only one of the speakers can be used for the mono signal. These options are determined by jumpers. The L<>R switch reverses the stereo channels and the Ø switch reverses the phase in the right stereo channel. Both switches are non-latching. The control room level pot has a maximum gain of 6 dB. The DIM section can be activated by the local switch and by the internal DIM control bus that is driven by talkback by default. The configuration of the DIM control can be configured in the talkback/oscillator module. In addition, a floating control input exists. The CUT switch mutes the speaker output. The cut function can be remote controlled by the AUTOCUT control bus. Like DIM, the configuration of AUTOCUT is determined in the talkback/oscillator module. Since the most important use for autocut in the control room module is DJ mode, this bus is driven by the ‚mic-fader-open‘ control bus by default. The speaker output is electronically balanced.

Control Room Meters

The standard consoles include an external PPM type, high resolution, stereo meter that is installed in the meter bridge. adt-audio LED meters are used with all standard console setups. Plasma bar graph meters can be installed alternatively. A phase correlation meter is installed in parallel to this meter. The meter reads the selected source signal of the control room speakers. With the default configuration, this meter is automatically switched to PFL when PFL is active. Alternatively, an additional PPM type stereo meter can be installed. adt-audio high resolution LED meters or plasma bar graph meters can be used.

PFL/AFL Master Section

The PFL master amplifier is part of the BC-CTR4 control room module. In addition to the PFL/AFL assignment properties of the different sections in the control room unit, there is a calibrated, electronically balanced output available on the connector panel.

The PFL/AFL master control has three switches. The PFL system operates in adding mode by default. Any number of PFL's or AFL's can be active at a time. All active signals are mixed into the PFL master. When PFL is active, the lamp in the PFL-RESET switch displays this state. Pressing this switch resets all active PFL and AFL sections, independent of the other settings. PFL SINGLE selects the alternative mode. With this mode, only one PFL/AFL can be active at a time. Pressing another PFL while a certain PFL is active will reset this PFL automatically. The PFL master section is completed by the AFL-FLIP switch, that sets the PFL system into AFL mode. The input channels and group modules are affected by this master function. See the description of these modules for details of the possible configurations.

Connectors

The connectors of the control room modules are part of the master connector panel that also contains the connector of the other modules in the master section. XLR connectors are used for the main control room speaker outputs and the extension select inputs SEL2 and SEL3. If the extension selector switch blocks in the playback module and the talkback module are used for an alternative purpose, the outputs of these selectors are available on these XLR connectors. The additional outputs, headphone speakers, mini speakers, PFL master output and the air input are combined on one 25pin D-Sub connector. The inputs of the extension source connectors are available on six 25pin D-Sub connectors. Each of these connectors contains four stereo inputs. Custom versions of the connector panel, using other multipin connectors than 25pin D-Sub are possible; however, the available space is limited. Please ask for details.

The VCA Group Master Section

A dual VCA Group Master Section is included with the BC-CTR4. It is used for the VCA-Groups 1 and 2. The group master fader is a conductive plastic, VCA law fader with 100 mm stroke that offers a maximum gain of 10 dB. Faders with 126.5mm stroke and +15 dB gain are optionally available, please ask. The scale accuracy is better than 1 dB from + 10 to - 20 dB. The zero point is internally calibrated to pinpoint accuracy. The VCA-Group On switch controls the On state of the channels that are assigned to the particular group. If the VCA group is not switched on, all assigned channels or groups are also in channel off mode. The Group In function can be implemented as CUT on request. However, this function has to be installed with all VCA group modules of the particular console to maintain proper operation of the different master control functions.

The BC4 Broadcast Console System by adt-audio in Germany covers the range of medium to large format on-air and production consoles for any kind of applications. The rich feature set includes all special functions for broadcasting.

The BC4 console system combines high reliability, long lifespan, and professional technical qualities in combination with excellent sound performance,

In addition to a couple of standard input, group, and master modules, BC4 is a versatile base for custom build broadcast consoles at affordable prices. The system limits offer the choice to makes custom modules that use up to 36 bus rails, which can be used as main masters, group masters and sends in many different ways.