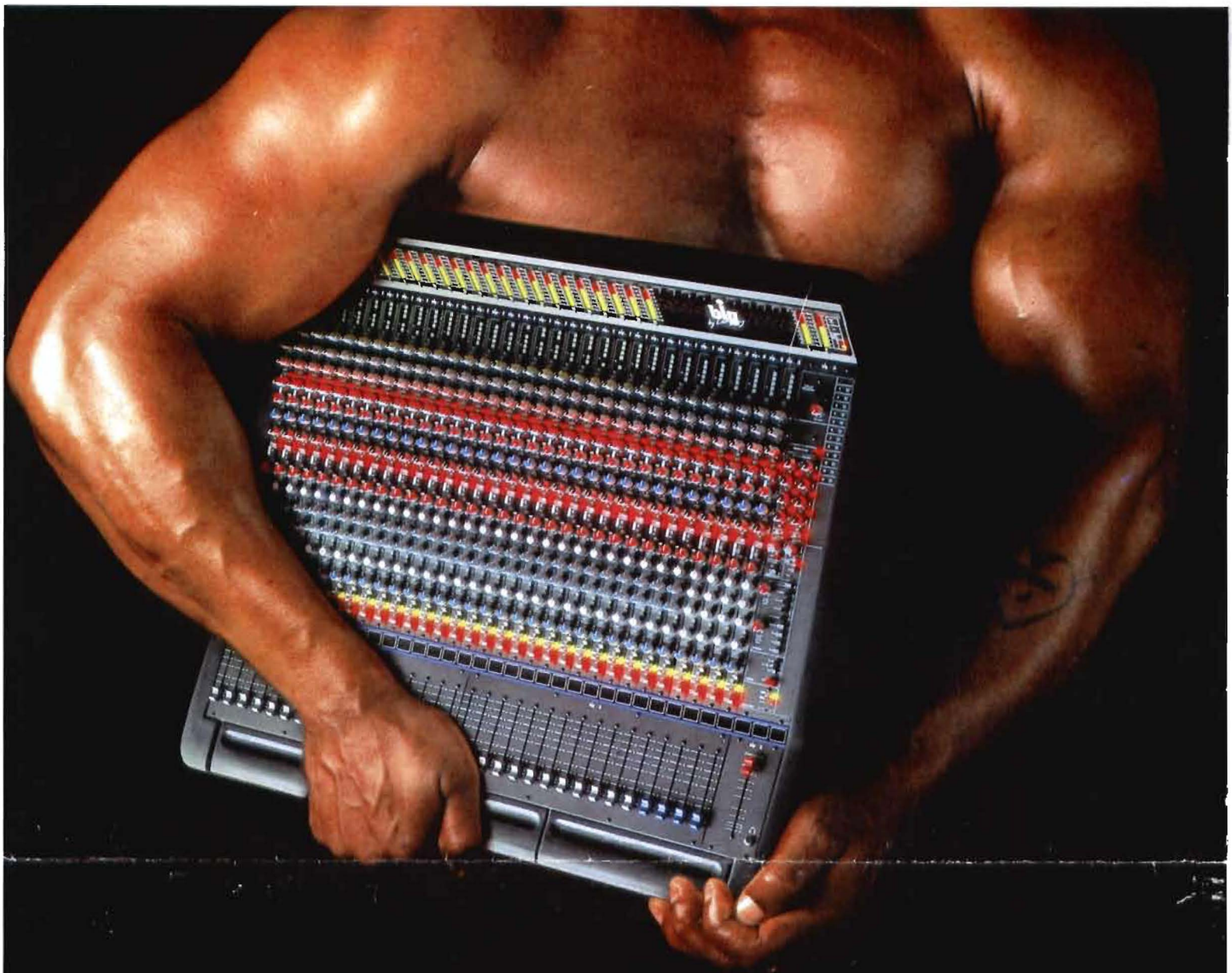


big by Langley

A PRODUCT OF THE AMEK TECHNOLOGY GROUP

BIG by LANGLEY is nothing less than a revolutionary step forward for mixing console technology.

For the first time ever, the sophistication, flexibility and computer automation found on consoles usually costing fifteen to twenty times the price of BIG are affordable by virtually anyone in the professional audio industry. Features which were the preserve of the elite can now be in your hands. For the price other manufacturers charge for a standard product, we give you not only an In-line console with AMEK-designed signal path, but also Recall and Mix automation. The position of almost every knob and switch on the console can be memorized for later use. Mutes, faders, and some channel switches are automated using AMEK's SUPERTRUE automation software.

BIG takes into account the versatile production environment found everywhere today. Different synchronization requirements, audio for picture, music production, songwriting, multi-source systems combining MIDI-triggered keyboards, tape and hard disk recorders - all can be handled with ease by BIG.

BIG has more audio facilities than the world-famous AMEK ANGELA, which sold over 500 consoles from its introduction in 1982. ANGELA's famous equalizer is virtually duplicated in BIG - the fat, punchy low end, clean transparent highs and accurate, detailed midrange are all retained.

Dual path modules and eq which can be split between both paths double BIG's capabilities. The standard 28-channel console has 56 paths; the large 44-input console has 88 paths, and, additionally, all versions of BIG have 4 stereo line inputs and 4 stereo effects returns.

So how do we do it ? AMEK software has been developed to run on low-cost, powerful desktop computers. In our opinion, SUPERTRUE software is at least equivalent in power to competing systems which cost much more - so you lose nothing there. Good audio hardware is still relatively expensive, and will remain so for many years What your money buys is the hard part - audio signal path. Careful design, precise value engineering, cost-saving production techniques and 20 years' console building experience have all been brought into play to create BIG. Nothing has been sacrificed or compromised to deliver features for price.

AUTOMATION

The AMEK SUPERTRUE system is used in over 350 installations worldwide. You can take a mix disk from BIG and go to work on an EINSTEIN, HENDRIX or MOZART right now. Basic SUPERTRUE data is upwards or downwards compatible. You can work on an AMEK MOZART-RN designed by Mr Rupert Neve by day and take the disk home and perfect your mix on BIG by night.

If your work involves sound-to-picture, SUPERTRUE has both SMPTE and MIDI synchronization capabilities. The Cue List allows you to trigger external events - such as sound FX and music cues - and internal events, such as Mutes or Fades - to 1/4 frame accuracy. If someone recuts the picture, you can easily regroup your Events List to follow it. You can even save multiple versions of the Cue List.

SUPERTRUE also has an extensive off-line editing system, the Mix Processor. Here you can Merge one mix into another, Splice mix data from one part of the mix to another part, time Shift mix data to follow edits, and other time-saving functions which speed production work.

RECALL

BIG has a Recall system which allows you to store the positions of the knobs and switches on the console. You can recreate a mix exactly by copying the screen ikons to the functions they represent. If you don't want to look, you can listen; BIG's Vocal Recall talks to you and tells you which knob or switch to move next, and when it's reset properly. The rapid scan system only stops at functions which need resetting; if a knob hasn't been moved, you don't have to move it.

If your record company or the video producer asks for a slightly different mix, you don't have to worry about what you did with the console last time. The settings are stored right alongside the mix Title, and you can store up to 10 different console configurations for each Title.

VIRTUAL DYNAMICS ™

For those of you who want something which leading-name consoles (except AMEK) don't have, you can fit the AMEK VIRTUAL DYNAMICS ™ option. This virtual domain product simulates different types of Dynamics devices which operate on the fader VCAs from screen ikons. One of 9 devices may be selected to each individual channel. All selected devices are stored with the Title, so that when you load the mix, you bring back the set of Dynamics equipment which you customized for that mix. All this, without taking up one inch of rack space or being locked into a piece of hardware.

CONCLUSION

BIG is one of the audio products for the '90s which you cannot afford to ignore.

The boundaries between the various audio disciplines are rolling back. Equipment has to have the ability to cope with many different situations. Versatility is the order of the day.

The introduction of low-cost digital recorders has required a response from console manufacturers, and BIG is it. If you're working in digital, you need the kind of signal quality AMEK designs give you.

If you're working in high-pressure production environments, you need automation and repeatability. If you're writing songs or creating scores, you need to be able to compare different mixes quickly. This you get from BIG's proven automation and recall systems.

BIG will open up a new vista of creativity and opportunity for you.

Graham Langley, co-founder of AMEK and designer of BIG, says:

"I started out life as a long-haired guitar player who wasn't satisfied with the sounds he could get. I started modifying guitars, and continued with amplifiers and speakers. I then went to College to study electronics, and at that time I built organs and synthesizers. When I graduated, I started building consoles, and subsequently founded AMEK with Nick Franks in September 1973.

At that time 16-track recording was state-of-the-art, basic console automation was becoming possible, no-one had dreamed of MIDI and desktop computing did not exist. Things have moved very far and very fast in the past 20 years, and AMEK has been deeply involved in that development process.

BIG is an 11th generation AMEK recording console. Historically, we designed and produced the X-Series; the M-Series; 2016; M2500; ANGELA; APC1000; G2520; MOZART; HENDRIX and EINSTEIN, not even counting the TAC range. This means that we have built and delivered thousands of recording consoles. Over the years, a mountain of hits has been recorded on AMEK.

BIG is a distillation of all that knowledge. It summarizes concepts in recording consoles which have been developed through this 20-year historical period, and makes them available at a fraction of the cost which was previously possible. Even two or three years ago it would have been unthinkable to make BIG at the price we can now offer it.

BIG is also designed for use in the 1990s. Many new areas of audio production have opened up which require a different type of console. BIG can be used for every application from straight microphone recording to stereo through to complex audio-for-picture post production. No other console currently available for this price can compete with what BIG offers.

I am very pleased with this product and consider it to be one the finest systems we have made. "

BIG 1 Input Module

SIGNAL FLOW

The BIG 1 Module is based on the Dual Path system, first developed by AMEK. This extension of the In-Line concept offers the creative engineer an immense variety of mixing options, as he has two complete signal paths through the module.

These are designated Channel and Mix. Channel is used to send Mic or Line signals to the multitrack machine. Mix is used to listen to the buss out or tape return signal, and to send that signal to the stereo buss.

These Paths, however, are not rigid. Various switches (titled in red) enable you to reconfigure the signal flow inside the module. Inputs to and outputs from each Path can be completely rearranged. Both Paths can also be routed to the stereo buss at the same time, providing double the number of inputs for mixing.

MULTITRACK ROUTING

BIG has 12 buss outputs,assigned in pairs. The busses follow the panpot; left addresses odd-numbered outputs, right, even-numbered outputs and centre selects odd and even busses, equally.

Output is via paralleled stereo jack connectors, numbered 1 to 24. Buss 1 feeds either track 1, track 13 or both, depending which track is put into record on the tape machine.

The buss outputs are electronically-balanced and may be adjusted on the Big 3 module to operate with either -10dB or +4dB tape recorders.

MIX TO TRKS switches the routing from the output of the Channel Path to the output of the Mix Path.

AUX 3/4 TO TRKS connects the routing to the output of Auxiliaries 3 & 4 and disconnects it from its previous source.

Aux 3 goes to odd-numbered busses and Aux 4 goes to even-numbered busses, providing up to 12 additional sends. When AUX 3/4 TO TRKS is selected it cuts off signals to Aux busses 3 & 4 from that module.

AUXILIARY SENDS 5,6,7 & 8 are mono post fader sends normally fed from the Mic/Line signal on the Channel Path.

SENDS 1,2,3 & 4 are mono post fader sends normally fed from the Buss/Tape signal on the Mix Path. All 8 sends can be in the same Path

MIX switches sends 5 - 8 into the Mix Path.

AUX 1 - 4 FROM CHAN switches sends 1 - 4 into the Channel Path.

PRE (1-4) sources Aux sends 1 - 4 with the pre-fader signal on the Mix path. If these sends are in the Channel path, Pre will then source the sends pre the level knob.

AUTOMATED AUX SEND MUTING

The Mute on Aux sends 1 & 2 can be automated using SUPERTRUE.

CHANNEL PATH

Microphone or Line level sources are connected via the XLR connector on the rear panel of the console.

+48V sends Phantom Power out of the XLR.

MIC/LINE GAIN is controlled by a single knob. The gain range changes according to type of input selected.

Mic Amplifier: Gain Range +10dB to +60dB; Impedance 1.5 KOhms; Maximum input level +11dB.

Line Amplifier: Gain Range -15dB to +35dB; Impedance 10 KOhms; Maximum input level +35dB.

LINE is the Mic/Line switch.

The Mic amp has a wide gain range and is designed to operate without the need for a Pad to attenuate high input signal levels. Selecting Line allows the Channel path XLR to operate as a Line input.

CHANNEL PAN allows placement of the signal in the stereo field. The Panpot is centre-indented at -3db. It is always associated with the Channel path regardless of the selections made on the Module Status switches.

LEVEL controls the signal output level from the Channel path.

The ST switch assigns the Channel Path signal to the main stereo buss.

SOLO MODES

BIG has two Solo modes:

a) AFL or After Fade Listen, which hears the signal after the fader and the panpot. The signals in all other channels or returns are not heard. AFL can be used during recording as it does not disturb the signal being sent to tape.

b) Solo In Place mutes all the other channels. This is normally used during mixing, since the signal can be heard with Effects returns left open (using Solo Defeat).

Solo In Place mode is operated through SUPERTRUE and is only available on the Mix path. The mode is selected by the master Solo In Place switch on the Big 3 module, which operates the SIP mode ikon on the screen (located over the stereo master fader). Solo Defeat is also selected in SUPERTRUE.

AFL (After-Fade Listen) is provided on the Channel Path.

AUTOMATED CHANNEL MUTE

Pressing the Channel MUTE cuts all outputs from the Channel path. Pre fader sends, however, remain open.

MIX PATH

The Mix path is normally used to listen to the Buss out or Tape return signals.

I/P FLIP (Input Flip) swaps the Mic/Line and Buss/Tape inputs between the Channel and Mix Paths.

BUSS selects the input source for the Mix Path, either Buss or Tape. The Tape signal comes from the external Tape input connector on the console rear panel and the Buss signal is internally derived.

Ø (Phase Reverse) inverses the + and - phase signals.

TAPE GAIN controls the input level of either the Buss or the Tape signals. Gain range is +/-20dB. The Tape input is electronically-balanced.

EQUALIZER

HF (High Frequency): shelving with switch-selected turnover points at 6KHz or 12KHz. Maximum boost/cut is +/-18dB.

HMF (High Mid Frequency): peaking (bell) with a Q of 0.7 The dual concentric pot has +/- 14dB boost/cut on the upper control and 400Hz to 18kHz sweep on the lower control.

LMF (Low Mid Frequency). peaking (bell) with Q value switchable between 0.7 and 1.5 The dual-concentric potentiometer has +/- 14dB boast/cut on the upper control and 100Hz to 4kHz sweep on the lower control.

LF (Low Frequency): shelving with 4 switch-selected turnover points. The basic frequencies are 40Hz or 80Hz. The x3 button multiplies the selected frequencies by 3, giving 120Hz and 240Hz respectively. Boost/Cut is maximum +/- 18dB.

HPF (High Pass Filter): The High Pass Filter acts on the signals in the Mix path and gives a roll-off of 12dB/Octave below 120Hz.

EQ IN brings the equalizer into operation. Note that EQ IN operates only on those sections of the equalizer selected to the Mix path.

MIDS to CHANNEL: The HMF, LMF and Filter sections of the equalizer can be switched from the Mix Path to the Channel Path,allowing equalization on both Paths in the BIG 1 input module.

The **INSERT** point allows external equipment to be placed in the signal path. The insert point is unbalanced and sends after the equalizer and returns before the fader. If the faders are reversed,the insert point remains in the Mix path.

MIX PAN is centre-indented with a -3dB centre point. It is always associated with the signal in the Mix path.

ST assigns the signal in the Mix Path to the main stereo buss.

FDR FLIP swaps the Channel Level control and the VCA Fader in the Mix Path. This allows you to automate levels in the Channel Path if required.

SEL (ie,SELect) allows puts the channel into one of the basic automation modes. (See over)

SOLO, SOLO IN PLACE AND SOLO DEFEAT

A Solo switch is located on the Mix path. This provides a Stereo After Fade Listen (AFL).

Solo In Place and Solo Defeat are operated through SUPERTRUE.

The automated **MUTE** cuts all outputs from the Mix path (except pre-fade sends).

The **FADER** has 100mm travel and is fitted with a VCA, which allows it to be automated.

BIG 2 Stereo Line / FX

The four BIG 2 modules each have one Stereo FX Return and one Stereo Line input, giving every BIG console a total of 4 FX Returns and 4 Stereo Inputs.

M/S Mic recording is becoming increasing popular in post-production applications. Of special interest is the fact that each BIG 2 Stereo Input has its own M/S Matrix (see below), which yet further underlines the flexibility of the BIG console.

The FX RETURN input will accept any stereo line source, but is generally intended for use with external signal processing devices such as multi-effectors.

MULTITRACK ROUTING is sourced from the output of the FX Return section. Since the signal is stereo, the 12 buss outputs are assigned in pairs; selecting busses 1 & 2 puts the Left channel into buss 1 and the Right channel into buss 2.

The FX Return panpot allows Left - Right adjustment of the stereo image with cancellation of the output from one side when the panpot is fully panned to the other. Pan centre puts the signal down both busses equally.

The buss outputs are electronically-balanced and may be adjusted from the master control module to operate with either -10dB or +4dB tape recorders.

GROUP TO TRKS switches the routing from the FX Return to the Stereo Line Path.

AUXILIARY SENDS

BIG 2 has 8 auxiliary sends, arranged as two groups of four dual concentric knobs. Odd-number sends are on the upper knob and even-number sends are on the lower knob.

AUX 5,6,7 & 8

These mono post fader sends are normally sourced from the FX Return Path.

If a Stereo signal is present,sends 5 & 7 are sourced from the Left signal and sends 6 & 8 from the Right. Mono signals go to all sends.

GROUP switches these sends from FX Return to the Stereo Line input section.

PRE sources sends 5 to 8 before the FX Return level knob instead of after it. If the sends are selected to the Stereo Line Path, the sends will then be sourced Pre the Stereo fader.

AUX 1,2,3 + 4

These mono post-fader sends are normally sourced from the Stereo Line Path.

AUX 1 - 4 FROM FX switches these 4 sends to the FX Return section of the module.

PRE creates a prefader send suitable for Headphone and Cue mixes.

AUTOMATED MUTE

A seperate MUTE switch is fitted on auxiliary sends 3 and 4 of the BIG 2 module which can be automated by SUPERTRUE.

STEREO F/X RETURN

The Stereo F/X Return is electronically-balanced and is accessed by two stereo jack sockets on the rear of the console.

MONO combines the Left and Right signals to the F/X Return section. This can be useful if you want to record the output of a stereo effects device onto one track.

F/X RETURN GAIN sets the input gain to the FX Return section and is variable from +/- 20dB.

LPF The Low Pass Filter gives a roll-off at 12dB/Octave above 6KHz. This is especially useful to help remove undesirable high frequency noise from some effects devices and synthesizers.

PAN is centre indented at -3dB.

ST assigns the output of the FX Return to the main stereo buss.

RETURN LEVEL controls the output of the F/X Return. The unity gain point is at 1 o'clock on the travel; there is an extra 10dB of gain above this point.

AFL provides a stereo After Fade Listen (AFL) to the monitors. This allows you to check the FX Return signal in isolation from other signals in the console.

MUTE cuts all outputs from the F/X Return section and is automated using the SUPERTRUE automation system.

STEREO GROUP/ LINE INPUT

The Stereo Line input (denoted 'GROUP' on the module) can be used either for subgrouping to the stereo or multitrack busses, or as a full-function stereo line input.

Subgroup operation:- assignment is via the multitrack routing.

Busses 1 & 2 access the input of the Stereo Line Path on Big 2 module A, 3 & 4 access module B; 5 & 6 access module C; and 7 & 8 access module D. The signal passes through the Gain control, EQ, fader and panpot and can also be sent to the auxiliary busses.

Return Module

The Group output can then be routed to two tracks on the tape machine, or to stereo, or to both. It is also possible to subgroup combinations of FX Returns and other Stereo Line inputs using the multitrack busses and stereo assign switches.

Stereo Line Input mode:- if any signal is plugged into the Stereo Line input jacks it will cut off the subgroup feed and replace it with the external source - typically o multi-effects device or a stereo output from a sampler or synthesizer.

The signal then passes through the Stereo Line section of the channel in the normal way except that the section is functioning as an independent stereo input.

MONO & PHASE (RØ) REVERSE

Normally the input to the Subgroup/Stereo Line Input Path would be a stereo signal. However in some cases you may have, or require, a mona feed. An example is when you wish to record a stereo signal on one track of a multitrack machine.

MONO L sends the Left channel signal only to both sides of the stereo Path.

MONO R - selects the Right signal only to both sides of the stereo Path.

Pressing MONO L and MONO R together present a mono sum of the Left and Right signals to both sides of the stereo Path.

RØ - Phase Reverse changes the phase of the Right signal only. This can be used for special effects or more typically where one signal is out of phase with the other as a result of wiring.

Pressing MONO L, MONO R and Phase together allows M/S signals to be decoded with the Left and Right SUM signal appearing on the Left side and the Left and Right DIFFERENCE signal on the Right.

STEREO LINE GAIN operates on any signal input to the Subgroup/Stereo Line Path. The control has a gain range of +/- 20dB.

STEREO EQUALIZER

A four-band stereo equalizer with High and Low Pass Filters is fitted to this Path.

Low Pass Filter: the LPF acts on both sides of the stereo signal and gives a roll-off of 12dB/Octave above 6KHz

HF (High Frequency): shelving at 12 KHz. Maximum boost/cut is +/-18dB.

HMF (High Mid Frequency): peaking (bell) with a slope of 6dB/octave. Frequencies of 3KHz or 6KHz are switch-selectable and boost/cut is +/- 14dB.

LMF (Low Mid Frequency): peaking (bell) with a slope of 6dB/octave. Frequencies of 150Hz or 350Hz are selectable and boost/cut is +/- 14dB.

LF (Low Frequency): shelving and is selectable between 4 frequencies. The basic choice is either 40Hz or 80Hz. The x3 button multiplies the basic frequencies to either 120Hz or 240Hz respectively. Boost/Cut of up to +/- 18dB is provided.

HPF acts on both sides of the stereo signal and gives a roll-off of 12dB/Octave below 120Hz.

EQ IN switches the EQ into circuit.

GROUP PAN operates on the subgroup or stereo line input signal, whichever is selected. The panpot is -3dB at the centre and is centre-indented. The Panpot acts as a balance control with full cutoff to the extreme left or right of its travel.

ST assigns the signal to the main stereo buss.

FDR FLIP (Fader Flip) swops the F/X Return Level Control with the automated Stereo Subgroup VCA fader. This allows the Stereo Subgroup signal, the Stereo Line input signal or the F/X Return signal to be automated.

SEL

As with the BIG 1 input/output module, the SEL switch on the BIG 2 module allows selection of the Automated module functions - Aux 3 and 4 Send Mute, F/X Return Mute, Subgroup Mute and Subgroup VCA Fader - to the various operational modes provided by SUPERTRUE.

AFL provides a Stereo After Fade Listen (AFL).

SOLO IN PLACE and ***SOLO DEFEAT*** are provided through the SUPERTRUE automation system.

GROUP MUTE when pressed cuts all outputs from subgroup section with the exception of prefade sends. Subgroup mute information can be automated using SUPERTRUE.

The ***STEREO FADER*** is a 100mm unit with a VCA, allowing it to be automated.

BIG 3 Master Control Module

The Big 3 Master Control Module includes Talkback, the Solo Master, the Oscillator, the Control Room and Studio Monitor sections, the Auxiliary Send Masters, the Multitrack and Stereo Buss trims and the Stereo Master fader.

TALKBACK enables the engineer to talk to various destinations. An input XLR socket suitable for a Dynamic microphone is located at the top of the module. Next to it is the ***TALKBACK MIC LEVEL*** control. Gain is variable from +15 to +60dB. The Talkback system is operated in conjunction with the ***TALK*** switch.

FADERS ISOLATE disconnects the VCA faders from the automation system and allows the VCA to be controlled directly by the fader.

AUX SEND MASTERS

The signals on each of the 8 Auxiliary send busses find their outputs on this module. The Master sets the overall output level of all the auxiliary signals fed to that buss from the Big 1 and Big 2 modules.

Each of the 8 mono send masters are provided with an AFL (After Fade Listen) switch. This puts Auxiliary send master 1,3, 5 and 7 signals on the Left Control Room Monitor speaker and Auxiliary send master 2,4,6 and 8 signals to the Right Control Room Monitor speaker.

In addition to attenuating the signal the send masters provide up to 3dB of gain.

1 & 5 and 2 & 6 BLEND

It is possible to link the Auxiliary send buss outputs. Sends 1 & 2 are normally in the Mix path, and 5 & 6 are normally in the Input send block. Pressing the switch labelled ***BLEND 1 & 5*** links these two send busses at the output of aux buss 5. Pressing the switch labelled ***BLEND 2 & 6*** links these two send busses at the output of aux buss 6.

Using the blend switch, effects devices or foldback outputs can be accessed from the signal in the Channel and Mix paths of the same module, allowing you (for example) to send both Mic and Tape signals to a reverb at the same time.

SOLO LEVEL allows the level of the AFL Solo signal to be adjusted in relation to the Control Room Monitor mix level. The ***SOLO IN PLACE*** switch enables Check Solo mode by turning it on in the SUPERTRUE automation system. Solo In Place operations are triggered from the Solo ikan above the fader on the computer screen.

PK/VU changes the ballistics of the Control Room Monitor Meters to read average (VU) instead of peak characteristics. The multitrack meters are always in peak reading mode.

The ***OSCILLATOR*** provides 3 frequencies using a combination of 2 switches.

With no switches pressed, the Oscillator is off.

When the ***10K*** switch is pressed, a 10kHz tone is generated to the multitrack and stereo busses. When the ***1K*** switch is pressed, a 1KHz slate tone is generated. When both the ***10K*** and the ***1K*** switches are pressed the tone is at 100Hz.

The ***CAL*** switch provides a constant, calibrated, output level of 0VU = +4dB. If a variable oscillator output level is required,use the knob in the Osc section, which will operate if ***CAL*** is not pressed.

Note that some budget-price equipment uses a -10dBV input level instead of +4dB. Big can be set up for -10 operation. Each Big 1 module has an internal switch which adjusts the Tape input for -10 operation; the output busses can be adjusted as explained above, using the trimmers.

Switching the oscillator on dims the Control Monitor output as a safety measure.

CONTROL ROOM MONITOR SECTION

The principal listening source is the Control Room Monitor output.

Various sources can be routed to the speakers via an interlocking switchbank. This offers a choice of 3 external stereo sources or the ***STEREO*** Buss.

The 3 external sources are labeled ***2 TK 1***, ***2 TK 2***, and ***2 TK 3*** and are usually Stereo Tape Machines, DAT Machines, CD Players or Cassette Recorders but can be any line signal plugged into the ST1, ST2 or ST3 sockets. Any of the 4 sources can be mixed together by pressing any number of the switches simultaneously.

2 TK 1 is configured to accept -10dB signals making it compatible with some budget machines which use this operating standard.

SPEAKER 2

Two sets of speaker outputs are provided, allowing you to select either the Main or Nearfield monitor speakers by pressing the SPEAKER 2 switch.

MONO

Mono compatibility can be easily checked. The Mono switch sums the Left and Right Control Room Monitor signals and compensates for a volume increase by reducing the summed level by 6dB.

DIM

The Control Room Monitor level control is fitted with a Dim switch which reduces the output by 20dB. DIM is also automatically activated when the TALK button is pressed or the Oscillator is switched on

MUTE

The Control Room Monitor Mute cuts all outputs to the Monitor Speakers.

STUDIO MONITORS

The Studio Monitor output is used to feed a set of speakers in the studio playing area although it can find application as an extra headphone feed. This output has a level control and is normally sourced from Auxiliary sends 1 and 2. Pressing the switch labeled ***FOLLOW CONTROL ROOM*** sources the Studio Monitors from the selection made on the Control Room Monitor Source Selection switches.

HEADPHONE OUTPUTS

One Control Room headphone jack socket is fitted near the operator. The input follows the Control Room Monitor source selection switches. The headphone output can be used for live mic overdubbing in the Control Room where speaker replay would obviously spill into the microphone or create howlround (feedback).

TALK SWITCH AND TALKBACK ROUTING

The TALK switch can be used to address the STUDIO Speakers, AUXiliary Sends 1,2,5 and 6 and/or SLATE (the Multitrack and Stereo Busses) as selected on the Talkback routing switchbank. Pressing the TALK switch remotely dims the Control Room monitors.

SEL AND STEREO OUTPUT FADER

The Stereo Output has a VCA Fader and is automated. This enables you to control not only stereo output levels from the computer but also to have computer-controlled fades.

SEL selects the READ/WRITE/UPDATE mode of the Stereo Master Fader and operation is similar in all respects to that of other VCA Faders.

BUSS TRIMS

The Multitrack and Stereo Buss Trims are accessed from the front panel of the BIG 3 module and can be adjusted to operate with -10dB recorders.

METERHOOD AND METERS

In addition to the Multitrack and Control Room Monitor meters the meterhood also contains the power rail LED indicators and AFL and Solo LEDs.

Multitrack Metering: 24 15-segment light meters are fitted. These are peak reading with a fast attack and slow decay time.

When modules 1 to 24 are in the Tape mode they read the level from the Multitrack Machine or any Line level source plugged into the Tape Input jack.

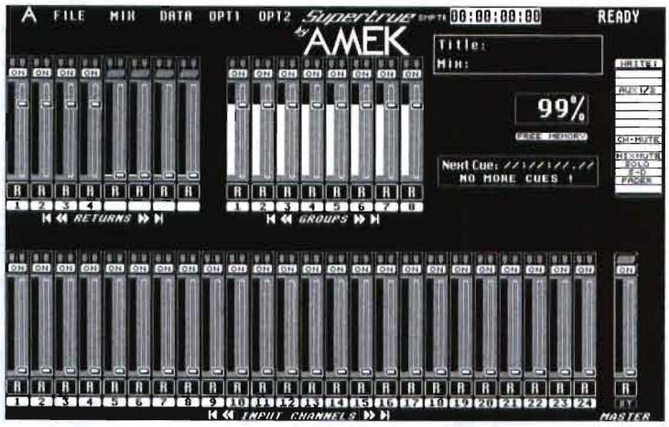
Switching to Buss on any module or group of modules reads the Buss output corresponding to the same-numbered tape track.

The overload LED triggers at 6dB below clipping.

Control Room Monitor Meters: read any signal selected using the Control Room Monitor Source Selector - 2 TK 1, 2 TK 2, 2 TK 3 or the Stereo Output.

Any Solo or AFL signal may be selected to the Control Room Monitor Meters by pressing the AFL switch in the meter control section.

SUPERTRUE AUTOMATION



The main SUPERTRUE screen simultaneously displays 24 Input VCA faders, 8 Group faders, 4 Return faders and the Stereo Master fader. Clicking on the arrows underneath each set of faders scrolls the window to reveal that there are 16 Group (subgroup) faders in total and 28 or 44 Input faders,according to the frame size of the console.

Each fader block has several features.

Switch control ikons include S (Sola), D (Solo Defeat), ON (Mute) and READ- WRITE- UPDATE automation mode. These virtual switches can be operated with the mouse.

When fader positions have been stored in the computer, levels are displayed as a bargraph. In WRITE mode, the screen knob follows the actual position of the Input and Return faders. Thus immediate comparison between automation levels and fader knob position is possible.

The 16 Groups are in fact Virtual Groups; they only exist inside SUPERTRUE. Group levels can be changed by grabbing the knob onscreen with the mouse (click, hold, drag) and Solo, Solo Defeat and Mute operations are also performed onscreen.

If you wish to control a Group level from one of the physical faders, you can assign it by dragging the screen fader onto the icon of the input fader you wish to use as the master. Thus SUPERTRUE allows you to create Virtual, Free and Dedicated subgroups.

The Zoom function allows you to display blocks of 8 faders at whole screen size if required.

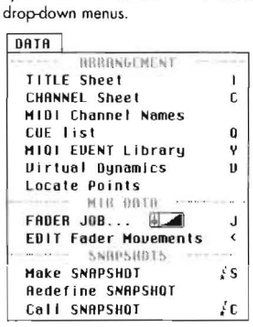
The WRITE enable box is extremely useful.

This enables you to choose which functions are affected by automation operations and which are not. Thus, for example, you can WRITE mutes seperately from levels, or levels seperately from mutes. This allows you to create different versions of a mix by changing only mutes, only levels, and so on.

The TITLE subwindow displays the name of the piece you are mixing, and the mix version.
The Next Cue subwindow shows which Cue is coming up next in the Cue List.
The Free Memory subwindow shows how much memory remains. Mix size is only limited by the size of the RAM (and available disk space to save it to).

Synchronization:
SUPERTRUE can act either as Master or Slave in any synchronization setup. The two fundamental modes are Internal, where SUPERTRUE generates MIDI timecode (MTC), and External, where SUPERTRUE chases external SMPTE/EBU timecode at any one of the 4 standard frame rates.

Many SUPERTRUE functions are accessed via drop-down menus.



The Data connected with any piece of work is organized into two groups. The TITLE contains all aspects of the setup you create for the mix, for example, the Title Sheet, Channel List, MIDI information, Cue List, Virtual Dynamics settings, and so on. You can create up to 32 different mixes per Title; these comprise the mix list. These mixes can be individually named and are chained to the Title, so that when you load an existing Title it automatically allows you to access the mixes.

Basic use of SUPERTRUE is remarkably simple. This is what you do:

1. Make a Title

2. Put the console into WRITE and start the code running

3. Change fader levels,mutes,etc

4. Stop the tape and roll back to the beginning

5. Put the console in READ (or select AUTO READ so that the console automatically defaults to READ on stop)

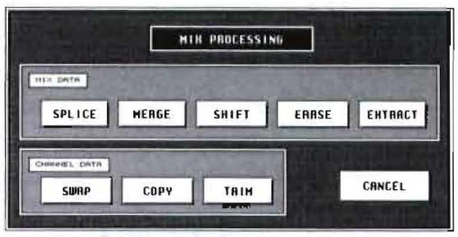
6. Roll the tape again and watch your moves being replayed.

Of course this sequence of events can be greatly elaborated, but a major concern to some automation users is how to get started on a new system. SUPERTRUE makes this easy.

SUPERTRUE also has extensive online HELP routines which can be accessed to assist with any function which is not obvious.

There are various basic automation modes, READ, WRITE and UPDATE, and an auto-nulling function, AUTO TAKEOVER. In READ mode the VCA reads back fader Level, Mute and Switch information from the automation computer. The fader itself is not operational. In WRITE mode the fader can write information to the VCA and the automation computer. Thus, the fader is active.
In UPDATE mode the channel now reads information from the automation computer and the fader simultaneously. Thus previously-recorded fader movements can be modified by further fader movements. These additional changes can also be saved.

Once you have a created a mix or set of mixes, SUPERTRUE gives you the opportunity to edit the data, word-processor fashion, using the MIX PROCESSOR.



There are 8 routines in the Mix Processor. Five concern global mix data and 3 concern channel data. Edit points can be specified to quarter-frame accuracy.

SPLICE allows you to copy the mix data for faders and/or switches for selected channels between selected timecode points to another timecode point.

Suppose you are mixing a song which has a complicated chorus with many automated changes, and the chorus occurs four times in the piece. Using SPLICE, you only need to mix the chorus once and you can then copy the moves to each timecode point where the chorus occurs, thus saving the need to recreate the mix each time.

MERGE allows you to join mix data from a mix stored on the hard disk, between selected timecode points, into the mix currently held in memory to make a composite of the two mixes.

SHIFT allows you to move the mix data for faders and/or switches for selected channels between selected timecode points to another timecode point.

Suppose you are working on a soundtrack and there is a major edit which requires a reorganization of the mix data. The Shift function allows you to move the mix data to a new timecode position which matches the audio to the new position of the picture. Shift can also be used to make minute adjustments, as small as one quarter frame, in order to get exact synchronization of sound effects or pieces of dialogue.

ERASE allows you to delete switch and/or fader data for selected channels between selected timecode points.

EXTRACT allows you to keep switch and/or fader data for selected channels between selected timecode points, the rest of the mix data being deleted.

Both ERASE and EXTRACT provide different methods of removing parts of a mix which are unsatisfactory and need to be recreated.

SWAP allows you to swap fader and/or switch data between two channels between selected timecode points.

COPY allows you to copy fader and/or switch data from one channel to another between selected timecode points.
SWAP and COPY allow you to re-organize the mix data so that if cross-patches or changes are made in the console setup,the data can follow the audio. Fader positions onscreen can also be swapped using click-drag routines. Thus for example fader numbers could run 1 - 3 - 2 if required instead of 1 - 2 - 3.

TRIM allows you to adjust the level on selected channels between selected timecode points over a range of +/-64dB in quarter dB steps.

This function is very useful if you want to back off or increase levels for a number of faders by a very precise amount without using the normal WRITE or UPDATE procedures.

Especially useful in Post Production is the Cue List.

Up to 255 Events can be put into the list and Lists can be saved allowing different versions to be created.

The Cue List allows 1/4 frame accurate triggering of console and MIDI events. Thus, for example, an array of sound effects loaded into a sampler can be played from the console. The Cue List allows the following events to be triggered:

* MIDI Events. These include Note On, Note Off, Control Change, Programme Change, Start Sequence, Stop Sequence and Song Select with assignment over the 16 MIDI channels. Libraries of MIDI Events can also be created.

* Fades of any length and of any shape. Fade curves can be drawn on the Fader Jobs screen and loaded into the Cue List.

* Snapshots, made up of faders and switches,can be loaded. Load time is adjustable to allow crossfades.

* Automated channel switches can be set to turn on or off to timecode.

* The Status of the Write enable box may be changed to timecode.

* The whole console can be put into READ, WRITE or UPDATE mode to timecode.

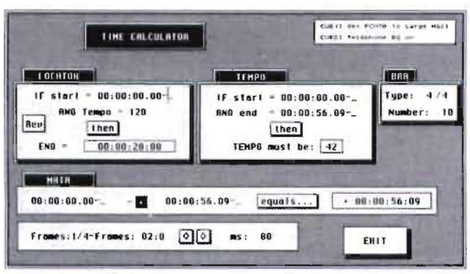
* Levels on individual faders can be increased or decreased from selected timecode positions (similar to TRIM in the Mix Processor but under cue time control).

SUPERTRUE AUTOMATION

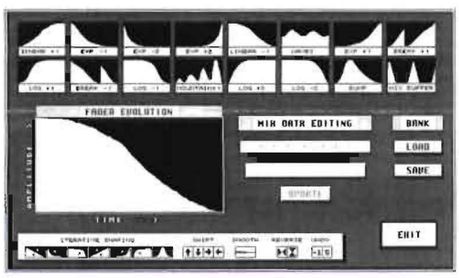
Up to 4 Cue Graups can be made on the Cue List. The Groups can be individually turned on or off. This means, for example, that if all MIDI Events are on Group 3, you con turn 3 off and hear the mix without the MIDI Events.

Individual and Grouped Cues can also be sorted and edited using Delete, Copy and Shift routines which enoble Cue Lists to be completely reconstructed if required. It is thus possible to re-organize Cue Lists to follow edits in the picture.

SUPERTRUE also contoins o Time Calculator which enobles you ta work out timecode start and end positions, tempo, offsets, frame to millisecond conversions etc, from incomplete data.



The FADER JOBS window allows you to use standard fade curves or draw your own, which can be saved far later use. Drawing tools include iterative shaping from various directions; shifting left, right, up or down; smoothing; reversing and undo.



The curve represents two axes, Amplitude and Time. Amplitude is determined by the currently-stored position of the fader, ie if the fader level is -10dB then fades will be to ar from -10. Time is set by the fade start and end trigger points in the Cue List, and can therefore be as long (or as short) as required.

RECALL

Apart from SUPERTRUE, the most exciting innovation in BIG is the RECALL system. RECALL has never been offered in a console of this type before, ond introduces a new arena of possibilities in audio production.

RECALL allows the positions of all knobs and switches on the Big 1 and Big 2 modules to be stored,except the Afl/Solo switches and of course the SUPERTRUE-outamated functions.
Settings can be saved into the computer ot any time; up to 10 different Poges of settings per Title are allowed.

RECALL has an auto scanning system which makes reloading easy. When a recall is activated, the computer scans the console and only pauses when it finds a control which is set to a different value to the value which has been memorized. It then brings up a graphics display of the module controls on the computer monitor. You then adjust the control until it motches the target position.

In addition, there is a VOICE PROMPT which can be used. This tells you which knob or switch ta go to next, which woy ta turn it, and when it is properly set to its previous position. Any control or module which does not need changing is outomatically ignored. An advontoge of the Voice Prompt is thot if you are using the screen for some other function eg sequencing, you can still perform a recall either by listening on the manitors or through headphones.

When activoted, the RECALL system scans the console until it reaches o channel which needs odjustment, it then floshes the green READ and red WRITE LEDs alternatively until the recall operation is complete.

The advantage of RECALL is that mixes can be exactly recreated. If o BIG studio is being used for record production or video post-production and the client requires alterotions to a mix, it is o simple matter to go back to the previous set up and alter it as required. Similorly with ony other aspects of production where work has to be re-done or re-created.

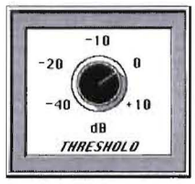
AMEK VIRTUAL DYNAMICS ™

An option on BIG is AMEK VIRTUAL DYNAMICS ™. This unique software-based envelope-shoping system allows each VCA fader to have its own Dynamics contral device.

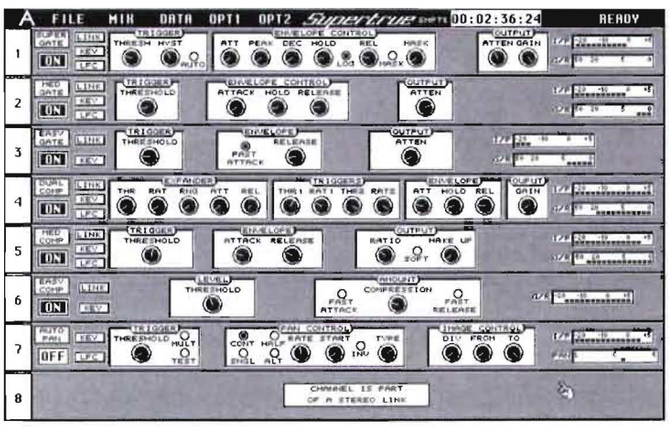
VIRTUAL DYNAMICS ™ is based on digitol control of all parameters and therefore gives the user the ability not only to specify gain contours with greot accuracy but also to produce gain control effects difficult to emulate with standard analogue hardwore.
VIRTUAL DYNAMICS ™ units ore resident within the software and can be called to the screen at any time, offering o choice of any one of the nine available devices. One device can be assigned to each channel, so that a 40-input console can have 40 Dynamics units operating simultaneously.

The VIRTUAL DYNAMICS ™ system requires additional microprocessor control hardware which is located within the chassis of the console. Channel insert points are not used leaving these free for additional external units if required. Each of the nine devices has a virtual front panel with knobs and switches thot emulate the controls of a conventianal hardware dynamics unit. Eight channels ore displayed on screen ot ony one time.

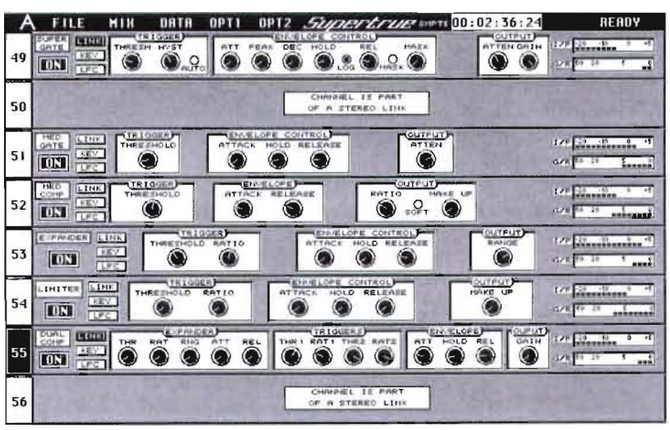
The Limiter and Expander once again provide standard features but the Auto Ponner (requiring two channels) allows a large number of possibilities in image shifting including Divergence and Width controls, triggered panning (by threshold or external key) and numerous modes from one shot to continuous panning with several LFO options.

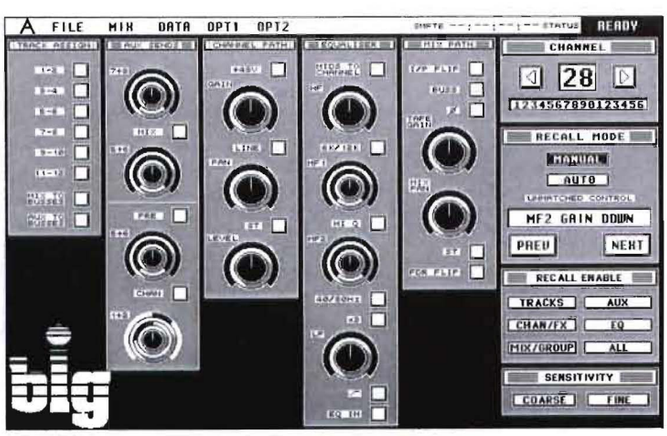


Each control knob is adjusted using the mouse. Clicking on a control produces a subwindow which displays the knob in a larger format. It can then be 'turned' by moving the mouse left or right.



Switches are operated simply by clicking on them. Adjacent devices (of the same type) can be linked for stereo operation.



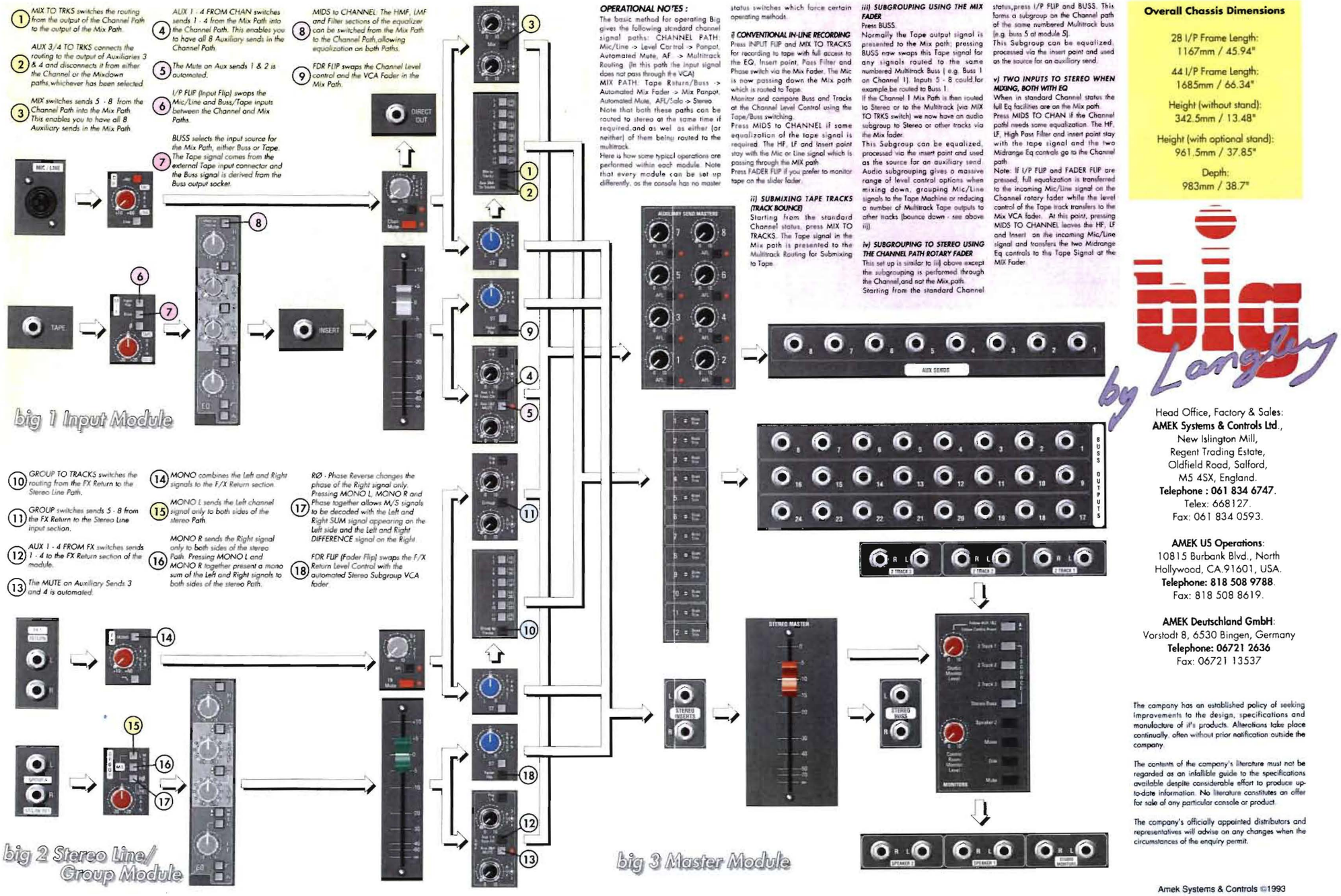


Unlike hardware, however, Virtual Dynamics™ occupies no rack spoce, ond all settings are saved with the Title; when you reload the Title, your Dynamics controllers are automatically in place.
Three Gates are availoble. Two Gates offer standord feotures at varying levels of complexity, but the ADSR Noise Gate (the Super Gate) provides o complete waveshaping focility with advanced features such os Hysteresis, Peok Level, Mosk and Low Frequency Compensation.
The three Compressors have range af control options, but the Advonced Compressor has not only Dual Slope Compression Ratios but also a comprehensive downwards Expander and Envelope section.

Libraries of favourite settings con be assembled and loaded directly into the virtuol rack space as required.

Extended Virtual Dynomics optians include o MIDI output per 8 channels, which allows audia triggering of MIDI devices.
Audio performonce is stunning with clean, distortionless, transparent sound even on the most complex of signals.

VIRTUAL DYNAMICS olso possess the further advantage in thot no additional VCAs are added to the signol path.



OPERATIONAL NOTES :

The basic method for operating Big gives the following standard channel signal paths: CHANNEL PATH: Mic/Line -> Level Control -> Panpot, Automated Mute, AFL -> Multitrack Routing. (In this path the input signal does not pass through the VCA)
MIX PATH: Tape Return/Buss -> Automated Mix Fader -> Mix Panpot, Automated Mute, AFL/Solo -> Stereo.
Note that both these paths can be routed to stereo at the same time if required, and as well as either (or neither) of them being routed to the multitrack.
Here is how some typical operations are performed within each module. Note that every module can be set up differently, as the console has no master status switches which force certain operating methods.

i) CONVENTIONAL IN-LINE RECORDING

Press INPUT FLIP and MIX TO TRACKS for recording to tape with full access to the EQ, Insert point, Pass Filter and Phase switch via the Mix Fader. The Mic is now passing down the Mix path which is routed to Tape.
Monitor and compare Buss and Tracks at the Channel Level Control using the Tape/Buss switching.
Press MIDS to CHANNEL if some equalization of the tape signal is required. The HF, LF and Insert point stay with the Mic or Line signal which is passing through the MIX path.
Press FADER FLIP if you prefer to monitor tape on the slider fader.

ii) SUBMIXING TAPE TRACKS (TRACK BOUNCE)

Starting from the standard Channel status, press MIX TO TRACKS. The Tape signal in the Mix path is presented to the Multitrack Routing for Submixing to Tape.

iii) SUBGROUPING USING THE MIX FADER

Press BUSS.
Normally the Tape output signal is presented to the Mix path; pressing BUSS now swaps this Tape signal for any signals routed to the same numbered Multitrack Buss (e.g. Buss 1 on Channel 1). Inputs 5 - 8 could for example be routed to Buss 1.
If the Channel 1 Mix Path is then routed to Stereo or to the Multitrack (via MIX TO TRKS switch) we now have an audio subgroup to Stereo or other tracks via the Mix fader.
This Subgroup can be equalized, processed via the insert point and used as the source for an auxiliary send.
Audio subgrouping gives a massive range of level control options when mixing down, grouping Mic/Line signals to the Tape Machine or reducing a number of Multitrack Tape outputs to other tracks (bounce down - see above iii).

iv) SUBGROUPING TO STEREO USING THE CHANNEL PATH ROTARY FADER

This set up is similar to iii) above except the subgrouping is performed through the Channel, and not the Mix path.
Starting from the standard Channel status, press I/P FLIP and BUSS. This forms a subgroup on the Channel path of the same numbered Multitrack buss (e.g. buss 5 at module 5).
This Subgroup can be equalized, processed via the insert point and used as the source for an auxiliary send.

v) TWO INPUTS TO STEREO WHEN MIXING, BOTH WITH EQ

When in standard Channel status the full Eq facilities are on the Mix path.
Press MIDS TO CHAN if the Channel path needs some equalization. The HF, LF, High Pass Filter and insert point stay with the tape signal and the two Midrange Eq controls go to the Channel path.
Note: If I/P FLIP and FADER FLIP are pressed, full equalization is transferred to the incoming Mic/Line signal on the Channel rotary fader while the level control of the Tape track transfers to the Mix VCA fader. At this point, pressing MIDS TO CHANNEL leaves the HF, LF and Insert on the incoming Mic/Line signal and transfers the two Midrange Eq controls to the Tape Signal at the MIX Fader.

Overall Chassis Dimensions

28 I/P Frame Length:
1167mm / 45.94"

44 I/P Frame Length:
1685mm / 66.34"

Height (without stand):
342.5mm / 13.48"

Height (with optional stand):
961.5mm / 37.85"

Depth:
983mm / 38.7"

big by Langley

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