



OVERVIEW

Einstein is the brilliant new recording console from AMEK. It has been designed to provide the modern music professional with everything he needs in an incredibly compact and cost effective format. It is now available in two frame sizes - the Standard Einstein and Einstein Super E.

The Standard Einstein has 64 sonically superb inputs, all with faders and all with the gloriously musical equalisation that has made AMEK recording consoles famous throughout the world. Einstein Super E has 80 inputs and is fitted with a patchbay.

Simplicity and ease of operation are the key to the layout of the console. Creative artists need the console to be the control centre of the studio; but it should be a tool, not a puzzle, freeing the mind to concentrate on making music. They demand that their console presents the essential elements of control, faders, EQ, and automation as clearly as possible. The power of automation is vital; even though the console is simpler to operate, mixes are becoming increasingly complex.

The successful application of automation to an audio console is a problem that requires enormous investment by the manufacturer. The hardware needs total integration with the console architecture to optimise the ergonomic and technical performance; the software requires long-term, detailed support and ongoing development. AMEK are uniquely positioned in this high-technology field, having years of experience with the enormously successful Supertrue system used on Mozart and Hendrix consoles. Moving the Supertrue system onto Einstein not only gives Einstein users the benefit of all this experience, it also gives them the opportunity of moving material pre-programmed on Einstein into Mozart- or Hendrix-equipped mixing facilities.

Supertrue is an option on the Standard Einstein and is normally fitted to the Einstein Super E - automating both faders on each module as standard on either version of the console and yielding up to 64 or 80 automated faders respectively.

The revolutionary AMEK Virtual Dynamics is an upgrade option for Einstein, available for the monitor path alone or for both the monitor and the channel path on each module. Virtual Dynamics is a gain shaping system comprising software controlled Compressors, Gates, Expanders, Limiters and Autopanners which can be adjusted in real time from icons on the computer screen. Favourite settings can be archived for future use and Virtual Dynamics fully integrates with Supertrue automation.

The console layout is unique. There are two radical departures from normal practice. The first is that the channel signal path is located above the monitor signal path, ie. the reverse of a conventional inline arrangement. The second is that both signal paths have not only faders, but also a complete 4-band EQ. These two simple concepts have resulted in a control surface that is unbelievably simple to operate. There is no need for switches called "Rev", "Flip", "Bounce" or "Split". Every signal always stays in the same place, is always controlled by a fader and always has full EQ. The enormous advantages of such a system will be immediately apparent to anyone who has worked in situations where the engineer is also musician and producer.



MONO INPUT MODULE - E10



Each channel has two paths, denoted channel and monitor. The channel signal path is the upper section of the module, and has these facilities:

Equalizer

The channel path equalizer is a 4-band semi-parametric unit with the following characteristics:

HF - Shelving, +/-14dB with two switch-selected turnover frequencies of 6KHz and 12KHz.

MF1 - Bell, +/-14dB with frequency bandcentre swept over the range 500Hz to 18KHz. The upper pot of the dual concentric provides the cut/boost, the lower provides the sweep.

 $MF2\,$ - $Bell, +\!/\text{-}14dB$ with frequency bandcentre swept over the range 100Hz to 4.5 KHz

 ${
m LF}$ - ${
m Shelving}$, +/-14dB with two switch-selected turnover frequencies of ${
m 60Hz}$ and ${
m 120Hz}$.

The equalizer is switched IN and OUT of circuit via a switch located between the two midrange controls.

The High Pass filter when activated rolls off the signal below 120Hz at a rate of 12dB/octave.

Input Stage

Both MIC and LINE inputs to the channel signal path are electronically balanced. The gain range in MIC is +20dB to +60dB; when switched in the -20dB pad gives a gain range of 0dB to +40dB. The gain range in LINE is -10dB to +30dB.

+48v phantom power may be switched to the mic input.

The phase reverse switch, Ø, operates on both mic and line inputs.

The channel signal path has its own insert, which has an electronically-balanced return.

The channel fader is an ultra-smooth 60mm unit that is automation ready.

The channel signal path may be routed to the stereo buss by the switch labelled ST located next to the fader.

The momentary MUTE switch with LED indicator cuts all outputs from the monitor signal path.

The SOLO switch with LED indicator provides either a stereo AFL or stereo check solo (in place solo, kill solo). Master solo mode status is selected by the master switch located on the E40 module.

Automation

When automation is fitted the SEL switch addresses the channel fader and mute switch to the console automation system.

Associated with the SEL switch are two LEDs, one red and one green. When the red LED is lit, the signal path is in WRITE mode, when the green LED is lit, the channel is in READ mode and when both LEDs are lit at the same time, the input is in UPDATE mode. Exactly the same status indication system applies to all SEL switches on the console.



MONO INPUT MODULE - E10



The monitor signal path is the lower signal path in the module and has the following facilities:

Equalizer

The monitor signal path equalizer is exactly the same as that on the channel signal path, ie a 4-band unit with the following characteristics:

HF - Shelving, +/-14dB with two switch-selected turnover frequencies of 6KHZ and 12KHz.

MF1 - Bell, +/-14dB with frequency bandcentre swept over the range 500Hz to 18KHz. The upper pot of the dual concentric provides the cut/boost, the lower provides the sweep.

MF2 - Bell, +/-14dB with frequency bandcentre swept over the range 100Hz to 4.5KHz

LF - Shelving, +/-14dB with two switch-selected turnover frequencies of 60Hz and 120Hz.

The equalizer is switched IN and OUT of circuit via a switch located between the two midrange controls

The High Pass filter which when activated rolls off the signal below 120Hz at a rate of 12dB/octave.

Input Stage

The line level input to the monitor signal path has a gain range of +/-20dB. On the Standard Einstein the source of this input is one of two connectors on the rear terminal panel labelled TAPE return or GROUP. Normally the signal connected to the tape return connector appears at the monitor fader. However if the switch labelled GROUP is pressed then the signal at the group (buss) output from the console can be auditioned. In this way it is possible to compare the signals to and from a multitrack tape recorder ensuring that signal fidelity is maintained during recording.

Should this facility not be required then a jack can be inserted into the Group connector available on each module. This will break the normalling of the Group signal to the monitor section and the new input (any external Line source) will be heard.

The Einstein Super E is fitted with a patchbay which is in turn connected to 90 way multiway connectors. Inserting into the patchbay socket labelled Group Ret breaks the normalling of the Group signal to introduce the new input.

The monitor path has it's own insert point with an electronically balanced return. The monitor path fader is an ultra-smooth, 100mm unit that is automation ready.

The monitor signal path may be routed to the stereo buss by the switch located below the panpot.

The momentary MUTE switch is large and illuminates when pressed. It cuts all outputs from the monitor signal path.

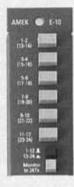
The SOLO switch with LED indicator provides either stereo AFL or stereo check solo (in place solo or kill solo). Solo mode is selected by the master solo status switch located on the E40 module.

Automation

A SEL switch addresses the monitor signal path fader and mute switch to the console automation system. The SEL switch has 2 associated LEDs which indicate the status of the input with regard to the automation system (see channel signal path for full description).



24 TRACK ROUTING



The routing section to the 24 group (buss) outputs is situated at the top of the module strip and may be accessed from any one of three sources:

- 1) The channel signal path
- 2) The monitor signal path
- 3) Auxiliary sends 7/8.

Tracks are selected in odd/even pairs and follow the appropriate panpot. A bank selector switch selects tracks 1-12 or 13-24.

All 24 group outputs are electronically balanced and may be controlled by the audio group masters on the E30 group output module.

The group outputs are terminated to multipin connectors on both the Standard Einstein and the Einstein Super E.

AUXILIARY SENDS

8 auxiliary sends are provided on 4 dual concentric pots. Auxes 1 and 2 are mono sends while auxes 3 and 4 are a stereo pair where the top of the dual concentric is level and the bottom is pan. This group of 4 auxes may be switched onto either the channel signal path or the monitor signal path and are switchable pre or post the appropriate fader.

Exactly the same pattern is repeated in auxes 5-8, with 5 and 6 being mono sends and 7/8 being a stereo pair, and again, this group is switchable between the channel and monitor signal paths and pre/post the appropriate fader. Additionally, auxes 7/8 may access the 24 track routing section at the top of the module, providing an extra 24 effects sends during mixdown should this be required.



AUX BLEND

When overdubbing or recording it is sometimes desirable to source the same headphone send or effect output from the channel path and monitor path at the same time. This can be achieved by linking the busses at the Aux Master section of the E40 module.

CONSOLE METERING

The console is provided with an extremely comprehensive metering system. Every dual input strip is fitted with a 15 segment LED meter driven by a custom ASIC (Application Specific Integrated Circuit) designed and manufactured to Amek specifications. The meters in module positions 1-24 monitor one of three sources. Normally the meters read the tape return signal unless the GROUP switch is pressed, in which case the meter follows the correspondingly-numbered Group output level after the master. Alternatively, there is a master status switch on the E40 module which, when pressed, switches all meters associated with each input strip to monitoring the pre-fade, mic or line input level to the channel signal paths.

The meters in module positions 25-32 on the Standard Einstein and module positions 25-40 on the Einstein Super E always monitor the pre-fade input to the monitor signal paths of these modules unless the master status switch is pressed, in which case they monitor the pre-fade input level to the channel signal paths.

In this way, every input and all of the 24 group outputs from the console may be metered by the engineer.

Additionally, there are 4 similarly configured meters associated with the E40 module. The left hand pair of meters are permanently assigned to the stereo buss output while the right hand pair follow the monitor. This latter pair enable all solo signals to be metered (in stereo), providing visual indications of auxiliary and monitor output levels, or metering the external stereo inputs to the monitor section. The ballistics of the meters may be globally switched between VU, Peak and Peak Hold characteristics by means of two further master status switches located on the E40 module.



AUDIO GROUP MASTER MODULE - E30



The 24 electronically balanced group (buss) outputs are controlled from a single master module. Each of the 24 outputs has a level control and an associated cal/level switch. When the switch is set to CAL, the output from the group is set at 0dB (+4dBu) and the level control has no effect on the signal. When the switch is set to LEVEL, then the pot will control the output level of that group, which may be varied from minus infinity to +10dB.

Additionally, there is an internal switch on each pair of group outputs that enables professional level or -10dB operation.

Jackfield and Chassis

On the standard Einstein chassis all terminations are on the rear panel via jack and XLR connectors. The chassis has 32 input module positions, providing 64 fully-equalized inputs to the console.

The Einstein Super E has 40 input module positions, accommodating up to 80 inputs, and is equipped with a jackfield on the right hand side of the chassis. The TT patchbay facilities are comprehensive and include all monitoring functions and insert points for both the channel and the monitor sections of each module. The jackfield is terminated to 90-way multiway connectors and provision is made for the fitting of effects points in sections of 48 jacks.

STEREO BUSS

The stereo buss is accessed directly from each individual input. The Stereo buss output is electronically balanced and controlled via a single 100mm stereo fader for ease of operation. The fader operates from 0dB to minus infinity and is located immediately below the 24 group (buss) output master controls.

A large illuminating MUTE switch is provided which cuts all outputs from the stereo buss.

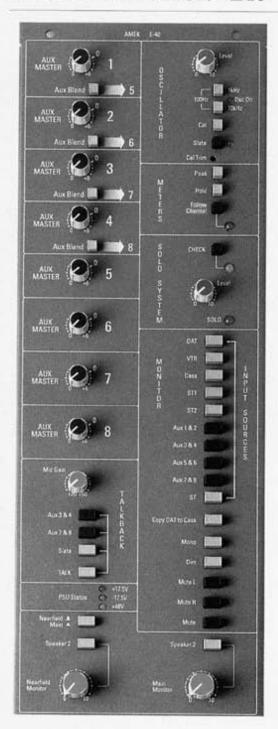
Both the stereo buss master fader and the stereo buss MUTE switch are automated. The automation is addressed via the associated "SEL" switch. LEDs indicate the status of the stereo buss with regard to the console automation system. For a full description of these please refer to the notes on the channel signal path.

A mono output is also provided which follows the stereo buss output fader.



FIMSTEIM

MONITOR SECTION - E40



The comprehensive monitor section is located on the E40 module and offers an exceptional range of facilities. There are four monitor outputs, all of which are electronically balanced. These enable control of (typically) two pairs of main studio monitors, and two pairs of nearfields. Each pair has a separate volume control so that there is no need to adjust the levels when switching from one type of monitor to another.

There are no fewer than five external stereo sources to the monitor section, nominally designated as DAT, VTR, CASSette, plus ST1 and ST2. Additionally, a "copy" function is incorporated which allows through copying from DAT to Cass to be effected. All five external stereo sources, except cassette, are electronically balanced inputs.

There are also five internal monitor sources, consisting of the four pairs of auxiliary sends (1/2, 3/4, 5/6,7/8), plus the stereo buss.

Also available on the monitor outputs are Mute, Mute Left, Mute Right, -20dB DIM and Mono switches. A headphone socket is provided.

Auxiliary Master Outputs

The auxiliary master outputs are also located on the E40 module. Each of the eight outputs is electronically balanced and has an associated level control. Monitoring of the auxiliary master outputs is effected via the master monitor switchbank.

Aux Blend

It is possible to link the auxiliary send busses on Einstein. Aux 1 - 4 are selectable on each input module to either the monitor or the channel path, as are Aux 5 to 8. However for some operations it may be desirable to source the same effect or headphone mix from both paths simultaneously. Pressing the Aux Blend switch at the aux 1 master section combines the output of aux 1 to the aux 5 master output (leaving the aux 1 output unaffected). A similar facility is available on aux masters 2-4.

Talkback

The talkback microphone is located in the meterbridge. It is enabled via a press-to-talk switch and routed to either "slate' (the 24 output groups and left and right stereo busses) or aux 3/4 or aux 7/8. A rotary level control is provided. Additionally, there is a talkback switch control output mounted on the console rear terminal panel. This enables the talkback switch to be remotely operated (by a footswitch for example).

AMEK.

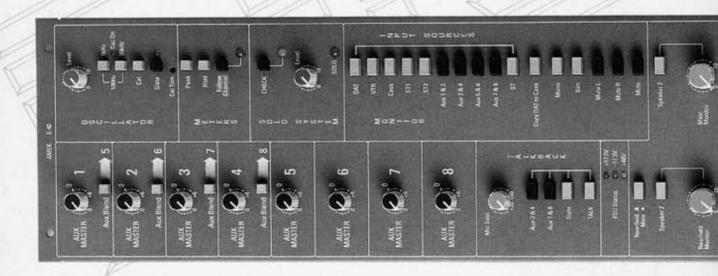
E10 MONO INPUT MODULE



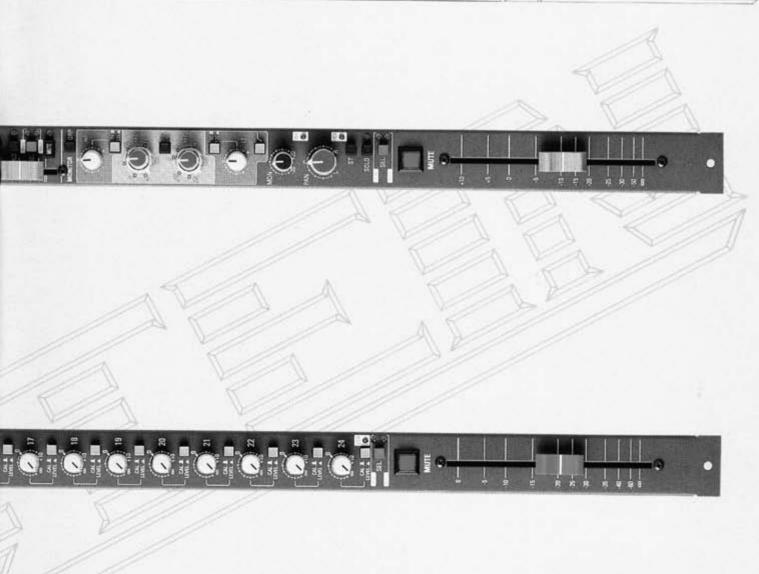
E30 AUDIO GROUP MASTER MODULE



E40 MONITOR SECTION



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MONITOR SECTION - E40 continued

Tuner

A tuner output is provided on both versions of Einstein. Solo-ed signals appear at the tuner output allowing the tuning/pitch of any signal to be easily checked, with or without effects, and without the need for re-patching.

Stereo Solo System

The console Solo system operates in one of two modes. Solo is a stereo post-fade AFL system allowing individual channels to be monitored without affecting the channel signals. Check solo is selectable on the monitor module and mutes every other channel on the console.

Stereo AFL is most useful when recording as it is purely a monitor function and all outputs to the tape machine remain unaffected. Solo In Place is used when mixing.

Oscillator

The oscillator is a three frequency unit with associated "slate" routing switch to the 24 output groups and left and right stereo busses. There is also an associated level control, which is bypassed when switched to 'cal', in which case the output is 0dB (+4dBu). An oscillator output jack is provided on the rear terminal panel of the Standard Einstein and appears at the patchbay on the Einstein Super E.

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SUPERTRUE AUTOMATION



The optional automation package provides VCA-based automation of monitor and channel signal path faders and mutes. Consoles may be supplied without the automation package, but every console is automation ready and fitted with the necessary interface hardware to enable the simple retrofit of the system. This includes a dedicated 64-key alpha-numeric control keyboard, with 6 definable function keys, and an integral trackerball.

Supertrue Overview

The Supertrue system configured Einstein provides for initial storage of fader and mute information on the computer in real time while you are mixing (ie. WRITE mode). The computer then either plays back the stored information against timecode (ie. READ mode), or plays back the information while allowing you to change some or all of it (ie. UPDATE mode). The whole system is sunchronized to tape and external devices such as sequencers via SMPTE timecode and is quarter-frame accurate. The system also has an integral SMPTE timecode generator/reader.

Off-line editing of fader movements and mute operations are also possible, and fader curves can be pre-programmed or "designed" using the FADER JOB screen.

Mixes may also be Merged, Spliced, Erased, Trimmed, Copied, Extracted, Shifted and Swapped. For a full explanation of these plus the many other powerful features of Supertrue, see the Supertrue operations documentation.

One of the most advanced facilities of Supertrue is its CUE LIST, which enables extensive triggering of console and MIDI functions against timecode points. This enables MIDI sound changes, controller changes, note on/off, sequencer start/stop times, FADER JOB start and stop times etc to be pre-inserted into a mix off-line.

All mix information generated on any Mozart, Mozart RN, Hendrix or Einstein automated console is fully interchangeable, therefore mixes created on the Einstein can be run on Mozart or Hendrix consoles with their additional power to automate switches other than mutes. If mixes created on a Mozart or Hendrix are run on the Einstein, the console simply disregards the information associated with the automated switches.

Dynamics

Virtual Dynamics, the revolutionary new screen-based Dynamics on the Supertrue system is also available as an optional extra on the Einstein console. Virtual Dynamics provides gates, compressors, autopanning, limiters and expanders in a powerful package. A further option also provides a MIDI in and out for every 8 channels. This extraordinarily powerful new level in automated mixing is totally integrated into the Supertrue system.



Technical Information and Connector Details

Function Ba	alanc	ed Level	Impedance	Connector
Mic In Line In Mon In Group Rtn Chan Insert Send Chan Insert Rtn Mon Insert Rtn Group Out 1-24 ST Buss Out ST Buss Insert Sen Mono Out Aux Out Speaker Out Ext 2-Track In Cass In Cass Out Osc Out	Yes Yes Yes No Yes No Yes	+20 - +60dB -10 - +30dB +/-20dB (switch -10) +/-20dB (switch -10) 0dB 0dB 0dB 0dB (switch -10) 0dB (switch -10) -6dB -6dB 0dB 0dB 0dB 0dB 0dB 0dB 0dB 0	Impedance 1K Ohms 10K Ohms Greater than 10K Ohms 60 Ohms 60 Ohms 20K Ohms 60 Ohms 60 Ohms 60 Ohms 20K Ohms 60 Ohms 60 Ohms 60 Ohms 60 Ohms 10K Ohms 10K Ohms 10K Ohms	Connector F-XLR, Pin 1 screen, pin 2 +Ø, pin 3 -Ø Jack, Sleeve screen, tip +Ø, ring Compensated Ground Jack, Sleeve screen, tip +Ø, ring Compensated Ground Jack, Sleeve screen, tip send, ring rtn 90 way Edac multiway M-XLR, Pin 1 screen, pin 2 +Ø, pin 3 -Ø Jack, Sleeve screen, tip +Ø, ring Compensated Ground Jack, Sleeve screen, tip +Ø, ring -Ø Jack, Sleeve screen, tip L, ring R Jack, Sleeve screen, tip L, ring R Jack, Sleeve screen, tip +Ø, ring -Ø Jack, Sleeve screen, tip +Ø, ring right
Phones SMPTE In SMPTE Out DC Input	No Yes Yes	0dB -20>+4dB -7dBu	10 Ohms 10K Ohms 60 Ohms	Jack, Sleeve screen, tip left, ring right Female XLR, Pin 1 Screen, Pin 2+, Pin 3- Male XLR, Pin 1 Screen, Pin2+, Pin 3- M-XLR 4 pin, Pin 1 0v, pin 2 +18v, Pin 3 -18v, Pin 4 +48v

On the new 32 input version and the Super E version the inserts are balanced as standard.

Einstein Super E - Edac Pin Outs

MULT B: Mic Inputs 25-40 (Wired points 1 - 16) MULT C: Line Inputs 1 - 24 (Wired points 1 - 24) MULT D: Line Inputs 25 - 40 (Wired points 1 - 16) MULT E: Grp (Buss Out) 1 - 24 (Wired points 1 - 24) MULT F: Grp Input 25 - 40 (Wired points 1 - 16) MULT G: Mon (Tape Return) 1 - 25 (Wired points 1 - 24) MULT H: Mon (Tape Return) 25 - 40 (Wired points 1 - 16) MULT I: Aux Send 1 - 8 (Wired points 1 - 8) MULT I: Steree Buss Outputs 1 - 5 (L & R) (Wired points 9 - 18) MULT J: Nearfield Spk 1 (L & R) (Wired points 1 - 2)	MULT A:	Mic Inputs 1 - 24	(Wired points 1 - 24)
MULT C: Line Inputs 1 - 24 (Wired points 1 - 24) MULT D: Line Inputs 25 - 40 (Wired points 1 - 16) MULT E: Grp (Buss Out) 1 - 24 (Wired points 1 - 24) MULT F: Grp Input 25 - 40 (Wired points 1 - 16) MULT G: Mon (Tape Return) 1 - 25 (Wired points 1 - 24) MULT H: Mon (Tape Return) 25 - 40 (Wired points 1 - 16) MULT I: Aux Send 1 - 8 (Wired points 1 - 8) MULT I: Stereo Buss Outputs 1 - 5 (L & R) (Wired points 9 - 18)	MULT B:		(Wired points 1 - 16)
MULT E: Grp (Buss Out) 1 - 24 (Wired points 1 - 24) MULT F: Grp Input 25 - 40 (Wired points 1 - 16) MULT G: Mon (Tape Return) 1 - 25 (Wired points 1 - 24) MULT H: Mon (Tape Return) 25 - 40 (Wired points 1 - 16) MULT I: Aux Send 1 - 8 (Wired points 1 - 8) MULT I: Stereo Buss Outputs 1 - 5 (L & R) (Wired points 9 - 18)	MULT C:	Line Inputs 1 - 24	
MULT F: Grp Input 25 - 40 (Wired points 1 - 16) MULT G: Mon (Tape Return) 1 - 25 (Wired points 1 - 24) MULT H: Mon (Tape Return) 25 - 40 (Wired points 1 - 16) MULT I: Aux Send 1 - 8 (Wired points 1 - 8) MULT I: Stereo Buss Outputs 1 - 5 (L & R) (Wired points 9 - 18)	MULT D:	Line Inputs 25 - 40	(Wired points 1 - 16)
MULT G: Mon (Tape Return) 1 - 25 (Wired points 1 - 24) MULT H: Mon (Tape Return) 25 - 40 (Wired points 1 - 16) MULT I: Aux Send 1 - 8 (Wired points 1 - 8) MULT I: Stereo Buss Outputs 1 - 5 (L & R) (Wired points 9 - 18)	MULT E:	Grp (Buss Out) 1 - 24	(Wired points 1 - 24)
MULT H: Mon (Tape Return) 25 - 40 (Wired points 1 - 16) MULT I: Aux Send 1 - 8 (Wired points 1 - 8) MULT I: Stereo Buss Outputs 1 - 5 (L & R) (Wired points 9 - 18)	MULT F:	Grp Input 25 - 40	(Wired points 1 - 16)
MULT I: Aux Send 1 - 8 (Wired points 1 - 8) MULT I: Stereo Buss Outputs 1 - 5 (L & R) (Wired points 9 - 18)	MULT G:	Mon (Tape Return) 1 - 25	(Wired points 1 - 24)
MULT I: Stereo Buss Outputs 1 - 5 (L & R) (Wired points 9 - 18)	MULT H:	Mon (Tape Return) 25 - 40	(Wired points 1 - 16)
	MULT I:	Aux Send 1 - 8	(Wired points 1 - 8)
MULT J: Nearfield Spk 1 (L & R) (Wired points 1 - 2)	MULT I:	Stereo Buss Outputs 1 - 5 (L & R)	(Wired points 9 - 18)
	MULT J:	Nearfield Spk 1 (L & R)	(Wired points 1 - 2)
MULT J: Nearfield Spk 2 (L & R) (Wired points 3 - 4)	MULT J:	Nearfield Spk 2 (L & R)	(Wired points 3 - 4)
MULT J: Main Spk 1 L & R (Wired points 5 - 6)	MULT J:	Main Spk 1 L & R	(Wired points 5 - 6)
MULT J: Main Spk 2 L & R (Wired points 7 - 8)	MULT J:	Main Spk 2 L & R	(Wired points 7 - 8)
MULT J: DAT L & R (Wired points 9 - 10)	MULT J:	DAT L & R	(Wired points 9 - 10)
MULT J: VTR L & R (Wired points 11 - 12)	MULT J:	VTR L & R	(Wired points 11 - 12)
MULT J: ST1 L & R (Wired points 13 - 14)	MULT J:	ST1 L & R	(Wired points 13 - 14)
MULT J: ST2 L & R (Wired points 15 - 16)	MULT J:	ST2 L & R	(Wired points 15 - 16)
MULT J: Cass Play L & R (Wired points 17 - 18)	MULT J:	Cass Play L & R	(Wired points 17 - 18)
MULT J: Cass Record L & R (Wired points 19 - 20)	MULT J:	Cass Record L & R	(Wired points 19 - 20)
MULT J: Mono Output (Wired points 21)	MULT J:	Mono Output	(Wired points 21)
MULT J: Tuner Output (Wired points 22)	MULT J:	Tuner Output	(Wired points 22)
MULT K: Effects Jacks 1 - 24 (Wired points 1 - 24) - Optional	MULT K:	Effects Jacks 1 - 24	(Wired points 1 - 24) - Optional
MULT L: Effects Jacks 25 - 48 (Wired points 1 - 24) - Optional	MULT L:	Effects Jacks 25 - 48	(Wired points 1 - 24) - Optional
MULT M: Effects Jacks 49 - 72 (Wired points 1 - 24) - Optional	MULT M:	Effects Jacks 49 - 72	(Wired points 1 - 24) - Optional
MULT N: Effects Jacks 73-96 (Wired points 1 - 24) - Optional	MULT N:	Effects Jacks 73-96	(Wired points 1 - 24) - Optional
MULT O: Effects Jacks 97 - 120 (Wired points 1 - 24) - Optional	MULT O:	Effects Jacks 97 - 120	(Wired points 1 - 24) - Optional
	MULT P:	Effects Jacks 121- 144	(Wired points 1 - 24) - Optional
MULT Q: Effects Jacks 145 - 168 (Wired points 1 - 24) - Optional	MULT Q:	Effects Jacks 145 - 168	(Wired points 1 - 24) - Optional
MULT R: Effects Jacks 169 - 192 (Wired points 1 - 24) - Optional	MULT R:	Effects Jacks 169 - 192	(Wired points 1 - 24) - Optional
MULT S: Effects Jacks 193 - 216 (Wired points 1 - 24) - Optional	MULT S:	Effects Jacks 193 - 216	(Wired points 1 - 24) - Optional
MULT T: Effects Jacks 217 - 240 (Wired points 1 - 24) - Optional	MULT T:	Effects Jacks 217 - 240	(Wired points 1 - 24) - Optional
MULT U: Effects Jacks 241 - 264 (Wired points 1 - 24) - Optional	MULT U:	Effects Jacks 241 - 264	(Wired points 1 - 24) - Optional
MULT V: Effects Jacks 265 - 288 (Wired points 1 - 24) - Optional	MULT V:	Effects Jacks 265 - 288	(Wired points 1 - 24) - Optional
	MULT W:	Effects Jacks 289 - 312	(Wired points 1 - 24) - Optional
MULT X: Effects Jacks 313 - 336 (Wired points 1 - 24) - Optional	MULT X:	Effects Jacks 313 - 336	(Wired points 1 - 24) - Optional
	MULT Y:	Effects Jacks 337 - 360	(Wired points 1 - 24) - Optional
MULT Z: Effects Jacks 361 - 384 (Wired points 1 - 24) - Optional	MULT Z:	Effects Jacks 361 - 384	(Wired points 1 - 24) - Optional

NOTE: All points are balanced except Cass Play & Rec and Tuner.



Technical Specification

1 NOISE

Microphone equivalent input noise (EIN)

Measured at channel insert point from 200 ohm source with gain of 60 dB.

20 KHz DIN audio band (RMS) -126.0 dBu

Line input noise

One 0dB gain channel routed to a multitrack buss output

20 KHz DIN audio band (RMS) -83.0 dBu

2 TOTAL HARMONIC DISTORTION

+10 dBu signal at 1 KHz to line or mon input, routed to main output with 0 dB gain. Channel (or mon) VCA and main stereo VCA in circuit.

better than 0.06% (0.04% VCAs by-passed)

3 FREQUENCY RESPONSE

Applies for +10 dBu signal to mon input and routed to main output with unity gain. Also applies for -50 dBu signal routed to a multitrack buss output with input gain set to 60 dB. Equaliser & filters by-passed.

20 Hz -1.0 dB 20 KHz -0.5 dB

4 CROSSTALK

Channel/multitrack buss crosstalk

Any non adjacent pair of channels routed to a pair of multitrack busses via different routing switches (eg channel 1 routed to multitrack 1 and channel 4 routed to multitrack buss 4).

better than -90 dB (40 Hz - 15 KHz)

Monitor fader isolation

better than -95 dB (40 Hz - 15 KHz)

5 MAXIMUM INPUTS/OUTPUTS

Maximum level to microphone input (without pad)	+4 dBu
Maximum level to microphone input (with pad)	+24 dBu
Maximum level to line input	+30 dBu
Maximum level from multitrack outputs	+26 dBu
Maximum level from stereo outputs	+22 dBu

6 IMPEDANCE (1 KHz)

Microphone input	greater than 1.2 Kohms
Line and mon input	greater than 10 Kohms
Main, subgroup and auxiliary outputs	less than 60 ohms

NOTES

- a) 0 dBu = 0.775 Volts.
- b) Measurements apply to standard Einstein 32 module (64 channel) consoles and standard 40 module Super "E" versions.
- and VCAs in circuit (except where stated otherwise),
- d) All measurements made using Neutrik TT401 test set and source impedances of 200 ohms, load impedances of 10 K ohms or greater.
- e) Amek technical measurement protocol is available on request.
- f) Correct installation and earthing is essential for proper performance. Refer to Amek technical manual for suggestions.
- g) Specifications are quoted for consoles using the standard power supply cables. Extended or otherwise modified power cables can affect console performance.
- h) The company has an established policy of seeking improvements to designs, specifications and manufacture of its products. Alterations take place continually, often without notice outside the company. The company's literature must not be taken as an infallible guide to the specifications available despite a considerable effort to product up to date information. No literature represents an offer for sale of any particular product. The company's officially appointed distributors and representatives will advise on any changes, when the circumstances of the enquiry permit.

AMEK_

EINSTEIN SUPER E PATCHFIELD LAYOUT

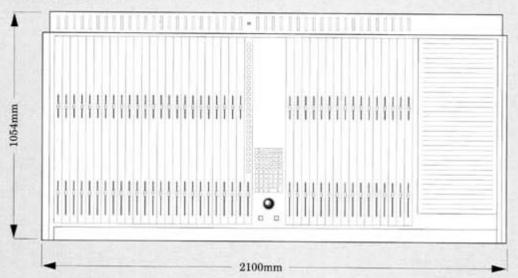
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CHASSIS DIMENSIONS

Super E version



32 input version

