

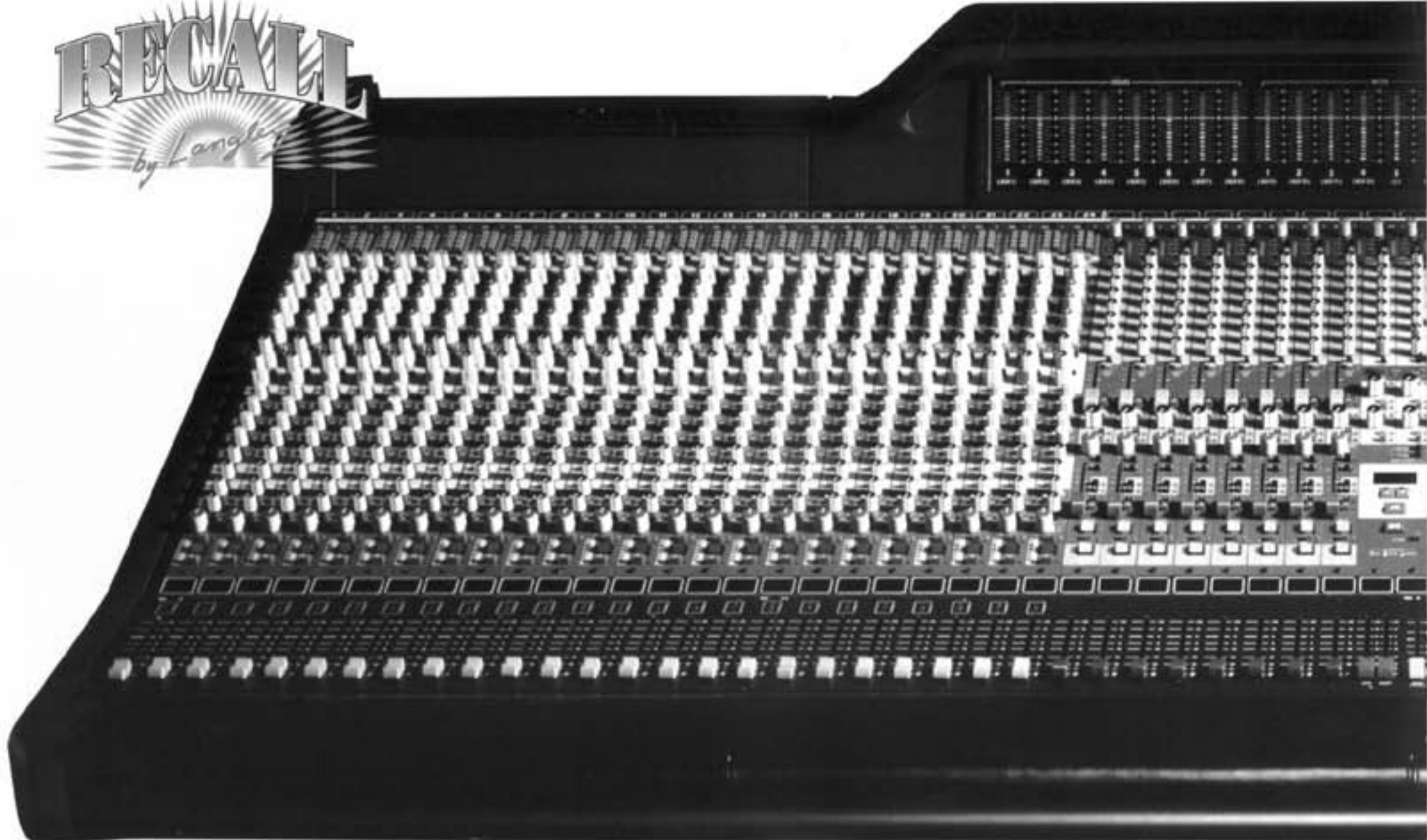
# RECALL

*by Longplay*



# RECALL

by Langley



## AMEK & THE HISTORY OF SR

AMEK has been making sound reinforcement consoles since the company was started in 1973 by Nick Franks and Graham Langley. The first SR console we built was a 10/1; the second was a 16/8/2, and the third was a 24/4/4 quadraphonic console for a band called Gong.



Almost prehistory. Gong's quadraphonic 24/4/4 split console with 24/6 monitor desk, amps & multicores.

Since that time, AMEK has built thousands of SR consoles and has been used on tour with some of the biggest names in the Rock'n'Roll. It has also provided SR consoles for many world-famous Broadcasters, Theatres and Concert Halls - such as Sydney Opera House.

Over the past 20 years, the scale of operations in the live sound industry has grown to an enormous size. Global touring by artists known throughout the world playing to huge audiences is commonplace. Speaker systems delivering hundreds of thousands of watts throughout arenas and colosseums are standard technology. The Front-of-House mixing console, however, has hardly evolved in its basic conception. Many refinements of facilities have taken place. VCA and Mute Groups have been added. EQ is much more sophisticated. There are more Sends

and more Subgroups. Hundreds of inputs are employed. Valuable seat space is devoured by acres of audio electronics.

AMEK pioneered effective, powerful low-cost automation in the studio with the SUPERTRUE system. This was combined with an incredible console to create the first, best-selling product of the LANGLEY range - BIG by LANGLEY - named in honour of AMEK's co-founder and head of design.

Recently we at AMEK started asking ourselves why we have reworked the same basic concept over and over again for SR while at the same time, we have re-written the book on recording console design. We decided it was time to go for broke and start a computer-assisted revolution in Sound Reinforcement console technology. RECALL by LANGLEY is that revolution.

## SO WHAT'S NEW?

RECALL combines computer automation with a superbly-crafted audio console which will serve both Front-of-House and Stage Monitor duties.

The SHOWTIME automation system provides snapshot control of fader levels, mutes and other functions. Within each snapshot, external MIDI Events of various types can be triggered, such as settings of Effects devices. These can be changed as each new snapshot is loaded.

It contains a RECALL system which allows you to memorize the settings of the console controls and reload them at a later time - for example, when the support band leaves the stage and the main band takes it. In addition to the screen graphics, the RECALL system has a Voice Prompt which auto-scans the controls, telling you which one to reset next. You can also mask certain functions, enabling you to choose only those which you want to reset.

Finally, RECALL incorporates AMEK VIRTUAL DYNAMICS. VIRTUAL DYNAMICS uses digital control of the fader VCA to provide you with a choice of one from nine gain processing devices per input, represented onscreen by icons of the hardware. Each parameter can be adjusted with the mouse, and settings are saved (and loaded) from disk with the performance mix data. The system uses no external rock space and offers a depth of precision difficult or impossible to achieve with analogue equipment.

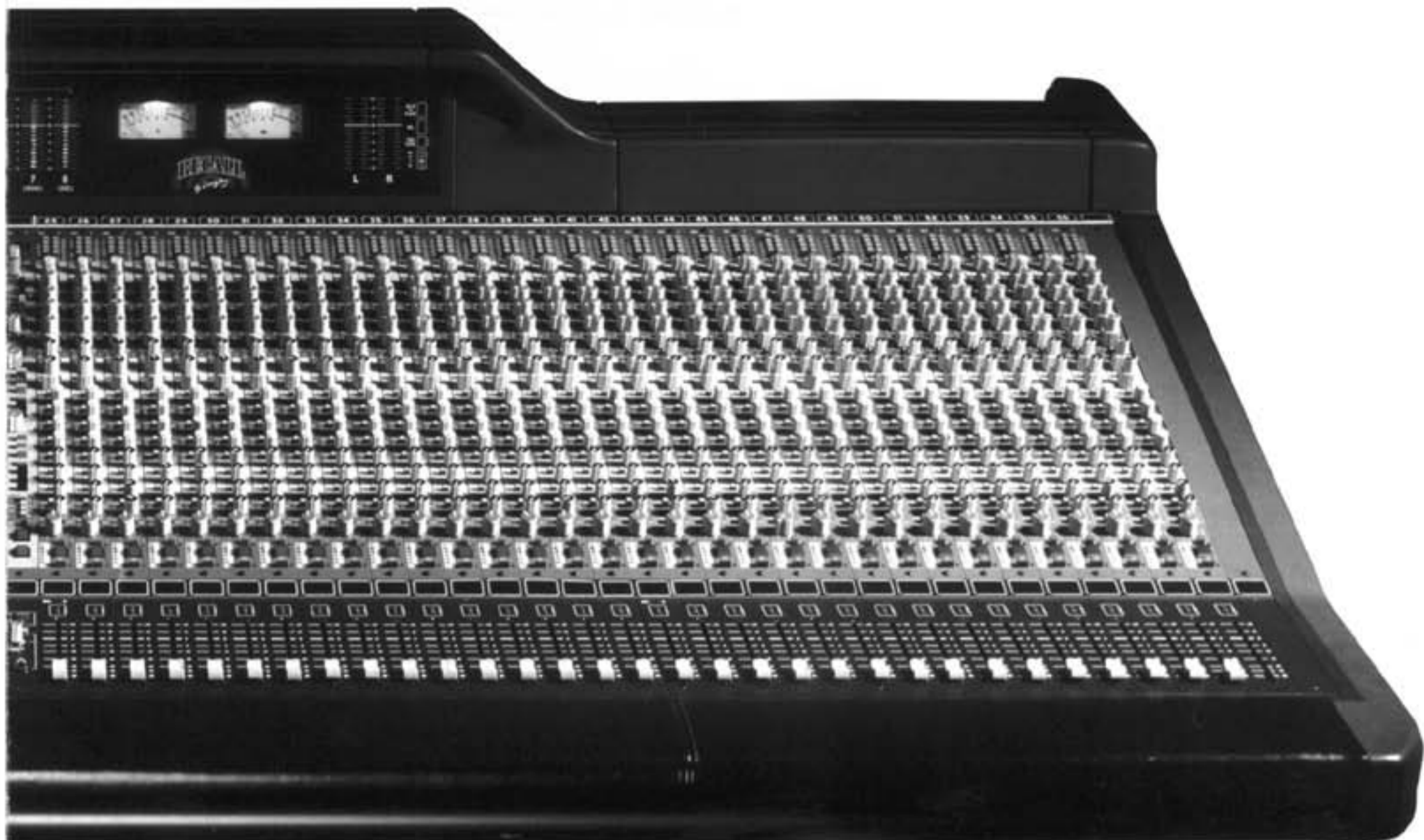
The SHOWTIME software runs on 486 processor-based computers and AMEK recommends rugged portable machines such as IBM's Thinkpad. Thus you can take your computer away with you between sets to stop anyone from interfering with your data. Or you can take the computer on tour and work offline preparing your console setup in the coach or the hotel room.

This is what is new.

## WHAT ARE THE ADVANTAGES?

RECALL makes it a practical proposition to use less inputs. This costs less and uses up less real estate, which makes the promoter and artist happy as they have more seat space to sell. The need for a second console for the support band has gone; the console can be recalled between sets, and snapshots can be reloaded between songs. Less space is occupied in the truck by consoles, making trucking cheaper and touring more ecologically responsible.

On the other hand, RECALL also makes it a practical proposition to use very large numbers of inputs, as the user has much more control and the possibility of mixes getting out of hand is consequently reduced.



Where a RECALL console is used in a fixed installation, engineers can take away a disk with their settings, saving a good amount of setting-up work when the artist returns. RECALL can also be used for security purposes - to warn the engineer against people who might have dangerously tweaked the console controls behind his back.

RECALL is especially useful for Monitor applications, as it is often impossible to fit a second console at the side of the stage regardless of budget. Monitor console settings are usually critical, but RECALL allows precision to be maintained even if a number of acts are being staged.

RECALL can also be used on broadcast and television sound stages where shows have a regular house band working with different artistes, or where several shows are regularly circulated through the sound stage.

These are some of the advantages.

## ABOUT THE CONSOLE

RECALL by LANGLEY is the latest in a number of generations of SR consoles manufactured by AMEK over the last 20 years under the AMEK and TAC brand names. We are used to designing consoles for road use, and understand the rigours and stresses involved.

Audio standards and facilities have not been compromised by the addition of automation nor the fact that the console is equally capable of handling Front-of-House or Monitor duties.

The RECALL console is available in two frame sizes, 40 and 56 inputs. Each frame has, in addi-

tion to the inputs, a Matrix with 10 sources and 8 destinations; 8 VCA Groups; 8 Audio Groups; 12 Auxiliary Sends; 8 Mute Groups; 8 Mono Returns and 2 Stereo Returns, not to mention a wealth of monitoring and metering facilities. In addition to the standard Mono input channel, a full-function Stereo input will be available during 1994.

Exceptional EQ has always been a hallmark of AMEK designs and the Mono input has yet another Graham Langley-designed classic 4-band device



with swept Pass Filters which allows delicate shading or radical reshaping of signal content as desired.

## CONSOLE LINKING

It is standard practice to link two consoles by patching the output of one into the other to provide an extended set of inputs. However, an interface will

be provided which will allow two consoles to be controlled from SHOWTIME running from one master computer. Thus VCA and MUTE groups, SOLO system, scene loading and creation and all other automation-controlled functions will interface across the two consoles.

## SAFETY CRITICAL

There is no second chance with a live performance and working with a computer controlling various console functions may give rise to concern from some engineers. A total automation bypass is therefore possible using the 'MANUAL' switch on the console which gives immediate and total manual override in case of computer malfunction or operator confusion.

RECALL is also delivered with main and backup Power Supply units as standard equipment. These units are designed to be run in parallel so that if the main supply fails, the backup will automatically and smoothly take over.

## CONCLUSION

RECALL by LANGLEY is a major technology step forward in an industry which has made colossal progress in most other areas of expertise. This console creates new possibilities, and moves the goalposts. It is often said (but not always true) that things will never be the same. For once, this is true: with the introduction of this console to the live sound industry, history will be written.

# RL 1

## Mono Input Module

### ROUTING

The 8 Group busses are selected using the odd and even assignment switches. The Stereo buss is selected via the **ST** switch. All assign switches are pre-channel panpot.

**PAN GRPS** (Pan to Groups) selects the 8 Group buss assigns post-panpot instead of pre-panpot which is the default position.

### INPUTS

The standard input configuration is for a Mic or a line source selected via the **LN** switch. The module however can be internally set up (through component changes) to have two Mic or two Line sources.

**GAIN**: Mic input is variable from 10dB to 60dB; Line is variable from -15dB to +35dB.

The 15dB PAD follows the **LN** (Mic/Line) switch.

Phantom Power is sent to the Mic socket when the **48** (+48V DC) switch is pressed.

### EQUALIZATION

The EQ allows a wide range of spectral adjustment from simple correction to radical reshaping of the signal and, in common with all AMEK equalizers, is notable for its clarity and musicality which is especially important when detailed mixes of multiple sources are required.

The section is comprised of Pass Filters and a 4-band Swept EQ, with the following characteristics:

**LOW PASS** swept 800Hz to 20kHz @ 12dB/octave

**HIGH PASS** swept 20Hz to 1kHz @ 12dB/octave

**HF** (High Frequency): sweep range 1.5kHz to 18kHz, boost/cut +/-18dB, Bell/Shelf switch

**HMF** (High Mid): sweep range 450Hz to 8kHz, boost/cut +/-14dB, switched Q of 0.7 or 2

**LMF** (Low Mid): sweep range 80Hz to 1.5kHz, boost/cut +/-14dB, switched Q of 0.7 or 2

**LF** (Low Frequency): sweep range 30Hz to 350Hz, boost/cut +/-18dB, Bell/Shelf switch

Both **HF** and **LF** controls give additional boost/cut beyond their nominal frequencies in Shelf mode. Separate **IN/OUT** switches are provided for the Filters and EQ sections.

### INSERT

The Insert point is post EQ, pre-fader and has its own **IN/OUT** switch. The send is unbalanced; the return is balanced.

An internal switch allows the Insert to be positioned pre-EQ.

**PHASE**: the Phase Reverse switch directly follows the Insert point.

### AUXILIARY/MONITOR SENDS

RECALL has 12 Auxiliary busses.

Busses 1 - 8 have individual knobs, each with its own **ON/OFF** and **PRE/POST** switches (OFF and POST are in the switch up position).

The **ON/OFF** switches for Sends 1 and 2 are individually automated using SHOWTIME allowing in/out settings to be stored in the snapshots.

Busses 9 & 10 and 11 & 12 are sourced from dual-concentric knobs. Each pair of sends has its own **PRE/POST** and **ON/OFF** switches.

The **DIR AUX 12** switch inserts send 12 into the Direct Output path to provide a variable output level which can be derived Pre or Post fader.



An internal switch allows Sends 9 & 10 to be fed from the Panpot output when set Post, the Left output going to buss 9 and the Right output to buss 10.

### PAN

The Panpot follows the fader and is -3dB, centre-indented. Output is routed to the Stereo buss only but can also be connected to the Groups using the **PAN GRPS** switch in the routing block.

### MUTE

A large momentary illuminated **MUTE** is provided. This is automated.

### SOLO

The PFL button provides a Pre-Fade Listen signal, but may be internally selected to provide stereo AFL (After-Fade Listen).

The **PFL** switch may be operated in either momentary, latching or interlock modes as selected from the RL4 module. Any selected **PFL** switches may be cleared using the master switch on the RL4.

A full in-place solo system is also provided by assigning the **SEL** switch to be a SOLO switch (from the RL4). In this mode, when a channel is selected to solo, other channels not selected Solo or Solo Defeat will be muted.

### METER

Each channel has a 5-LED PRE-FADER Meter calibrated from -30 to +5 with the top LED giving overload indication when the signal reaches approximately 6dB below clipping. The Overload led has a fast attack and a slow decay time.

### FADER

The 100mm conductive plastic Fader has an associated VCA which provides 8 VCA Groups (and Snapshot facilities, via the SHOWTIME automation system). VCA Groups can be set up from the console surface or the computer.

### SEL

The SEL switch allows you to step through the three automation modes, SAFE, UPDATE and OVERRIDE.

When the Green LED is illuminated the module is in SAFE (READ) mode. This disconnects the fader from manual control and allows it to be operated from the computer only.

When the Red LED is illuminated, the module is in OVERRIDE (WRITE). This mode allows the engineer to store the positions of the automated functions in the computer.

When both LEDs are illuminated, the module is in UPDATE. Here the automated functions are operated from the computer but will be changed if the user adjusts any of them.

### VIRTUAL DYNAMICS

Level on the channel output and Auxiliary sends sourced post-fader can be controlled using the Virtual Dynamics system, which provides a choice of one from nine software-driven gain controllers. This is described in more detail overleaf.

A stock of three VD indicator LEDs are fitted to each fader. The bottom LED is red, the middle is yellow, and the top is green. The display responds according to the type of device selected.

For any GATE, red means gate closed; yellow means attack or release phase; green means open.

For any COMPRESSOR, LIMITER or EXPANDER, the green LED is always on; yellow is on when there is more than 3dB of compression, and red is on when there is more than 8dB of compression.

For the AUTOPANNER, green is always on; the yellow and red LEDs indicate gain reduction.

# RL 2

## Matrix/Group Module

The console is fitted with 8 RL2 modules. Each module has various functions: a Mono Auxiliary input; as one channel and one Master for the Matrix; an Aux Master; an Audio Subgroup Master Fader; and a VCA Master Fader.

The module controls the same-numbered functions in each respective position, ie, module 1 will contain Mono Aux 1 input; Matrix Output 1; Aux Master 1; Audio Subgroup 1; and VCA Master Fader 1.

### AUXILIARY INPUT

The Gain Control has a +/- 20dB range and is centre-indented at the unity gain position. The Return can be routed to the **Group**, **Aux** or **Matrix** outputs and is mixed in with signals on that path; muting the signal fed to each path is done by lifting the relevant assignment switch.

A **PFL** switch is provided.

This Mono Return can be used as an expansion input from other consoles, as a return for Effects or other external sources, or, if nothing else is assigned to an Audio Group, as an additional input to the stereo buss with automated muting (using the Group mute switch).

### THE MATRIX

Each RL2 module contains one channel of the 10 x 8 Matrix. Eight individual level controls allow access to each of the Matrix outputs.

The default source for the Matrix is post the Subgroup fader; pressing **PRE GRP** sources the signal pre-Subgroup fader. The MATRIX OUTPUT FADER controls the level of the Matrix output. Each Matrix output has **MUTE** and **AFL** switches.

### THE AUXILIARY MASTER

A rotary level control is provided for Aux sends 1 - 8. The control has 10dB extra gain over the 0 (unity gain) position.

Each Aux Master has a **TALK-BACK ENABLE** switch which allows the user to talk to that Aux Buss via the talkback system on the RL4 module.

Each Aux Master has **MUTE** and **AFL** switches.

### FOLDBACK SETUP

When using RECALL as a fold-back console the 12 Aux Masters, which are normally controlled by rotaries, can be controlled instead by faders using a combination of the 8 Subgroup faders and Matrix Output Faders 1 - 4 or 5 - 8. Thus faders can be used to control all the Aux Master Sends.

**FADER OFF AUX** is used to switch Auxiliary mix buss signals 9 - 12 to the Matrix Faders. Aux buss 9 is parallel-wired to **Fader Off Aux** switches 1 and 5; Aux



buss 10 is parallel-wired to Fader Off Aux switches 2 and 6, and so forth. The Matrix Fader which will be used to control the Auxiliary output level is selected by pressing the respective **Fader Off Aux** switch. When this is done the fader is disconnected from the Matrix mix buss.

In this mode the fader output continues to appear at the Matrix output XLR socket. The normal Aux Master rotary level control and output XLR are not affected.

**FADER REV** swaps the Subgroup Master Fader and the Aux Master Level. In this mode the Aux Master level is controlled from the Fader and the Subgroup Output is controlled from the Aux Master.

### AUDIO SUBGROUP MASTER

The fader controls the level of one of the 8 Audio Subgroups. Subgroup output is normally selected to the stereo buss via the **ST** switch and the **GROUP PAN**pot.

**AFL** and an automated **MUTE** are provided.

### INSERT

The Insert is normally in the Group Output but it can be selected to the Matrix Output using the **MTX** switch.

An Insert **IN/OUT** switch is provided.

### MUTE GROUP

This switch is used to set up and trigger the Mutes grouped to it.

### VCA MUTE

The large momentary illuminated **VCA GROUP MUTE** switch can be automated if required using SHOWTIME. Soloing of VCA Groups can be accomplished using the automation system.

### VCA MASTER

The VCA MASTER fader is situated in the fader block.

### SEL

The SEL switch allows the 3 automation modes (SAFE, UPDATE and OVERRIDE - see RL1) to be accessed, giving control of the module's automated functions.

### METERING

Each RL2 module has its own LED-meter. The source is selected using status switches on the RL4 monitor module.

To meter individual paths, the various PFL/AFL switches can be used in conjunction with the monitor meters.

# RL3

## Stereo Master Module

RL3 contains two Stereo Returns, Matrix feeds from the stereo output, Aux Masters 9-12 and other functions.

### STEREO RETURNS

Each of the two Stereo Returns can be used as an expansion input from other consoles or as an input for Effects or other external sources.

The Gain Control has a +/- 20dB range and is centre-indented at the unity gain position. The Return can be routed to Monitor A, Monitor B or Stereo and is mixed in with signals on that path; muting the signal fed to each path is done by lifting the relevant assignment switch.

Stereo A is also used to link the stereo buss on two consoles. A PFL switch is provided.

### THE MATRIX

The RL3 module contains two additional sets of MATRIX SENDS which are derived from the Left and Right Stereo outputs.

The source for the Matrix can be pre- or post the corresponding left or right fader, using the PRE ST switch.

### AUXILIARY MASTERS 9-12

Rotary Master level controls are provided for Aux sends 9-12. The control has 10dB extra gain over the 0 (unity gain) position.

Each Aux Master has a TALKBACK ENABLE switch which allows talkback to be routed to that Aux Buss from the talkback system on the RL4 module.

Each Aux Master also has MUTE and AFL switches.

FADERS ISOLATE disconnects the VCAs from the computer and connects them directly to the fader, allowing complete manual operation. To avoid accidental selection this is carried out by holding down the FI switch until the READY LED illuminates, releasing the switch and holding it down again until the ON LED illuminates. The VCA Groups are lost.

### STEREO OUTPUT

Individual Left and Right VCA faders are provided on the Stereo Mix output faders. Gain may be adjusted using the trimmers.

The Left and Right paths have -6dBv insert points pre-fader. A stereo output Mute switch is provided.

### SEL

The SEL switch allows the 3 automation modes (SAFE, UPDATE and OVERRIDE - see RL1) to be accessed, allowing the stereo faders to be placed under control of the SHOWTIME automation system.



## MONO WEDGE SOURCE

A Mono Wedge speaker output is provided, with level controlled by a fader. This may be sourced pre or post the stereo buss or from the PFL system using the selector switches.

### CUE CONTROL

The SHOWTIME automation system allows up to 255 snapshots or 'scenes' to be created. The SCENE CONTROL section allows scenes to be loaded without having to reach for the computer. The stepper keys < and > allow the scene number to be selected; the LOAD SCENE key loads all the scene data into the console. Thus if, for example, the running order of the songs is changed mid-performance or there is an encore performance which is a repeat of an earlier song, the engineer can quickly step to relevant scene number.

### GROUP SET UP

This key activates set up mode for VCA and Mute Groups. In this mode the channel VCA status LEDs are used to indicate the Group settings.

A VCA group is created by first selecting one of the VCA GROUP MUTE switches; the switch will then flash. To add a channel to the group, press the channel's SEL switch; to de-select, press the SEL switch. If a channel is already included in that group, its VCA status LEDs will flash. A maximum of 3 group masters may be assigned to any one input fader.

MUTE GROUPS are set up by pressing one of the MUTE GROUP switches, which will cause it to flash; channels already selected will flash, and Mutes to be added or removed will be pressed.

Each channel can be assigned to any combination of mute group masters. To add a channel to the Mute group, press the channel's SEL switch; to de-select, press the SEL switch again.

# RL4

## Master Monitor Module

This module provides Oscillator, Communications and Monitoring functions.

### OSCILLATOR

The three-frequency Oscillator has outputs at 100Hz, 1kHz and 10kHz with either preset or adjustable levels. When none of the frequency switches are pressed, the Oscillator has no output. When both are pressed, output is at 1kHz; the other frequencies are selected from the individual switches.

CAL mode provides a fixed output at 0VU = +4dB which may be adjusted using the Trimmer if other operating levels are required; when not using CAL, level can be adjusted using the OSC LEVEL control.

The Oscillator output may be selected to the Talkback routing system by pressing OSC ENABLE. A separate balanced output is also provided.

### COMMUNICATIONS

An interface is provided for an external 3-wire Comms. system, access being made using the CALL switch. Connection is made using an XLR on the rear panel of the console.

An XLR input connector is located on the module front panel for a dynamic Talkback microphone. Mic gain is adjustable from +10 to +60dB using the MIC gain control.

The COMMS NULL preset allows cancellation of the operator's microphone output in his own headset.

The Talkback (and/or Oscillator) may be routed to the Stereo Buss, Groups, Matrix and Aux Sends via the appropriate COMMS ROUTING selector switch.

The TALK switch sends the signal to the required output. The Communications signal may also be routed to the headphone amplifier by pressing COMMS TO PHONES.

### METER INPUT SELECTION

8 LED meters are fitted to the RL2 Group modules. Inputs to these meters can be selected using two source selector switches labelled METERS 1 TO 8. Input sources include the Subgroup output; the Matrix output; the Aux Send outputs; and the eight Returns.

Separate switches allow the Left-Right meter ballistic to be selected to either PEAK or VU mode and to be sourced from the PFL signal instead of the selected Monitor A source.



## SOLO SYSTEM

RECALL has both PFL/AFL and Solo In Place modes.

A PFL/AFL LEVEL control is fitted allowing overall adjustment of level to the monitor system. The AFL signal is stereo and the PFL signal comes to the Left and Right sides equally. The PFL/AFL buss may be selected to the monitor meters.

The basic operating mode for all PFL and AFL switches is momentary. Two additional modes may be selected:

**INTERLOCK**, which makes each PFL/AFL switch exclusive so that when it is pressed, any other PFL/AFL switch currently selected is cancelled, and

**LATCH**, which makes each PFL/AFL switch latch when pressed, allowing all selected PFL/AFL switches to mix together.

**CLEAR** deselects all PFL/AFL switches.

Solo In Place is enabled via the SOLO IN PLACE switch and uses the channel SEL switch to activate the solo. Solo In Place mutes all other channels except the channel selected to Solo.

Solo Defeat is also provided which prevents the selected channel from being muted when another Solo is selected. Channels can be set to Solo Defeat mode as required.

Pressing a SEL switch on a VCA Master fader will solo the whole VCA group.

### MONITOR SYSTEMS

Two similar but independent monitor paths, denoted A and B, are provided. These multi-source outputs can be used for various applications, such as recording, extra stereo output feeds, etc.

Each path can select from four sources - External stereo inputs 1-3 and the Stereo mix.

Each path has its own LEVEL control and MONO and MUTE switches.

MONITOR A is the primary path as it also feeds the headphone amplifier and accepts the PFL/AFL signal. A DIM switch, which lowers monitor level by 20dB, is also fitted.

**Stereo Input Module Available during 1994**

# SHOWTIME

## CONSOLE AUTOMATION SYSTEM

SHOWTIME is the first computer automation system developed for Front-of-House and Stage Monitor console applications. It is an integral part of the RECALL console and includes AMEK VIRTUAL DYNAMICS as an essential subroutine. The combination of software and audio hardware is unique in sound reinforcement products at this time.

SHOWTIME runs on 486-based computers and AMEK recommends the IBM Thinkpad or similar rugged portable machines for use in the touring environment. Large screen VDUs can be connected to the portable if a bigger display is required.

SHOWTIME is designed to allow snapshot control of fader levels, mutes and automated switch settings, triggering of external events via MIDI, Mute and VCA Group setups and AMEK Virtual Dynamics changes.

The two basic components created in SHOWTIME are the Scene and the Event. A Scene is a snapshot of the automated functions on the console. These include fader levels; mutes; auxiliary 1 & 2 mutes; Mute Groups; VCA group setup; VCA group master levels. An Event is a triggering function such as a MIDI message which fires an external device.

The programme has a hierarchical organization in which a Cue List comprised of a sequence of Scenes and Events is stored under the umbrella of a Performance.

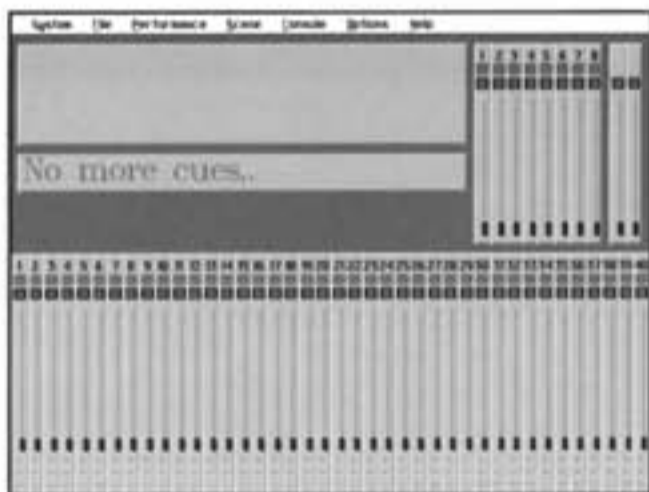
Up to 256 Cues can be held in each Performance, built up from a maximum of 256 Scenes. Scenes can be repeated in a Performance as required.

Multiple versions of a Performance can be created using alternative Cue Lists made up of the same Scene and Event data but in a different sequence.

SHOWTIME also includes the Voice Recall system, which memorizes the settings of all non-automated switches and pots (except PFL switches) on the RL1, RL2 and RL3 modules. Up to 10 different console surfaces can be stored for each a Performance. Settings are reloaded to the console manually, using either the Voice Prompt, which can be played back either through headphones or a monitor speaker, or the Screen Graphics, or both - as required - to indicate which controls should be adjusted.

The programme also has on-line Help screens which are accessed through the various dialogue boxes and the HELP Menu.

## THE MAIN SCREEN



The main screen displays all the automated faders on the console and also includes virtual switches controlling Mute and automation status for each fader. This comprises 40 channels, 8 VCA group masters, and the Left and Right Stereo Masters.

Where the console has more than 40 channels the faders are simply scrolled across the screen as required. The display on the top left of the screen shows the currently-loaded Cue.

Cues are stepped through and loaded by either of two methods. In the first method the function keys are used. F10 loads the next Scene while F7 steps back and F8 steps forward, but both without loading the Scene; this must always be done by pressing F10. The first Scene is reached by pressing [Alt + Home]. In the second method Scenes are selected and loaded using the up-down stepper and LOAD SCENE keys on the RL3 module.

## THE MENUS

The system has 7 Menus which can be opened either by clicking on the required topic with the mouse or by keying [Alt + (the underlined letter in the topic name)], eg [Alt + P] opens the Performance Menu. Clicking or keying [Esc] closes the selected Menu.

### SYSTEM MENU

This Menu has one item, About Recall. This lists the authors of the programme and the programme name.

### FILE MENU

This Menu has 4 items.

SAVE PERFORMANCE allows you to save the Performance you have just created. This includes all Scenes and the entire Cue List. This type of Save is normally used when you are reviewing or updating an existing Performance.

SAVE PERFORMANCE AS is normally used when a new Performance has been created, allowing you to allocate a name before saving.

LOAD PERFORMANCE allows you to load an existing performance file on disk into the computer.

In each case the selection of one of these topics opens the file selector window. The name of the required file is typed into the list in the case of a Save or selected from the list in the case of a Load. The system automatically adds the suffix .PER. This enables all the existing Performance titles to be searched as they are grouped together under the same file specifier.

QUIT when selected opens a dialogue box which gives the user various options such as Save Before Quitting etc.

## PERFORMANCE

This Menu allows you to build up a Cue List.

EDIT SEQUENCE enables you manipulate the Cues in various ways. The Cue List has three columns.



1. The left column, Number, simply lists the Cues in numerical order.

2. The centre column, Cue, has a Cue name box. When a new Cue is added to the list, the Cue above is automatically ruled off. A name can be inserted by clicking in the box, which reveals the cursor. Text can then be entered in the normal way.

3. The right column is entitled Event(s). The functions of the Cue are entered here, and can be a combination of a Scene or the Specials, which include Midi Messages, Virtual Dynamics Events, a Notepad, or No Event.

To insert a Cue, simply grab one of the Events and drag it over a number in the Cue List Number column. When the number turns red, release the button and the Event will be dropped into the List. Events can also be inserted at any point in an existing Cue List by dragging it to the appropriate position.

A Cue List displays a set of Numbers, Cue Names, and Events. If you want to add another type of Event to a Cue, select the Event from the Specials box and drag it over the existing Event. When it is released it will be added to the Event box.

It is not possible to have more than one Scene in a Cue but you can have any combination of Specials.

To delete any Event or any Cue, drag the Cue number or Event to the trash.

To quit the EDIT SEQUENCE window, select OK.

NOTES opens a notepad which can be written into using the keyboard in the normal way.

## CHANNEL LIST



This displays the Channel numbers and their functions on a page denoted Channel Sheet. The Sheet has four columns.

1. The left Column cannot be altered and simply lists the channel numbers in sequence.

2. and 3. Two columns DESC (description) #1 and DESC #2, follow. An alphanumeric ident of up to 6 characters (in each column) can be entered here by clicking on the box in the normal way.

4. The rightmost column contains a Comments box.

Scrolling through channels is done in the usual way.

## MIDI CHANNEL LIST



This useful feature simply allows you to note the name of the device controlled on each MIDI channel. The name is entered in the usual way in the name box.

## SCENE

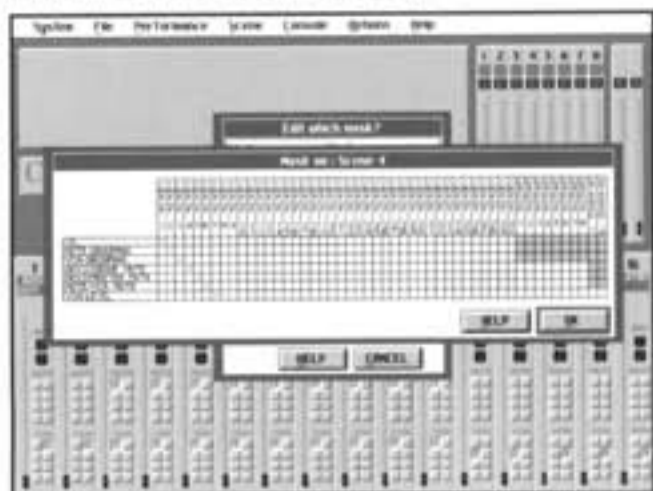
This Menu has 3 items.

CAPTURE SCENE allows you to take a snapshot of the console. A dialogue box opens, displaying the existing Scene List. You can then store and name the new Scene in the next-available location.



RELOAD SCENE opens the Scene List and allows you to select a Scene which can then be loaded into the system.

EDIT SCENE ATTRIBUTES opens a window which allows you to mask off any function which you do not want to reload. The console surface is presented in the form of grid with RL1, RL2 and RL3 modules running horizontally and the possible automated functions run vertically. Clicking on the grid enables any function to be masked from operation on the selected channel or channels. Clicking on the function name (eg Aux 1) masks this Event for all modules on the console.



## CONSOLE

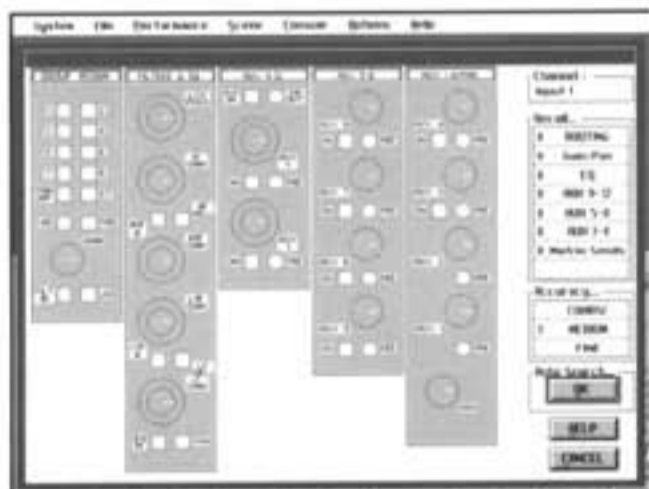
This Menu allows you to operate the Voice Recall system and the Virtual Dynamics.

## RECALL

The RECALL system allows the positions of all knobs and switches on the RL1, RL2 and RL3 modules to be stored except the ARI/Solo switches and of course the automated functions. Settings can be saved into the computer at any time; up to 10 different Pages of settings per Performance are allowed.

STORE SETTING allows you to save the current console surface. A dialogue window is opened which allows you to select which of the 10 memory positions you will use. The setting can also be named. When you click OK, the settings are stored by the computer.

RECALL SETTING allows you to reload a particular console surface. The dialogue window enables you to select which of the stored settings you wish to load. When you click OK, you activate the auto-scanning system by which the computer scans the console channel by channel until it finds a control which is set to a different value to the value which has been memorized. The screen also brings up the Recall graphics display which indicates which controls are not matched. You then adjust the control until it matches the target position.



Mask allows you to omit selected functions from the Recall scan, eg all auxiliaries. The computer will therefore ignore these functions when scanning the console.

In addition, there is a VOICE PROMPT which can be used. This tells you which knob or switch to go to next, which way to turn it, and when it is properly set to its previous position. Any control or module which does not need changing is automatically ignored. An advantage of the Voice Prompt is that if you cannot use the screen for some reason, you can still perform a recall either by listening on the monitors or through headphones.

As the RECALL system scans the console it illuminates the red OVERRIDE LED for each completed channel. If it reaches a channel which needs adjustment, it flashes the green SAFE and red OVERRIDE LEDs alternately until the recall operation is complete.

The RECALL system can be used at the same time as the console is passing audio.

The advantage of RECALL is that different mixes can be created and then exactly recreated at some later time. Different console set-ups for different artists can be loaded when required, saving time on stage changeovers and problems in re-balancing the console.

## AMEK VIRTUAL DYNAMICS

This unique software-based envelope-shaping system allows each VCA fader to have its own Dynamics control device.

VIRTUAL DYNAMICS is based on digital control of all parameters and therefore gives the user the ability not only to specify gain contours with great accuracy but also to produce gain control effects difficult to emulate with standard analogue hardware.

VIRTUAL DYNAMICS devices are resident within the software and can be called to the screen at any time, offering a choice of any one from the nine available devices. One device can be assigned to each channel, so that a 40-input console, for example, can have 40 Dynamics units operating simultaneously.

Channel insert points are not used leaving these free for additional external units if required.

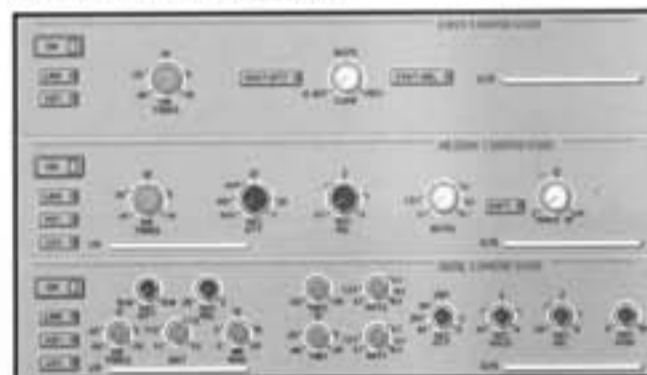
Each of the nine devices has a virtual front panel with knobs and switches that emulate the controls of a conventional hardware dynamics unit.

Unlike hardware, however, Virtual Dynamics occupies no rack space, and all settings are saved with the Performance; when you reload the Performance, your Dynamics controllers are automatically in place.

Three Gates are available. Two Gates offer standard features at varying levels of complexity, but the ADSR Noise Gate (the Super Gate) provides a complete waveshaping facility with advanced features such as Hysteresis, Peak Level, Mask and Low Frequency Compensation.



The three Compressors have range of control options, but the Advanced Compressor has not only Dual Slope Compression Ratios but also a comprehensive downwards Expander and Envelope section.



The Limiter and Expander once again provide standard features but the Auto Panner (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. Switches are operated simply by clicking on them. Adjacent devices (of the same type on odd- and even-numbered channels) can be linked for stereo operation.

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



The VIRTUAL DYNAMICS system uses microprocessor control hardware which is located within the chassis of the console; the parameters set by the engineer are computed and then used by the system to control the VCA in the fader.

## OPTIONS

The option is ZOOM/UN-ZOOM. When selected, the channel fader display shows positions 1 to 16 in an expanded size. Using the cursor keys < and > you can step through the 40 faders in banks of 16.



Each fader displays some additional facilities in Zoom mode. The name entered into the Channel List is displayed, eg. Lead Vocal. Alongside each fader are two banks of 8 Virtual switches, one bank assigning the fader to any of the 8 Mute groups in any combination and the other selecting the VCA group to a maximum of 3 Masters. Mute and VCA groups setups are recorded for each Scene. The Mute Group is operated by pressing the Group switch on the relevant RL2 module.

## HELP

The Menu has three items.

INDEX brings up a window which lists all the Help topics. Selecting one of these will bring up the appropriate Help explanation.

USING HELP opens a window which tells you how to access the Help system.

GETTING STARTED tells you how to use the SHOWTIME programme in its basic form.

## UPDATE POLICY

SHOWTIME automation is a new type of product for the professional sound reinforcement industry. Screen displays and functional descriptions included in this brochure here may differ from version to version and are indicative, not accurately representative, of the software version you receive. AMEK has a policy of continuous software review and updating as new ideas and techniques develop. From time to time new issues of the software will be available and will be available via modem from AMEK's bulletin board in the UK.

AMEK also welcomes constructive suggestions from its users.

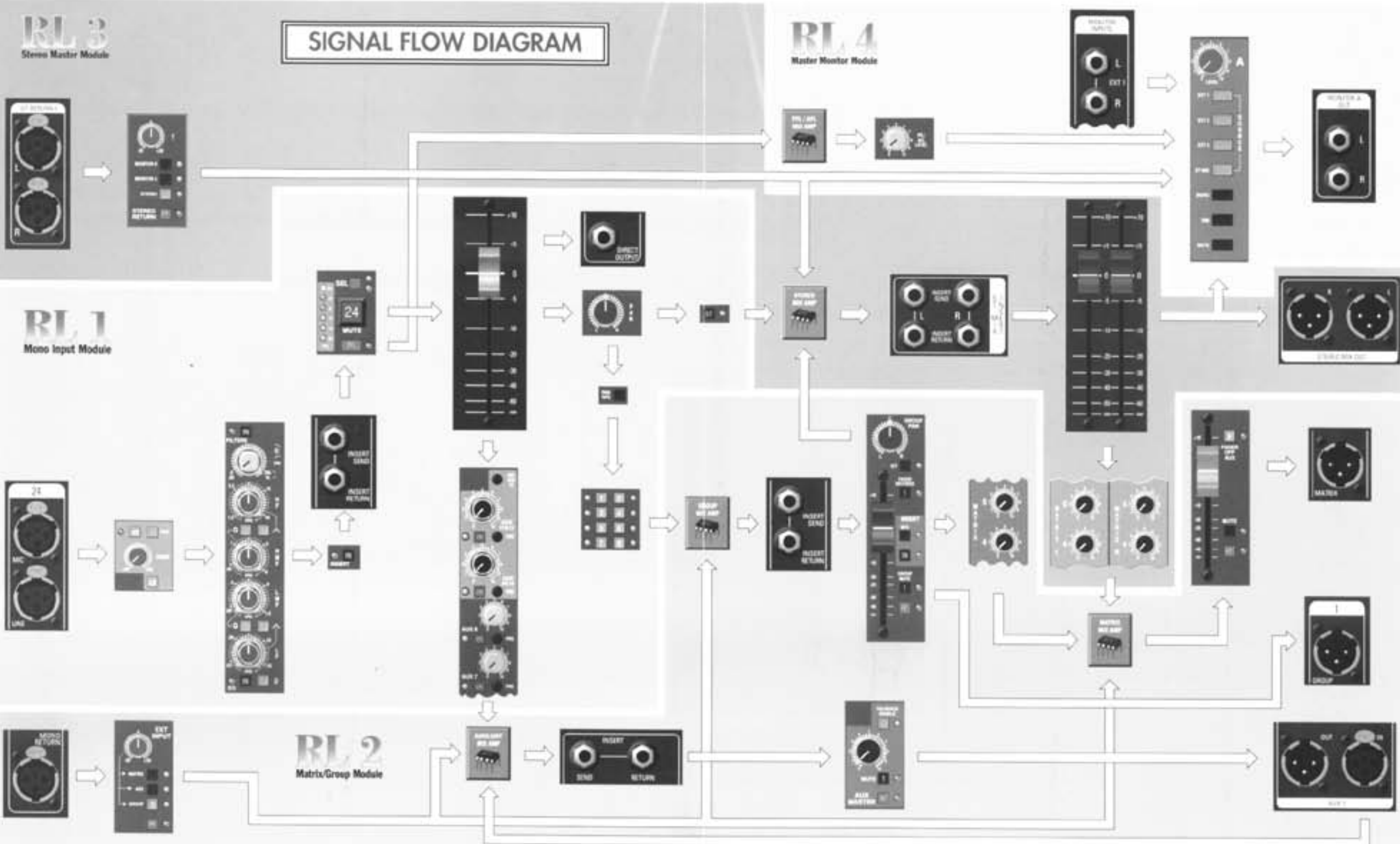
**RL 3**  
Stereo Master Module

# SIGNAL FLOW DIAGRAM

**RL 4**  
Master Monitor Module

**RL 1**  
Mono Input Module

**RL 2**  
Matrix/Group Module



**Head Office, Factory & Sales:**  
AMEK Systems & Controls Ltd.  
New Islington Mill  
Regent Trading Estate  
Oldfield Road, Salford  
M5 4SX, England.  
Telephone: 061-834-6747.  
Telex: 668127.  
Fax: 061-834-0593.

**AMEK US Operations, Inc.:**  
10815 Burbank Blvd.  
North Hollywood  
CA 91601  
USA.  
Telephone: 818/508 9788.  
Fax: 818/508 8619.

**AMEK Deutschland GmbH:**  
Vorstadt 8  
D-55411 Bingen  
Germany  
Telephone: 06721 2636.  
Fax: 06721 13537

**AMEK Systems & Controls Asia**  
Singapore Representative Office  
Orchard P.O. Box 0655  
Singapore 9123  
Telephone: 65 251 1629  
Fax: 65 251 1297

The company has an established policy of seeking improvements to the design, specifications and manufacture of its products. Alterations take place continually, often without prior notification outside the company.

The contents of the company's literature must not be regarded as an inflexible guide to the specifications available despite considerable effort to produce up-to-date information. No literature constitutes an offer for sale of any particular console or product.

The company's officially appointed distributors and representatives will advise on any changes when the circumstances of the enquiry permit.