

# **Trident Series 80C**

**Handbook**

SERIES 80C HANDBOOK  
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SECTION "O"

MISCELLANEOUS

SERIES 80C.

WORKS ORDER NO. ....

FRAME SIZE .....

SERIAL NO. ....

P.S.U SERIAL NO .....

ASSEMBLED BY:- .....

FINAL TEST BY:- .....

INSPECTION BY:- .....

FITTED WITH

-----

INPUT MODULES:- .....

MONITOR MODULES:- .....

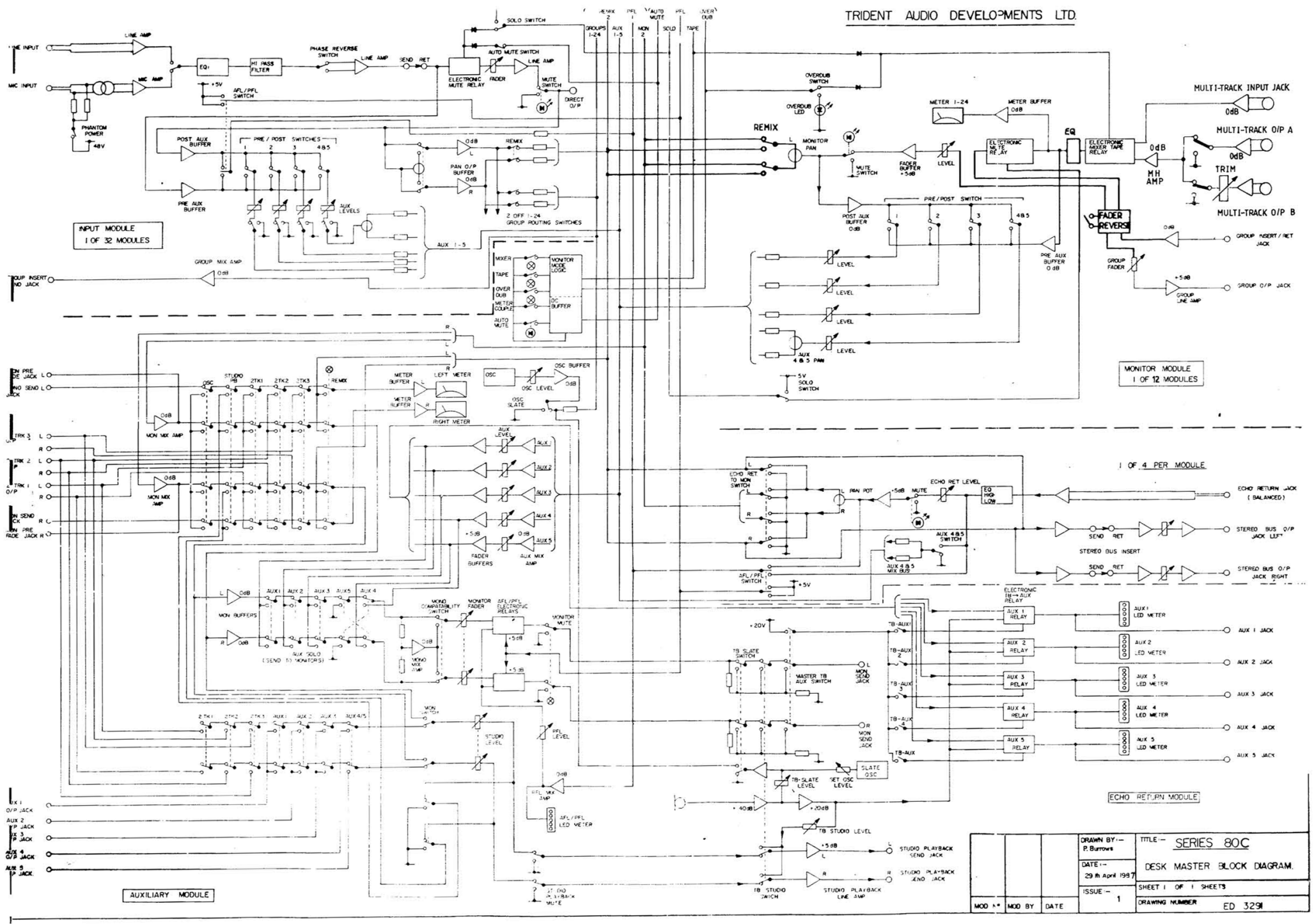
MASTER MODULE:- .....

AUXILIARY MODULE:- .....

OTHER MODULES:- .....

SPECIAL INSTRUCTIONS:

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DRAWN BY: P. Burrows		TITLE: SERIES 80C	
DATE: 29th April 1987		DESK MASTER BLOCK DIAGRAM.	
ISSUE: 1		SHEET 1 OF 1 SHEETS	
MOD *	MOD BY	DATE	DRAWING NUMBER ED 329I

## GENERAL DESCRIPTION

The Series 80C console has been designed as a compact multi-track recording console offering extreme ease of operation combined with a great deal of flexibility and sophistication.

One of the main contributors to the Series 80C ease of operation is the separate monitor section. Our many years of design and operation of complex recording consoles has proven to us that this method of operation not only makes the console very logical and easy to understand but also allows a large amount of flexibility in terms of operation. The need for complex status changes and overrides is overcome as is the need for function sharing which can greatly lessen the flexibility of the system.

All the console electronics are housed within the four main modules that comprise the Series 80C so that the mainframe is effectively a 'passive' component containing wiring only so the maintenance engineer's job is therefore greatly simplified should a fault occur.

Each module contains all necessary circuitry relevant to the functions it controls and the very latest generation of low noise integrated circuits are employed around proprietary circuit designs. No relays are employed in the Series 80C as all multiple switching functions are carried out by solid state circuitry thereby eliminating the contact bounce and mechanical problems associated with conventional relays.

All components are mounted on a high quality printed circuit board and are clearly identified. A unique feature of all Series 80C circuit boards (including the power supplies) is that each complete circuit is shown within dotted lines so that even on a fairly complex printed circuit board a circuit 'block' can be easily identified and located.

Another useful feature of all modules that comprise the Series 80C system is that the front panels are anodised and employ anodised lettering which is actually etched into the front panel surface as part of the anodising process. This means that unlike normal paint-sprayed and silk screened panels, the lettering will never wear off so the console will still look like new even after many years hard usage.

The Series 80C employs a fully modular patchbay. By this method maintenance of the patchbay is greatly simplified as all that is necessary to gain access to the circuit cards that comprise the patchbay is the removal of two screws. Each patchbay card can then be removed as a self contained module and can be cleaned or an individual jack socket replaced merely by de-soldering.

## GENERAL DESCRIPTION - CONT'D

This system also allows the user to 're-programme' the patchbay if required. Tracks can be interrupted or wire linked across to other tracks (and therefore to other jack sockets) making it extremely easy for example to connect a favourite Limiter/Compressor across a particular input modules insertion points as a semi-permanent feature, eliminating unsightly and unnecessary patch cords.

Wiring of the Series 80C mainframe is kept to a minimum owing to the employment of printed circuit 'motherboards'. This means that the internal wiring of the Series 80C mainframe is extremely uncluttered and easy to follow. All internal power distribution for audio voltage, logic voltage etc. is carried out by means of distribution blocks making it easy to isolate power to individual sections of the desk for either fault finding or modification.

The mainframe itself is constructed from 3 box sections connected together by screws. The whole mainframe is further strengthened by two box section steel tubes which run the entire length of the frame. All this combines to give the console a rigid construction combined with light weight. The finish of the mainframe is further enhanced by a cladding of English ash sealed in its natural light colour which will do justice to any control room setting.

## SECTION A

### INPUT MODULE - OPERATIONAL DESCRIPTION

The Series 80C input module is designed to accept signals from either a low impedance 200-600 ohm balanced microphone (transformer coupled) or a high level low impedance 20K ohm bridging balanced line (electronically coupled) such as that from a professional tape machine.

By virtue of both input sources being balanced and of low impedance, long wiring runs can be employed between the console and equipment connected to it without quality loss or a significant increase in noise.

All necessary signal processing and routing of the source connected to the input module is achieved by the front panel controls and these have been clearly notated so as to be easy to understand even to the relatively inexperienced operator.

The signal processing and routing functions of the module separate into five basic areas and these are (starting at the top of the module) as follows ; -

- 1) Routing and panning of the module output to multi-track tape machine inputs and a completely independent remix or mixdown buss.
- 2) Individual level control of microphone and line inputs.
- 3) 'Equalisation' or tonal correction of the input signal.
- 4) 'Auxiliary' send controls and switching.
- 5) Muting and signal checking facilities.

Each of these separate functions will be dealt with in relation to signal flow through the module starting with the input level controls. Before operating any control, all rotary knobs should be set to their '0' or minimum position where applicable.

Continuously variable mic and line gain controls are provided so that in conjunction with the main input fader (situated below the module) operating levels can be set that are both convenient to the operator and maximise the high overload capability and low noise levels of the Series 80C console. The operator first of all selects the input source to the module by operating the red 'input selector' push button positioned between the mic and line rotary level controls. In the mic position, any incoming signal from 0 dbm to -65 dbm can be accommodated by varying the input control to match the incoming signal level. In the 0dBm or zero gain mode, the microphone amplifier is in fact operating as an attenuator so that the only real limitation on the amount of signal level that can be handled is the microphone transformer itself. Since most microphone transformers will handle



## SECTION A

### INPUT MODULE - OPERATIONAL DESCRIPTION - CONTD

high level at high frequencies, the Series 80C microphone transformer has been designed and chosen for its low frequency high level handling capabilities. It will in fact handle up to +10dBm at 40Hz which should be enough for even the loudest of bass drums. Phantom power of +48V DC is also provided on each input for condenser microphones. This can however be locally switched off on each input module by un-depressing the internal push-button located by the top module edge connector. In the line position ('input selector' switch depressed) continuous gain adjustment of plus or minus 10dB is provided so that amplification or attenuation of incoming line level signals is possible so as to match the incoming signal level. Since no transformers are employed in the line input circuitry, high level low frequency overload potentials are not of such importance.

In order to check that the incoming signal levels are accurately matched via the input level controls it will be necessary for the operator to at least meter (if not monitor as well) the signal level through the input module. This can be accomplished in a number of ways but the most conventional is to route the module output via the multi-track assignment push-buttons 1-24 to any desired multi-track input, (making sure that the 'pan in/out' switch remains un-depressed). By pushing up the appropriate 'group master' fader (situated below the monitor module section) to maximum and selecting the 'mixer tape' push-button on the appropriate monitor module for the track selected to 'mixer' (un-depressed mode) it will be possible to meter the signal via one of the large illuminated meters on top of the console corresponding to the multi-track input selected. To ensure correct matching of the input signal to the console without any fear of overload occurring (particularly in the case of microphones) the input fader (situated directly below the input module) should be set to maximum (away from the operator) and the input level adjusted until the meter indicates the desired amount of signal (which should be just entering on the red sector of the meter on high level peaks). If no signal appears on the appropriate multi-track meter, check that the 'multi-track monitor mode' push-buttons, situated in the Auxiliary module, are selected to 'mixer' and that the 'meter couple' push-button located above the 'multi-track monitor mode' selectors is un-depressed

Many operators prefer to work with the input fader set approximately 10dB down from the maximum position (+5 position) so that they can make adjustments to signal level whilst recording (known as gain-riding) in which case the input fader should be set to the desired position and the appropriate input level advanced so that the multi-track meter still indicates the desired recording level. It is very important to note here that the further towards the operator that the input fader is moved and the more the input level control is advanced, the greater the possibility of overload and ensuing distortion, not to mention an increase in noise, this is because the input signal is

## INPUT MODULE - OPERATIONAL DESCRIPTION - CONTD.

effectively becoming over-amplified and will reach the overload capability of either the input amplifier or another circuit in the input chain. The noise level will rise because the inherent noise of both the incoming source and the input amplifier will be increased as the gain of the amplifier is increased. A safe operating area will become second nature with practice and the main input fader should never be set to a level greater than that needed to 'gain-ride' during a recording. If the main input fader needs to be set below half travel for this purpose serious attention should be given to mike placement/technique and to the introduction of some form of automatic gain reduction system in the programme chain such as a Limiter/Compressor etc.

Coupled with the input level control section of the module is a push-button marked 0 which means 'phase'. This push-button in effect reverses the input wiring of both the mic and line inputs to correct out of phase signals which may be connected to the module input at some time.

After the input processing section, the signal passes through the 'equaliser' section. This consists of four separate ranges which divide the audio spectrum into four bands. Extreme low and high frequencies are controlled by 'shelving' characteristic sections which allow continuously variable amplification or attenuation of up to 15dB at switch selected frequencies of either 60 or 120Hz (bass) and 12Hz or 8kHz (treble). The term 'shelving' is used to describe a tone correction network whereby once the maximum amplification or attenuation of the particular frequency which it is designed to accentuate has been reached, the frequencies above or below this (depending on whether it is treble or bass shelving) will be amplified or attenuated by the same amount. Thus a frequency 'shelf' is obtained which has the effect of creating a 'warm' sound on instruments it is applied to since many of the harmonics are amplified at the same time. The two other ranges of equalisation are lower mid and upper mid frequencies. These are of the 'peaking' characteristic and consist (like the extreme treble and bass ranges) of a continuously variable boost or cut control, but instead of switch selected frequency ranges a continuously variable frequency sweep is provided which in the lower mid range sweeps from 10Hz to 1.5kHz and in the upper mid range from 1.0kHz to 15kHz. A 'peaking' equaliser network is one that is at maximum amplification or attenuation at the chosen frequency and then falls away either side of this frequency. Hence a 'peak' is obtained which enables precise tuning-in to the resonant frequency of particular instruments. By providing both 'peaking' and 'shelving' characteristics, the Series 80C provides versatile tonal correction facilities.

Since there is a total amplification factor of 60dB available in the Series 80C equaliser section (four sections each with 15dB boost), care must be exercised when using fairly radical tonal correction so that over emphasis of one particular frequency range does not

## Section A

### INPUT MODULE - OPERATIONAL DESCRIPTION - CONT

introduce distortion into the signal path by overloading the following stages. Since the main input fader follows the equaliser section, decreasing the input fader may not necessarily reduce any distortion that has been introduced as it may have already been incurred due to overloading of one of the equaliser stages. If a large amount of equalisation is used it is therefore better to decrease the appropriate input level control (either mic or line gain) as this will not only reduce the input to the equaliser section and therefore the chance of equaliser overload, but will also lower the noise level through the input module.

Also included in the equaliser section is a low frequency filter which is fixed at 50Hz and is brought into operation via a push-button. This switch rolls off frequencies below 50Hz at a rate of 12dB per octave and with the filter switches in, the frequency response of the module will be -3dB at 50Hz and will continue to roll off from there.

Completing the equaliser section is an equaliser by-pass push-button which allows instant comparison between equalised and non-equalised i.e. 'flat' signals. A red L.E.D. indicator situated next to the 'EQ' push-button indicates when the equaliser controls are in circuit. When the button is un-depressed (L.E.D not illuminated) the tone controls have no effect on the signal.

After the equaliser, the signal leaves the input module and is routed to the patchbay 'channel sends to external equipment' jack. and returns, via the 'channel return from external equipment' jack. These two jack sockets per input module allow the operator to insert a piece of signal processing equipment such as a Limiter/Compressor into the signal chain. The reason that the channel send and return jacks are placed before the main channel fader in the signal chain is so that when level alterations are made via the fader, it will not alter any of the Limiter/Compressor parameters (such as threshold) which it would do, if the send and return jacks were placed after the main input fader.

After the 'channel return from external equipment' jack (which like the 'channel send' jack is an unbalanced line) the signal returns to the input module and splits in two directions. As a continuation of the main signal path, it passes through an electronic relay circuit which provides the channel 'auto-mute' and 'solo' facilities. Channel 'auto-mute' allows the operator to select by depressing the 'auto-mute' push-button, any number of input modules into the 'auto-mute' system. By then depressing the 'auto-mute' master push-button (located in the Auxiliary module), those modules selected to the system will be muted simultaneously. This is a very useful system as it allows the operator to bring into the mix any number of instruments simultaneously by depressing one button, the 'auto-mute' master.

## Section A

### INPUT MODULE OPERATIONAL DESCRIPTION - CONTD

If for example a multi-track piece of music contains solo guitar and piano on the intro, all the other tracks can be muted to greatly reduce noise etc. and then can be brought in instantly by depressing one push-button.

As mentioned previously, the electronic mute relay also provides the channel 'solo' function. This in effect is essentially the opposite of the 'auto-mute' system. When any input module 'solo' button is depressed, all other modules (unless their solo buttons are depressed) are muted. This allows the operator to instantly monitor one or any number of inputs on their own. Since nothing has in fact happened to the signal routing of the input selected to 'solo' all the normal module functions remain intact. Therefore the module placement in stereo perspective via the pan-pot can be observed (providing it is switched into circuit) as can the equalisation etc. Since however this system mutes all other input modules not selected to 'solo' it is inadvisable to use it during recording since only what is 'solo'd' will be fed to the recorder. This facility is however extremely useful when the console is being used for multi-track mixdown since it is very important at that time to place individual instruments in the correct stereo perspective and also to be able to observe individual equaliser and level settings.

When either the 'auto-mute' or 'solo' functions are used, the channel mute L.E.D. indicates when any particular module is in the mute mode.

At the same time as the signal enters the electronic mute circuitry, it is split off and feeds the pre-fader auxiliary send buffer. The reason the signal feed is taken prior to the electronic mute relay and main input fader is that the pre-fader auxiliary send is most normally used as a musicians headphone mix. It is therefore essential that once a balance for the musicians has been obtained, nothing that the operator does with reference to input fader levels or muting (either manual or automatic) should affect the headphone mix. The auxiliary send buffer has two purposes, firstly it serves to isolate the pre-fader auxiliary sends from the main signal path so as not to load it electrically and secondly, since the signal is taken prior to the input fader which has an amplifier following it with 5dB gain, the pre-fader auxiliary buffer has 5dB gain so that when selecting auxiliary send signals pre or post the input fader, there is no loss in signal level.

After passing through the auxiliary send buffer amplifier the signal feeds the 'auxiliary send pre-post' selector push-buttons and then the auxiliary send level controls. It also feeds the P.F.L. (pre-fade listen) portion of the 'A.F.L./P.F.L.' toggle switch. This facility is much the same in acoustic effect as the input 'solo' facility but differs in that the signal appears in mono on the control room loudspeakers and does not mute the other input modules. When either A.F.L. or P.F.L.' is selected on any combination of modules, the

## Section A

### INPUT MODULE OPERATIONAL DESCRIPTION - CONTD

'A.F.L./P.F.L.' signal is sent to it's own separate mixing buss and amplifier which is then simultaneously connected to the control room loudspeaker feeds instead of the normal control room monitor system. Therefore since this is purely a monitor function, nothing interrupts the normal signal flow through to the multi-track tape machine inputs and therefore 'A.F.L./P.F.L.' can be used quite safely whilst actually recording if desired. A master level control for the 'A.F.L./ P.F.L.' system is provided on the Auxiliary module so that if the level of an individual input is not loud enough against the composite mix on monitor, the signal can be raised to the required level. A large indicator situated below the stereo buss V.U. meters also illuminates when 'A.F.L./P.F.L.' has been selected.

After the main signal has passed through the electronic mute circuitry it passes through the main input conductive plastic fader situated below the module. From there it passes through a line amplifier which has 5dB gain. This gain is provided so that the overall system gain of the input module will be increased by this amount either in mic or line mode and also so that prior circuitry such as the equaliser section will be operated effectively 5dB lower therefore ensuring a good operating margin or 'headroom' to be achieved.

The input module mute switch (and associated L.E.D. indicator) is placed directly after the fader line amplifier so that when the input module is muted, since the fader line amplifier is the last piece of circuitry in the main signal path before the signal passes to the multi-track assignment (or routing system) all noise will be muted completely ensuring that the input is truly 'off' when muted.

After passing through the mute switch the signal goes to three places, the direct output jack socket (unbalanced) on the patchbay, the multi-track assignment and panning system and the post fader auxiliary buffer. The direct output jack is provided so that a feed can be taken from the module right at the output before any multi-track signal routing takes place so that it can be connected independently to any desired piece of equipment. Many operators use this system when sending one instrument to a track of the tape machine so that unnecessary mixing amplifiers etc., are by-passed thus ensuring a 'cleaner' sound. When the direct output jack is used, 'back - contacts' are broken internally on the jack socket thereby isolating the direct output signal feed from the multi-track assignment system while the facility is being used.

The multi-track assignment system consists of a pan-pot (plus associated 'in/out' push-button) and twenty four push-buttons so that the signal can be routed to any of the multi-track inputs either singly or in any combination. When switched into circuit the pan control allows image placement anywhere between odd or even numbered group outputs. Since buffer amplifiers isolate the pan-pot feed to the assignment switches, no loading effect will occur if the signal is

## Section A

### INPUT MODULE - OPERATIONAL DESCRIPTION - CONTD

panned to any number of odd and even multi-track inputs. If the pan control is not switched into circuit, the signal will simply connect straight into the assignment switches without the image placement facility.

Each input module also contains a group mixing buss amplifier to combine the signal routed to the various multi-track busses without signal loss. This means therefore that for example, input module No.1 contains the mixing amplifier for multi-track group No. 1 and input module No.2 the mixing amplifier for multi-track group No. 2 etc.

As mentioned earlier, the post-fader auxiliary send buffer is also fed after the 'mute' push-button and like the pre-fader auxiliary send buffer, serves to isolate the signal from the main signal path. Unlike the pre-fader buffer however it does not have any gain since it is situated after the fader line amplifier.

Because the post-fader auxiliary send signals are primarily intended to be sent to echo or reverberation devices, the feed is placed after the 'mute' switch so that when an input is muted no signal will reach the echo or reverberation system, normally not a desired effect. After the post-fader buffer amp, the signal connects to the 'A.F.L.' position of the 'A.F.L./P.F.L.' toggle switch (previously described) and also to the 'post' position of the 'pre-post' selector 'push-buttons'. The signal then passes to the five auxiliary send level controls which consist of four level controls and a pan-pot. Auxiliary sends four and five are provided as a stereo facility so that if used as a musicians headphones mix a stereo perspective can be provided completely independently of any of the main signal stereo routing.

Since the auxiliary sends are designed to be totally flexible in their designation as either pre or post the input fader, during recording all auxiliary sends can be used for headphone mixes (pre-fader) thereby providing up to five different systems and during remix of the multi-track recording they can be used as echo sends (post-fader) also providing up to five different systems. Any combination of pre or post sends can of course be used so that if during recording some instruments need to be recorded with echo, two auxiliary sends can for example be selected post-fader whilst the remaining three are selected pre-fader.

SERIES 80C INPUT MODULE  
PIN CONNECTIONS

LOWER EDGE CONNECTOR

A1	CASE EARTH
A2	L. E. D. EARTH
A3	+5V
A4	DIRECT O/P SEND
A5	AUTOMUTE D.C. BUSS
A6	AFL/PFL MIX BUSS
A7	SOLO D.C. BUSS
A8	N.C.
A9	FADER TOP
A10	AFL/PFL D.C. BUSS
A11	INSERT RETURN
A12	+ 18 VOLT
A13	+ 18 VOLT
A14	- 18 VOLT
A15	- 18 VOLT
A16	FADER WIPER
A17	ELECTRONIC EARTH
A18	ELECTRONIC EARTH
A19	
A20	
A21	N.C.
A22	AUX "1" MIX BUSS
A23	AUX "2" MIX BUSS
A24	AUX "3" MIX BUSS
A25	AUX "4" MIX BUSS
A26	AUX "5" MIX BUSS
A27	AUX EARTH
A28	INSERT SEND
A29	N.C.
A30	+ Ive LINE INPUT
A31	- Ive LINE INPUT
A32	DIRECT O/P RETURN

UPPER EDGE CONNECTOR

B1	+48V
B2	-Ive MIC INPUT
B3	+Ive MIC INPUT
B4	GP MIX AMP EARTH
B5	REMIX BUSS "R"
B6	" " "L"
B7	GP MIX BUSS "24"
B8	" " " "23"
B9	" " " "22"
B10	" " " "21"
B11	" " " "20"
B12	" " " "19"
B13	" " " "18"
B14	" " " "17"
B15	" " " "16"
B16	" " " "15"
B17	" " " "14"
B18	" " " "13"
B19	" " " "12"
B20	" " " "11"
B21	" " " "10"
B22	" " " "9"
B23	" " " "8"
B24	" " " "7"
B25	" " " "6"
B26	" " " "5"
B27	" " " "4"
B28	" " " "3"
B29	" " " "2"
B30	" " " "1"
B31	GP MIX AMP I/P
B32	GROUP INSERT SEND

# COMPONENT SCHEDULE

MODULE

SERIES 80 INPUT MODULE

SHEET 1 OF 7

ISSUE 3

DATE 1.7.86



PC.B No	DESCRIPTION	PART No		
R1	RESISTOR	270Ω	1/4W	1%
R2	"	47K	1/4W	1%
R3	"	47K	1/4W	1%
R4	"	220K	1/4W	1%
R5	"	1K2	1/4W	1%
R6	"	220K	1/4W	1%
R7	"	100K	1/4W	1%
R8	"	15K	1/4W	1%
R9	"	47K	1/4W	1%
R10	"	15K	1/4W	1%
R11	"	15K	1/4W	1%
R12	"	7K5	1/4W	1%
R13	"	7K5	1/4W	1%
R14	"	7K5	1/4W	1%
R15	"	100Ω	1/4W	1%
R16	"	6K2	1/4W	1%
R17	LINK	T.C.W. LINK		
R18	RESISTOR	47K	1/4W	1%
R19	LINK	T.C.W. LINK		
R20	RESISTOR	10K	1/4W	1%
R21	"	47K	1/4W	1%
R22	"	47K	1/4W	1%
R23	"	100K	1/4W	1%
R24	"	100K	1/4W	1%
R25	"	10K	1/4W	1%
R26	LINK	T.C.W. LINK		
R27				
R28				
R29				
R30	RESISTOR	10K	1/4W	1%
R31	"	100K	1/4W	1%
R32				
R33	"	7K5	1/4W	1%
R34				
R35	"	12K	1/4W	1%
R36	"	270Ω	1/4W	1%



# COMPONENT SCHEDULE

MODULE      SERIES 80 INPUT MODULE

SHEET 2 OF 7

ISSUE 3

DATE 1.7.86



P.C.B No	DESCRIPTION	PART No
R37	RESISTOR	47K 1/4W 1%
R38	"	A.O.T.
R39	"	A.O.T.
R40		
R41		
R42	"	12K 1/4W 1%
R43	"	12K 1/4W 1%
R44	"	12K 1/4W 1%
R45	"	12K 1/4W 1%
R46	"	12K 1/4W 1%
R47	"	1K2 1/4W 1%
R48	"	10K 1/4W 1%
R49	"	1K2 1/4W 1%
R50	"	12K 1/4W 1%
R51	"	1K2 1/4W 1%
R52	"	10K 1/4W 1%
R53	"	47K 1/4W 1%
R54	"	12K 1/4W 1%
R55	"	12K 1/4W 1%
R56	"	47K 1/4W 1%
R57	"	12K 1/4W 1%
R58	"	1K5 1/4W 1%
R59	"	1K5 1/4W 1%
R60	"	4K7 1/4W 1%
R61	"	2K7 1/4W 1%
R62	"	1K2 1/4W 1%
R63	"	6K8 1/4W 1%
R64	"	4K7 1/4W 1%
R65	"	6K8 1/4W 1%
R66	"	1K5 1/4W 1%
R67	"	2K7 1/4W 1%
R68	"	1K5 1/4W 1%
R69	"	4K7 1/4W 1%
R70	"	1K2 1/4W 1%
R71	"	1K2 1/4W 1%
R72	"	47K 1/4W 1%

# COMPONENT SCHEDULE

**MODULE**

SERIES 80 INPUT MODULE

**SHEET** 3 **OF** 7

**ISSUE** 3

**DATE** 1.6.86



PC.B No	DESCRIPTION	PART No
R73	RESISTOR	47K 1/4W 1%
R74		
R75		
R76		
R77		
R78	"	13K 1/4W 1%
R79	"	12K 1/4W 1%
R80	"	12K 1/4W 1%
R81	"	150K 1/4W 1%
R82	"	150K 1/4W 1%
R83	"	47K 1/4W 1%
R84	"	47K 1/4W 1%
R85	"	100Ω 1/4W 1%
R86	"	360Ω 1/4W 1%
R87	"	5K6 1/4W 0.25%
R88	"	5K6 1/4W 0.25%
R89	"	5K6 1/4W 0.25%
R90	"	5K6 1/4W 0.25%
R91	"	56K 1/4W 0.25%
R92	"	56K 1/4W 0.25%
R93	"	47K 1/4W 1%
R94	"	47K 1/4W 1%
R95	"	47K 1/4W 1%
R96	"	47K 1/4W 1%
R97	"	47K 1/4W 1%
R98		
R99		
R100	"	22K 1/4W 1%
R101	"	22K 1/4W 1%
R102	"	6K8 1/4W 1%
R103	"	6K8 1/4W 1%
R104	"	12K 1/4W 1%
R105	"	12K 1/4W 1%
R106	"	12K 1/4W 1%
R107	"	12K 1/4W 1%
R108	"	12K 1/4W 1%

# COMPONENT SCHEDULE

MODULE      SERIES 80 INPUT MODULE

SHEET 4 OF 7

ISSUE 3

DATE 1.7.86



PC.B No	DESCRIPTION	PART No
R109	RESISTOR	12K 1/4W 1%
R110	"	12K 1/4W 1%
R111	"	12K 1/4W 1%
R112	"	12K 1/4W 1%
R113	"	12K 1/4W 1%
R114	"	12K 1/4W 1%
R115	"	12K 1/4W 1%
R116	"	12K 1/4W 1%
R117	"	12K 1/4W 1%
R118	"	12K 1/4W 1%
R119	"	12K 1/4W 1%
R120	"	12K 1/4W 1%
R121	"	12K 1/4W 1%
R122	"	12K 1/4W 1%
R123	"	12K 1/4W 1%
R124	"	12K 1/4W 1%
R125	"	12K 1/4W 1%
R126	"	12K 1/4W 1%
R127	"	12K 1/4W 1%
R128	"	12K 1/4W 1%
R129	"	12K 1/4W 1%
R130	"	47K 1/4W 1%
R131	"	47K 1/4W 1%
R132	LINK	T.C.W. LINK
R133	RESISTOR	10K 1/4W 1%
R134	"	A.O.T.
R135	LINK	T.C.W. LINK
R136	RESISTOR	10K 1/4W 1%
R137	"	A.O.T.
R138	"	47K 1/4W 1%
R139		
R140		
R141	"	4K7 1/4W 1%
R142	"	4K7 1/4W 1%
R143	"	12K 1/4W 1%
R144		

# COMPONENT SCHEDULE

**MODULE** SERIES 80 INPUT MODULE

**SHEET** 5 **OF** 7

**ISSUE** 3

**DATE** 1/7/86



P.C.B No	DESCRIPTION	PART No		
C1				
C2	CAPACITOR	22 $\mu$ F	25V	RADIAL
C3	"	10nF		S.I.E.
C4	"	22 $\mu$ F	25V	RADIAL
C5	"	22 $\mu$ F	25V	RADIAL
C6	"	100pF		C/D
C7	"	100 $\mu$ F	25V	RADIAL
C8	"	100 $\mu$ F	25V	RADIAL
C9	"	22 $\mu$ F	25V	RADIAL
C10	"	22 $\mu$ F	25V	RADIAL
C11	"	470 $\mu$ F	10V	AXIAL
C12	"	470 $\mu$ F	25V	AXIAL
C13	"	470 $\mu$ F	25V	AXIAL
C14				
C15	CAPACITOR	1 $\mu$ F		S.I.E.
C16	"	1 $\mu$ F		S.I.E.
C17	"	0.22 $\mu$ F		S.I.E.
C18	"	0.47 $\mu$ F		S.I.E.
C19	"	1 $\mu$ F		S.I.E.
C20	"	22 $\mu$ F	25V	RADIAL
C21	"	100pF		C/D
C22	"	15nF		S.I.E.
C23	"	15nF		S.I.E.
C24	"	1n5		S.I.E.
C25	"	1n5		S.I.E.
C26	"	33pF		C/D
C27	"	8n2		S.I.E.
C28	"	3300pF		S.I.E.
C29	"	470 $\mu$ F	6V	RADIAL
C30	"	470 $\mu$ F	10V	AXIAL
C31	"	22 $\mu$ F	25V	RADIAL
C32	"	22 $\mu$ F	25V	RADIAL
C33	"	22 $\mu$ F	25V	RADIAL
C34	"	22 $\mu$ F	25V	RADIAL
C35	"	470 $\mu$ F	6V	RADIAL
C36	"	470 $\mu$ F	6V	RADIAL

# COMPONENT SCHEDULE

MODULE SERIES 80 INPUT MODULE

SHEET 6 OF 7

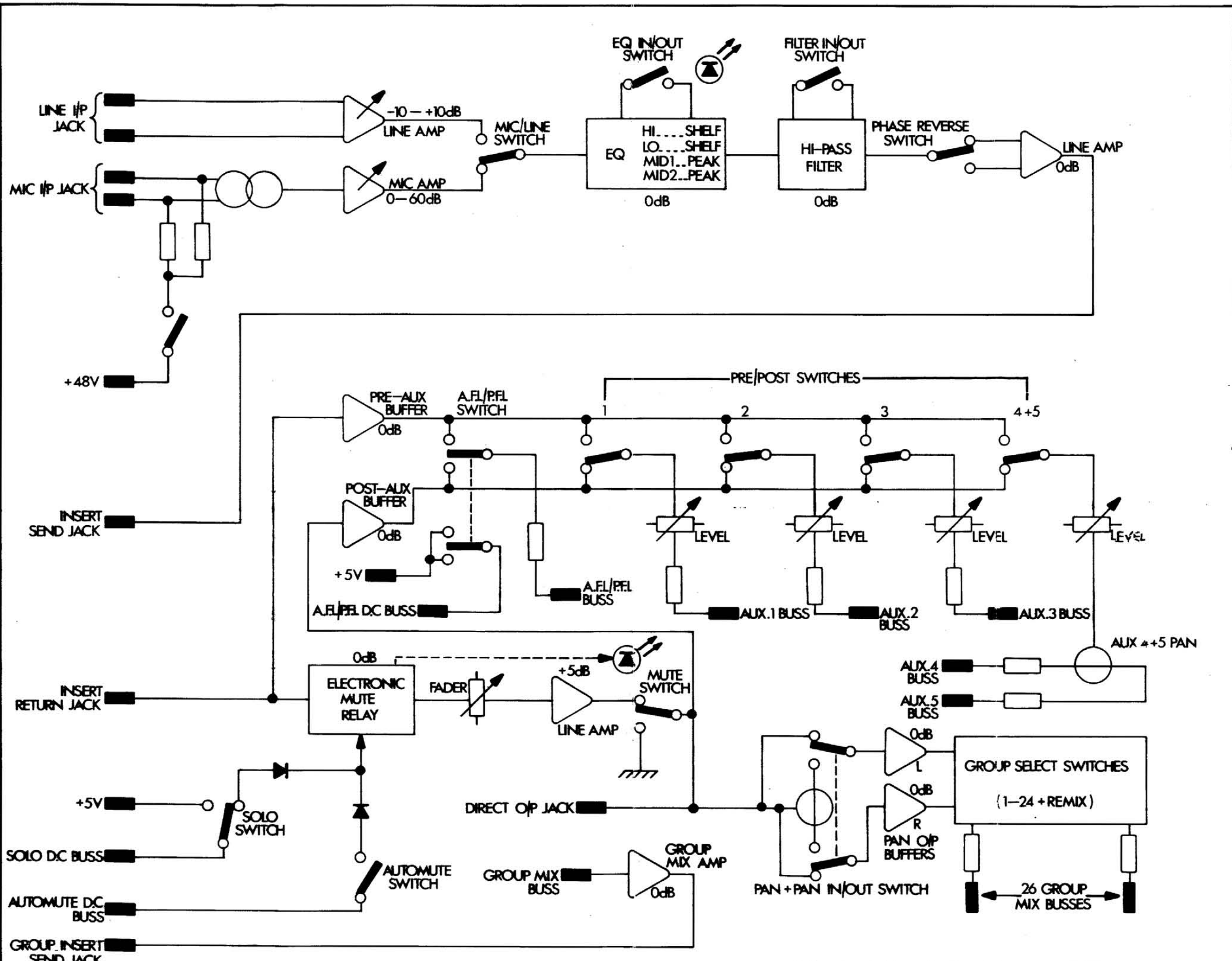
ISSUE 3

DATE 1/7/86

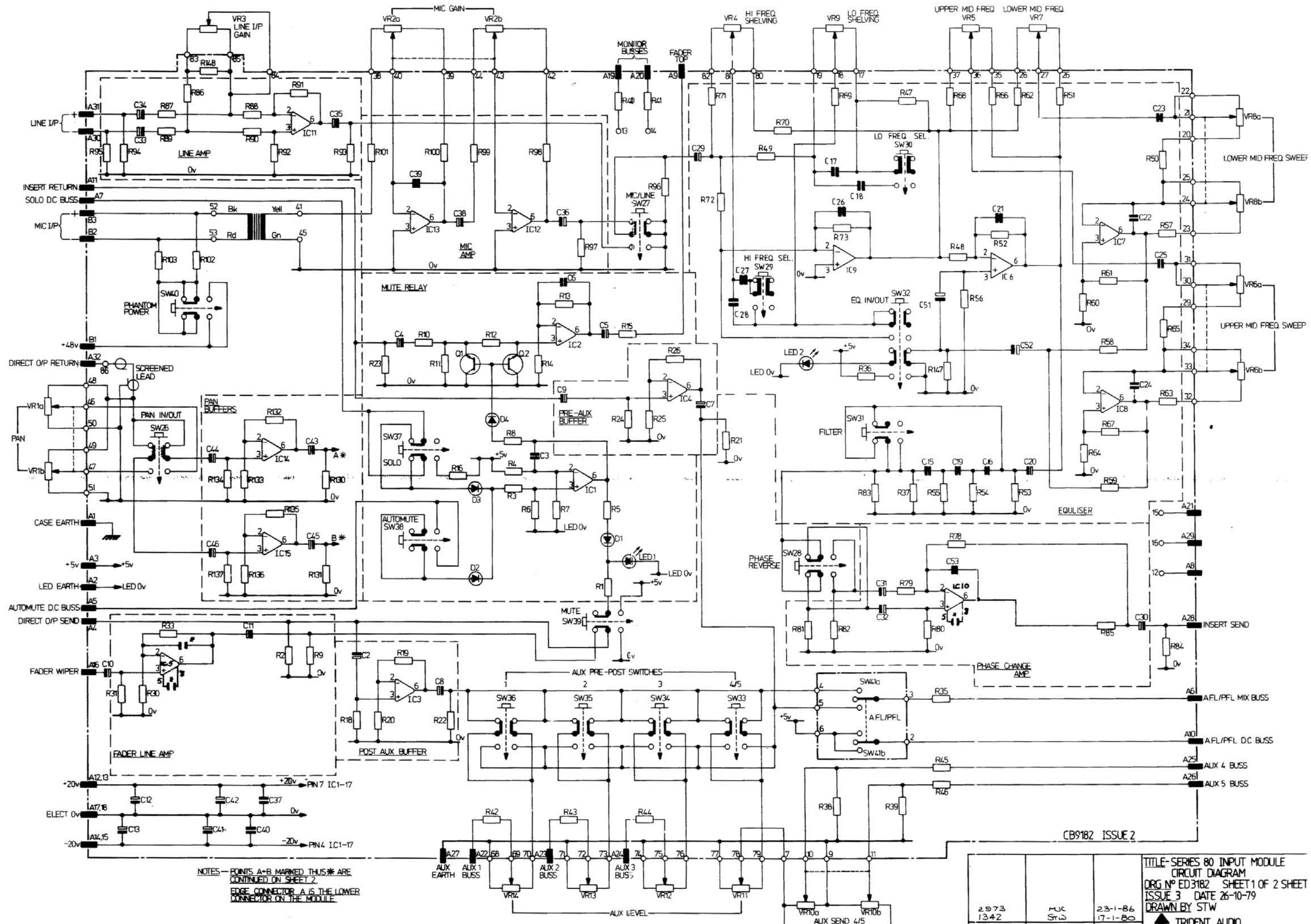


P.C.B No	DESCRIPTION	PART No		
C37	CAPACITOR	0.1μF		C/D
C38	"	22μF	25V	RADIAL
C39	"	15pF		C/D
C40	"	0.1μF		C/D
C41	"	100μF	25V	RADIAL
C42	"	100μF	25V	RADIAL
C43	"	100μF	25V	RADIAL
C44	"	100μF	25V	RADIAL
C45	"	100μF	25V	RADIAL
C46	"	100μF	25V	RADIAL
C47	"	100μF	25V	RADIAL
C48	"	470μF	10V	AXIAL
C49	"	100μF	25V	RADIAL
C50	"	470μF	6V	RADIAL
C51	"	22μF	25V	RADIAL
C52	"	22μF	25V	RADIAL
C53	"	150pF		C/D
C54	"	0.1μF		C/D
C55	"	150pF		C/D
C56	"	0.1μF		C/D
C57	"	33pF		C/D
L.E.D. 1-2	L.E.D.	XC 209-C		
D 1-4	DIODES	IN4148		
Q 1-2	TRANSISTOR	BC 413-C/BC107-B		
IC 1-15,17	OP AMP	TL071		
IC 16	OP AMP	NE5534		





SERIES 80 INPUT MODULE FLOW DIAGRAM

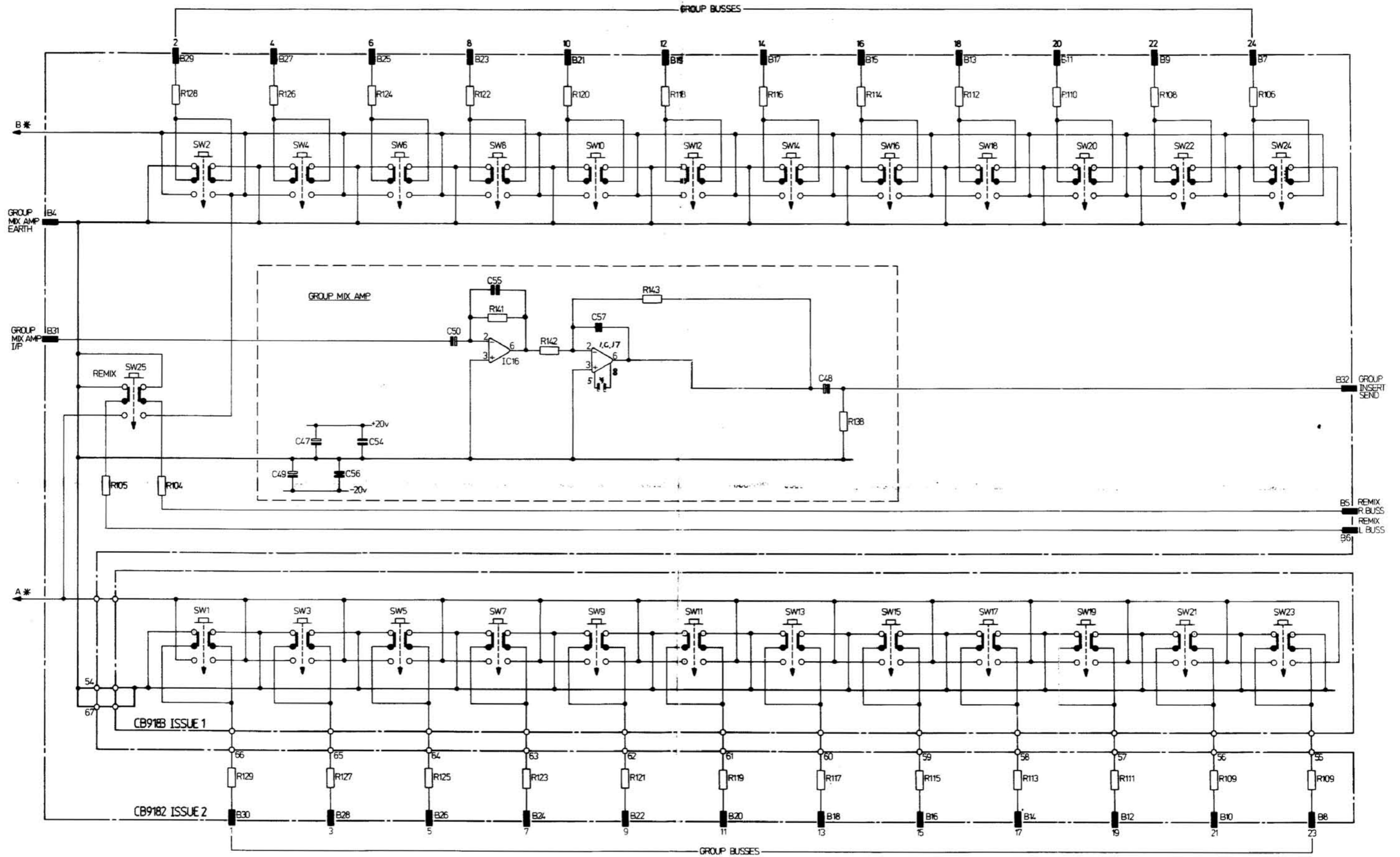


NOTES - POINTS A+B MARKED WITH \* ARE CONTINUED ON SHEET 2.  
EDGE CONNECTOR A IS THE LOWER CONNECTOR ON THE MODULE.


CB9182 ISSUE 2

2973 1342	MJC STW	23-1-86 17-1-80	TITLE-SERIES 80 INPUT MODULE CIRCUIT DIAGRAM DRG N° ED3182 SHEET 1 OF 2 SHEET ISSUE 3 DATE 26-10-79 DRAWN BY STW TRIDENT AUDIO DEVELOPMENTS LTD
MOD N°	MOD BY	DATE	





NOTES - POINTS A+B MARKED THUS \* ARE CONTINUED FROM SHEET 1  
EDGE CONNECTOR 'A' IS THE LOWER CONNECTOR ON THE MODULE

1342	Stw	17-1-80	TITLE-SERIES 80 INPUT MODULE CIRCUIT DIAGRAM DRG N° ED3182 SHEET 2 OF 2 SHEETS ISSUE 2 DATE 26-10-79 DRAWN BY STW  TRIDENT AUDIO DEVELOPMENTS LTD
MOD N°	MOD BY	DATE	

## SECTION B

### MONITOR-MODULE OPERATIONAL DESCRIPTION

The Series 80C monitor module contains two identical track monitor sections and therefore it is only necessary to describe here one typical section. As with the Input module, the signal flow splits into various routes and will be dealt with from the point where the main signal flow enters the module.

A unique feature of the Series 80C monitor module input circuitry is the ability to accept the output from two multi-track tape machines and combine them for monitoring purposes.

This is achieved by providing two individual balanced line amplifiers at the input, which are then fed to a combining amplifier. A switch on each input with associated L.E.D selects which tape machine output (A or B) is being monitored. Depressing both buttons gives a combination (with no loss) of both tape returns. Input B is also provided with a separate gain control giving an additional gain of 10dB. This makes it possible to provide individual level control of both inputs by a combination of this control and the normal level control provided elsewhere in the module.

By this facility it is therefore possible to monitor the output of two 24 track recorders i.e for 48 track mixdowns. This does also of course provide the possibility of 48 additional effects returns during mixdown, thus providing up to 80 fully equalised channels (plus four echo returns) on a standard 32-24-48 console.

The monitor input circuitry also accepts a buffered feed from the input to the multi-track tape machine (console group output) so that via an electronic Mixer/Tape relay, it is possible to monitor either the send or return from the multi-track tape machine(s).

Since there are only 24 group outputs from the console, these are 'normalised' via the patchbay to both multi-track line inputs.

The electronic Mixer/Tape relay makes it possible for all monitor sections to be simultaneously selected to monitor either all console outputs or all multi-track tape machine outputs. The master illuminated push-buttons that select these modes are of the momentary action type and are located in the 'monitor mode' section of the Auxiliary module under the heading 'multi-track'. Three push-buttons are provided which allow selection of the following methods of operation: Tape; this selects all monitor sections to monitor the tape machine output lines. Mixer; this selects all monitor sections to monitor the main group outputs from the console. Overdub; like the tape mode this also selects all monitor sections to monitor the tape machine outputs but an individual switch and associated yellow L.E.D. called 'overdub' reverts that particular monitor section to the appropriate multi-track group output from the console. This allows the operator full 'over-dub' or 'sel-sync' facilities so that a combination of console and tapes machine outputs can be monitored simultaneously. The yellow 'overdub' L.E.D. on each monitor module only becomes operative when the master illuminated push-button marked 'overdub' has been selected and a local 'O/dub' button has been depressed. In all other modes the L.E.D.'s are

extinguished signifying that the 'overdub' system is non-operative. By this method it is very quick and easy for the operator to select between monitor modes of the console and by using momentary action push-buttons any previous 'overdub' settings can easily be returned to.

Directly after the electronic monitor mode switching relay, the signal is buffered and fed off to the individual track V.U. meters situated on top of the console. By deriving the meter signal at this point, the individual meters will automatically follow the monitoring mode of each monitor section.

From here the signal passes through a 4 band equaliser which is essentially identical to that provided on the input module, except for the fact that owing to space restrictions, it is not provided with a 50Hz high pass filter.

After the equaliser section the signal passes through an electronic mute relay which provides a monitor 'solo' system. When a 'solo' button (located on each monitor section) is depressed, the relays are activated on all other modules but the one selected. This therefore mutes all other monitor selections and allows the operator to listen to either the console or tape output instantly and without affecting the signal being recorded as it is purely a monitor function.

This facility is extremely useful when either recording or playing back as any instrument or group of instruments recorded on a single track can be instantly checked for sound quality, instrument balance or musicality etc. It can also be very useful when playing back a tape recorded elsewhere and it becomes necessary to make a quick check of which instruments are recorded on what tracks. Any combination or number of 'solo's' can be depressed at any one time.

After the electronic mute circuitry, the signal passes through the rotary monitor level control and also feeds the pre-monitor auxiliary send buffer. The monitor level control makes it possible to obtain a completely independent mix on monitor only, of the multi-track console outputs or tape machine replay lines. The operator therefore has total control of both the overall monitor levels to and from the multi-track recorder as well as the monitor balance. A master monitor fader is provided (situated below the Echo Return/Communication module) so that once the desired monitor balance is achieved, the overall level can be adjusted to suit monitoring requirements. Since the individual track monitor level controls are placed in the signal chain after the input selection circuitry, they will of course act as monitor level controls over whatever combination of console and tape machine outputs have been selected. In conjunction with the monitor level control is a 'fader reverse' facility operated by a single push button. When this system is initiated, the functions of the monitor level control and associated group fader are reversed. Because in the majority of applications the group fader is set at its maximum position, it is far more useful to be able to use the more accurate linear action of the fader for precise setting of the control room monitor mix. This is particularly the case when most tracks of the recorder have been filled and a close approximation to the final mix is required. Also, because the entire monitor section can be utilised as additional line inputs (with

equalisation, panning and auxiliary sends etc) during mixdown, the fader will operate as a line input level control in much the same way as the long throw channel input fader does.

On each monitor section there are five auxiliary send systems that are identical to those found on the input modules. In the 'pre' position, each auxiliary send is fed from just before the monitor level control and in the 'post' mode it is taken after the monitor 'mute' switch. This means that in the 'pre' mode (which is intended for use as 'foldback' or musicians headphone feeds) any alteration to the multi-track monitor balance will not affect what the musicians hearing. This of course is very desirable in order to maintain musical continuity in the studio whilst the operator is adjusting levels etc. Two great advantages are obtained by utilising the pre-fader auxiliary sends on the monitor modules rather than the input modules and they are as follows: Firstly, when used as a 'foldback' or headphone feed, a composite mix of whatever is feeding the multi-track tape machine from a particular console output group can be sent to the headphone mix so that in the case of a drum kit for example, it is not necessary to balance the individual auxiliary sends from each input module as would be the case if they were being sent from the input modules. Secondly, since the 'pre-fader' auxiliary send from each monitor section is derived just in front of the track monitor level control, the musicians will automatically hear tape play-back or 'sync' whenever the monitor modules are selected individually or collectively to those modes. Track over-dubbing is therefore quick and simple since the operator does not have to switch or re-balance the headphone feeds every time a different mode is selected.

In the 'post monitor fader' mode, the auxiliary sends on each monitor module have an advantage over the input module 'post fader' sends in as much as it becomes possible to add echo or reverberation etc. to a complete group of instruments such as a string section for example.

The monitor auxiliary sends feed the same five mixing busses that the input modules are connected to so that it is possible to combine auxiliary sends from both input and monitor modules should it be required.

After the monitor level control, the signal passes through a line amplifier which has 5dB gain. This is so that the monitor level can be operated at a comfortable operator position whilst obtaining a control room monitor balance. A monitor balance should be obtained in much the same way as previously described in the input module operational description for setting input levels. A monitor mix should be obtained whereby the master monitor fader (situated below the Echo Return/Communication module) is no more than 10-15dB from the maximum position. This preserves the best noise and overload performance of the monitor system.

From the fader line amplifier the signal passes through a monitor mute switch and associated L.E.D. which indicates when the particular monitor module is muted. Muting a monitor channel does not of course affect recording as the monitor functions are completely isolated from the main multi-track group signal paths. After the mute switch the signal connects to the post fader auxiliary send buffer (previously described) and a 'monitor pan' control which allows the operator to place the track monitor signal anywhere in a stereo perspective. A push button switch marked

"Remix" makes it possible to route the output of the pan-pot either normally to the monitor mix or to the remix buss when depressed. By this means it is possible to utilise the entire monitor section as additional line inputs when remixing. Since every monitor section has 3 band equalisation, 5 auxiliary sends, solo, panning, level and monitor mute, the input capability of the console is virtually doubled. This is very useful for simulation of a final mixdown whilst monitoring the multi-track inputs or outputs.

Independently of all front panel controls, each monitor section also contains a 'group insert return; buffer amplifier and a group output line amplifier. These two circuits are contained in the monitor modules since it is a convenient place for them to be located as all multi-track group output monitoring is carried out by the monitor modules.

SERIES 80C MONITOR MODULE  
PIN CONNECTIONS

LOWER EDGE CONNECTOR

UPPER EDGE CONNECTOR

A1	CASE EARTH			B1	L. E. D. EARTH		
A2	GROUP O/P	(Lower	Section)	B2	GROUP O/P	(Upper	Section)
A3	GROUP FADER WIPER	"	"	B3	GROUP FADER WIPER	"	"
A4	GROUP FADER TOP	"	"	B4	GROUP FADER TOP	"	"
A5	GROUP INSERT RETURN	"	"	B5	GROUP INSERT RETURN	"	"
A6	EARTH	"	"	B6	EARTH	"	"
A7	+ve MIXER BUFFER I/P	"	"	B7	+ve MIXER BUFFER I/P	"	"
A8	-ve MIXER BUFFER I/P	"	"	B8	-ve MIXER BUFFER I/P	"	"
A9	+ve TAPE BUFFER I/P "A"	"	"	B9	+ve TAPE BUFFER I/P "A"	"	"
A10	-ve TAPE BUFFER I/P "A"	"	"	B10	-ve TAPE BUFFER I/P "A"	"	"
A11	METER FEED	"	"	B11	METER FEED	"	"
A12	SOLO D. C. BUSS			B12	TAPE D. C. BUSS		
A13	+ 18 VOLTS			B13	+ 18 VOLTS		
A14	- 18 VOLTS			B14	- 18 VOLTS		
A15	MONITOR MIX BUSS "L"			B15	REMIK BUSS "L"		
A16	MONITOR MIX BUSS "R"			B16	REMIK BUSS "R"		
A17	OVERDUB D. C. BUSS			B17	+ 5V		
A18	AUX 1 MIX BUSS			B18	AUX 1 MIX BUSS		
A19	AUX 2 MIX BUSS			B19	AUX 2 MIX BUSS		
A20	AUX 3 MIX BUSS			B20	AUX 3 MIX BUSS		
A21	AUX 4 MIX BUSS			B21	AUX 4 MIX BUSS		
A22	AUX 5 MIX BUSS			B22	AUX 5 MIX BUSS		
A23	-			B23	-		
A24	-			B24	-		
A25	-			B25	-		
A26	-			B26	-		
A27	+ve TAPE BUFFER I/P "B" (Lower	Section)		B27	+ve TAPE BUFFER I/P "B" (Upper)		
A28	-ve TAPE BUFFER I/P "B"	"	"	B28	-ve TAPE BUFFER I/P "B"	"	"
A29	-			B29	-		
A30	-			B30	-		
A31	-			B31	-		
A32	-			B32	-		

# COMPONENT SCHEDULE

MODULE SERIES 80C MONITOR MODULE.

SHEET 1 OF 11

ISSUE

DATE 6th August 1987.



P.C.B No	DESCRIPTION	PART No
R1	RESISTOR	270Ω 1/4W 1%
R2	"	270Ω 1/4W 1%
R3	"	47K 1/4W 1%
R4	"	7K5 1/4W 1%
R5	"	9K1 1/4W 1%
R6	"	47K 1/4W 1%
R7	"	A.O.T.
R8	"	A.O.T.
R9	"	15K 1/4W 1%
R10	"	10K 1/4W 1%
R11	"	12K 1/4W 1%
R12	"	12K 1/4W 1%
R13	"	47K 1/4W 1%
R14	"	A.O.T.
R15	"	A.O.T.
R16	"	270Ω 1/4W 1%
R17	"	1K2 1/4W 1%
R18	"	1K2 1/4W 1%
R19	"	4K7 1/4W 1%
R20	"	47K 1/4W 1%
R21	"	6K8 1/4W 1%
R22	"	6K8 1/4W 1%
R23	"	2K4 1/4W 1%
R24	"	2K4 1/4W 1%
R25	"	6K8 1/4W 1%
R26	"	6K8 1/4W 1%
R27	"	2K4 1/4W 1%
R28	"	2K4 1/4W 1%
R29	"	270Ω 1/4W 1%
R30	"	270Ω 1/4W 1%
R31	"	1K2 1/4W 1%
R32	"	1K2 1/4W 1%
R33	"	12K 1/4W 1%
R34	"	39K 1/4W 1%
R35	"	4K7 1/4W 1%
R36	"	2K7 1/4W 1%

# COMPONENT SCHEDULE

**MODULE** SERIES 80C MONITOR MODULE.  
**SHEET** 2 **OF** 11 **ISSUE** **DATE** 6th August 1987.



P.C.B No	DESCRIPTION	PART No
R37	RESISTOR	12K 1/4W 1%
R38	"	12K 1/4W 1%
R39	"	47K 1/4W 1%
R40	"	2K7 1/4W 1%
R41	"	1K5 1/4W 1%
R42	"	1K 1/4W 1%
R43	"	39K 1/4W 1%
R44	"	4K7 1/4W 1%
R45	"	47K 1/4W 1%
R46	"	47K 1/4W 1%
R47	"	47K 1/4W 1%
R48	"	47K 1/4W 1%
R49	"	47K 1/4W 1%
R50	"	47K 1/4W 1%
R51	"	270Ω 1/4W 1%
R52	"	220K 1/4W 1%
R53	"	100K 1/4W 1%
R54	"	220K 1/4W 1%
R55	"	47K 1/4W 1%
R56	"	3K6 1/4W 1%
R57	"	47K 1/4W 1%
R58	"	15K 1/4W 1%
R59	"	10K 1/4W 1%
R60	"	10K 1/4W 1%
R61	"	10K 1/4W 1%
R62	"	10K 1/4W 1%
R63	"	2K2 1/4W 1%
R64	"	2K2 1/4W 1%
R65	"	220K 1/4W 1%
R66	"	220K 1/4W 1%
R67	"	220K 1/4W 1%
R68	"	220K 1/4W 1%
R69	"	1K 1/4W 1%
R70	"	1K5 1/4W 1%
R71	"	10K 1/4W 1%
R72	"	47K 1/4W 1%



# COMPONENT SCHEDULE

MODULE SERIES 80C MONITOR MODULE.

SHEET 3 OF 11

ISSUE

DATE 6th August 1987.



P.C.B No	DESCRIPTION	PART No
R73	RESISTOR	47K 1/4W 1%
R74	"	100Ω 1/4W 1%
R75	"	9K1 1/4W 1%
R76	"	47K 1/4W 1%
R77	"	7K5 1/4W 1%
R78	"	1K5 1/4W 1%
R79	"	1K 1/4W 1%
R80	"	100Ω 1/4W 1%
R81	"	7K5 H4 1/4W
R82	"	15K H4 1/4W
R83	"	7K5 H4 1/4W
R84	"	15K H4 1/4W
R85	"	7K5 H4 1/4W
R86	"	15K H4 1/4W
R87	"	7K5 H4 1/4W
R88	"	15K H4 1/4W
R89	"	12K 1/4W 1%
R90	"	12K 1/4W 1%
R91	"	12K 1/4W 1%
R92	"	12K 1/4W 1%
R93	"	12K 1/4W 1%
R94	"	12K 1/4W 1%
R95	"	12K 1/4W 1%
R96	"	12K 1/4W 1%
R97	"	12K 1/4W 1%
R98	"	47K 1/4W 1%
R99	"	7K5 H4 1/4W
R100	"	15K H4 1/4W
R101	"	7K5 H4 1/4W
R102	"	15K H4 1/4W
R103	"	12K 1/4W 1%
R104	"	12K 1/4W 1%
R105	"	12K 1/4W 1%
R106	"	12K 1/4W 1%
R107	"	270Ω 1/4W 1%
R108	"	47K 1/4W 1%

# COMPONENT SCHEDULE

MODULE SERIES 80C MONITOR MODULE.

SHEET 4 OF 11

ISSUE

DATE 6th August 1987.



P.C.B No	DESCRIPTION	PART No
R109	RESISTOR	7K5 1/4W 1%
R110	"	9K1 1/4W 1%
R111	"	47K 1/4W 1%
R112	"	A.O.T.
R113	"	A.O.T.
R114	"	15K 1/4W 1%
R115	"	10K 1/4W 1%
R116	"	12K 1/4W 1%
R117	"	12K 1/4W 1%
R118	"	47K 1/4W 1%
R119	"	A.O.T.
R120	"	A.O.T.
R121	"	270Ω 1/4W 1%
R122	"	1K2 1/4W 1%
R123	"	1K2 1/4W 1%
R124	"	4K7 1/4W 1%
R125	"	47K 1/4W 1%
R126	"	6K8 1/4W 1%
R127	"	6K8 1/4W 1%
R128	"	2K4 1/4W 1%
R129	"	2K4 1/4W 1%
R130	"	6K8 1/4W 1%
R131	"	6K8 1/4W 1%
R132	"	2K4 1/4W 1%
R133	"	2K4 1/4W 1%
R134	"	270Ω 1/4W 1%
R135	"	270Ω 1/4W 1%
R136	"	1K2 1/4W 1%
R137	"	1K2 1/4W 1%
R138	"	12K 1/4W 1%
R139	"	39K 1/4W 1%
R140	"	4K7 1/4W 1%
R141	"	2K7 1/4W 1%
R142	"	12K 1/4W 1%
R143	"	12K 1/4W 1%
R144	"	47K 1/4W 1%

# COMPONENT SCHEDULE

MODULE SERIES 80C MONITOR MODULE.

SHEET 5 OF 11

ISSUE

DATE 6th August 1987/



P.C.B No	DESCRIPTION	PART No
R145	RESISTOR	2K7 1/4W 1%
R146	"	1K5 1/4W 1%
R147	"	1K 1/4W 1%
R148	"	39K 1/W 1%
R149	"	4K7 1/4W 1%
R150	"	47K 1/4W 1%
R151	"	47K 1/4W 1%
R152	"	47K 1/4W 1%
R153	"	47K 1/4W 1%
R154	"	47K 1/4W 1%
R155	"	47K 1/4W 1%
R156	"	270Ω 1/4W 1%
R157	"	220K 1/4W 1%
R158	"	100K 1/4W 1%
R159	"	220K 1/4W 1%
R160	"	47K 1/4W 1%
R161	"	3K6 1/4W 1%
R162	"	25K 1/4W 1%
R163	"	10K 1/4W 1%
R164	"	10K 1/4W 1%
R165	"	10K 1/4W 1%
R166	"	10K 1/4W 1%
R167	"	2K2 1/4W 1%
R168	"	2K2 1/4W 1%
R169	"	100K 1/4W 1%
R170	"	100K 1/4W 1%
R171	"	100K 1/4W 1%
R172	"	100K 1/4W 1%
R173	"	1K 1/4W 1%
R174	"	1K5 1/4W 1%
R175	"	10K 1/4W 1%
R176	"	47K 1/4W 1%
R177	"	47K 1/4W 1%
R178	"	100Ω 1/4W 1%
R179	"	9K1 1/4W 1%
R180	"	47K 1/4W 1%

# COMPONENT SCHEDULE

MODULE *SERIES 80C MONITOR MODULE*

SHEET 6 OF 11 ISSUE DATE *6th August 1987.*



P.C.B No	DESCRIPTION	PART No
R181	RESISTOR	7K5 1/4W 1%
R182	"	1K5 1/4W 1%
R183	"	1K 1/4W 1%
R184	"	100Ω 1/4W 1%
R185	"	7K5 H4 1/4W
R186	"	15K H4 1/4W
R187	"	7K5 H4 1/4W
R188	"	15K H4 1/4W
R189	"	7K5 H4 1/4W
R190	"	15K H4 1/4W
R191	"	7K5 H4 1/4W
R192	"	15K H4 1/4W
R193	"	12K 1/4W 1%
R194	"	12K 1/4W 1%
R195	"	12K 1/4W 1%
R196	"	12K 1/4W 1%
R197	"	12K 1/4W 1%
R198	"	12K 1/4W 1%
R199	"	12K 1/4W 1%
R200	"	12K 1/4W 1%
R201	"	12K 1/4W 1%
R202	"	12K 1/4W 1%
R203	"	15K H4 1/4W
R204	"	7K5 H4 1/4W
R205	"	15KH4 1/4W
R206	"	7K5 H4 1/4W
C1	CAPACITOR	22μF/25V RADIAL
C2	"	22μF/25V RADIAL
C3	"	22μF/25V RADIAL
C4	"	33PF C/D
C5	"	100μF/25V RADIAL

# COMPONENT SCHEDULE

MODULE *SERIES 80C MONITOR MODULE*

SHEET 7 OF 11

ISSUE

DATE 6th August 1987.



P.C.B No	DESCRIPTION	PART No	
C6	CAPACITOR	22 $\mu$ F/25V	RADIAL
C7	"	0.22 $\mu$ F	7.5mm
C8	"	0.47 $\mu$ F	7.5mm
C9	"	22 $\mu$ F/25V	RADIAL
C10	"	100 $\mu$ F/25V	RADIAL
C11	"	22 $\mu$ F/25V	RADIAL
C12	"	0.0015 $\mu$ F	7.5mm
C13	"	0.0015 $\mu$ F	7.5mm
C14	"	33PF	C/D
C15	"	100 $\mu$ F 25V	RADIAL
C16	"	0.015 $\mu$ F	7.5mm
C17	"	22 $\mu$ F/25V	RADIAL
C18	"	0.015 $\mu$ F	7.5mm
C19	"	100 $\mu$ F 25V	RADIAL
C20	"	0.1 $\mu$ F	C/D
C21	"	0.1 $\mu$ F	C/D
C22	"	3n3	
C23	"	8n2	
C24	"	33PF	C/D
C25	"	100 $\mu$ F 25V	RADIAL
C26	"	22 $\mu$ F/25V	RADIAL
C27	"	22 $\mu$ F/25V	RADIAL
C28	"	22 $\mu$ F/25V	RADIAL
C29	"	100PF	C/D
C30	"	22 $\mu$ F/25V	RADIAL
C31	"	33PF	C/D
C32	"	22 $\mu$ F/25V	RADIAL
C33	"	0.1 $\mu$ F	C/D
C34	"	0.1 $\mu$ F	C/D
C35	"	0.1 $\mu$ F	C/D
C36	"	0.1 $\mu$ F	C/D
C37	"	22 $\mu$ F/25V	RADIAL
C38	"	100 $\mu$ F 25V	RADIAL
C39	"	22 $\mu$ F/25V	RADIAL
C40	"	22 $\mu$ F/25V	RADIAL
C41	"	33PF	C/D

# COMPONENT SCHEDULE

MODULE SERIES 80C MONITOR MODULE.

SHEET 8 OF 11

ISSUE

DATE 6th August 1987.



P.C.B No	DESCRIPTION	PART No	
C42	CAPACITOR	22 $\mu$ F/25V	RADIAL
C43	"	22 $\mu$ F/25V	RADIAL
C44	"	22 $\mu$ F/25V	RADIAL
C45	"	22 $\mu$ F/25V	RADIAL
C46	"	22 $\mu$ F/25V	RADIAL
C47	"	22 $\mu$ F/25V	RADIAL
C48	"	100 $\mu$ F/25V	RADIAL
C49	"	22 $\mu$ F/25V	RADIAL
C50	"	100 $\mu$ F/25V	RADIAL
C51	"	15PF C/D	
C52	"	100 $\mu$ F/25V	RADIAL
C53	"	470 $\mu$ F/25V	AXIAL
C54	"	470 $\mu$ F/25V	AXIAL
C55	"	100 $\mu$ F/25V	RADIAL
C56	"	33PF C/D	
C57	"	22 $\mu$ F/25V	RADIAL
C58	"	22 $\mu$ F/25V	RADIAL
C59	"	22 $\mu$ F/25V	RADIAL
C60	"	22 $\mu$ F/25V	RADIAL
C61	"	22 $\mu$ F/25V	RADIAL
C62	"	22 $\mu$ F/25V	RADIAL
C63	"	33PF C/D	
C64	"	100 $\mu$ F/25V	RADIAL
C65	"	22 $\mu$ F/25V	RADIAL
C66	"	0.22 $\mu$ F	7.5mm
C67	"	0.47 $\mu$ F	7.5mm
C68	"	22 $\mu$ F/25V	RADIAL
C69	"	100 $\mu$ F/25V	RADIAL
C70	"	22 $\mu$ F/25V	RADIAL
C71	"	0.0015 $\mu$ F	7.5mm
C72	"	0.0015 $\mu$ F	7.5mm
C73	"	33PF C/D	
C74	"	100 $\mu$ F/25V	RADIAL
C75	"	0.015 $\mu$ F	7.5mm
C76	"	22 $\mu$ F/25V	RADIAL
C77	"	0.015 $\mu$ F	7.5mm

# COMPONENT SCHEDULE

MODULE *SERIES 80C MONITOR MODULE.*

SHEET 9 OF 11

ISSUE

DATE 6th August 1987.

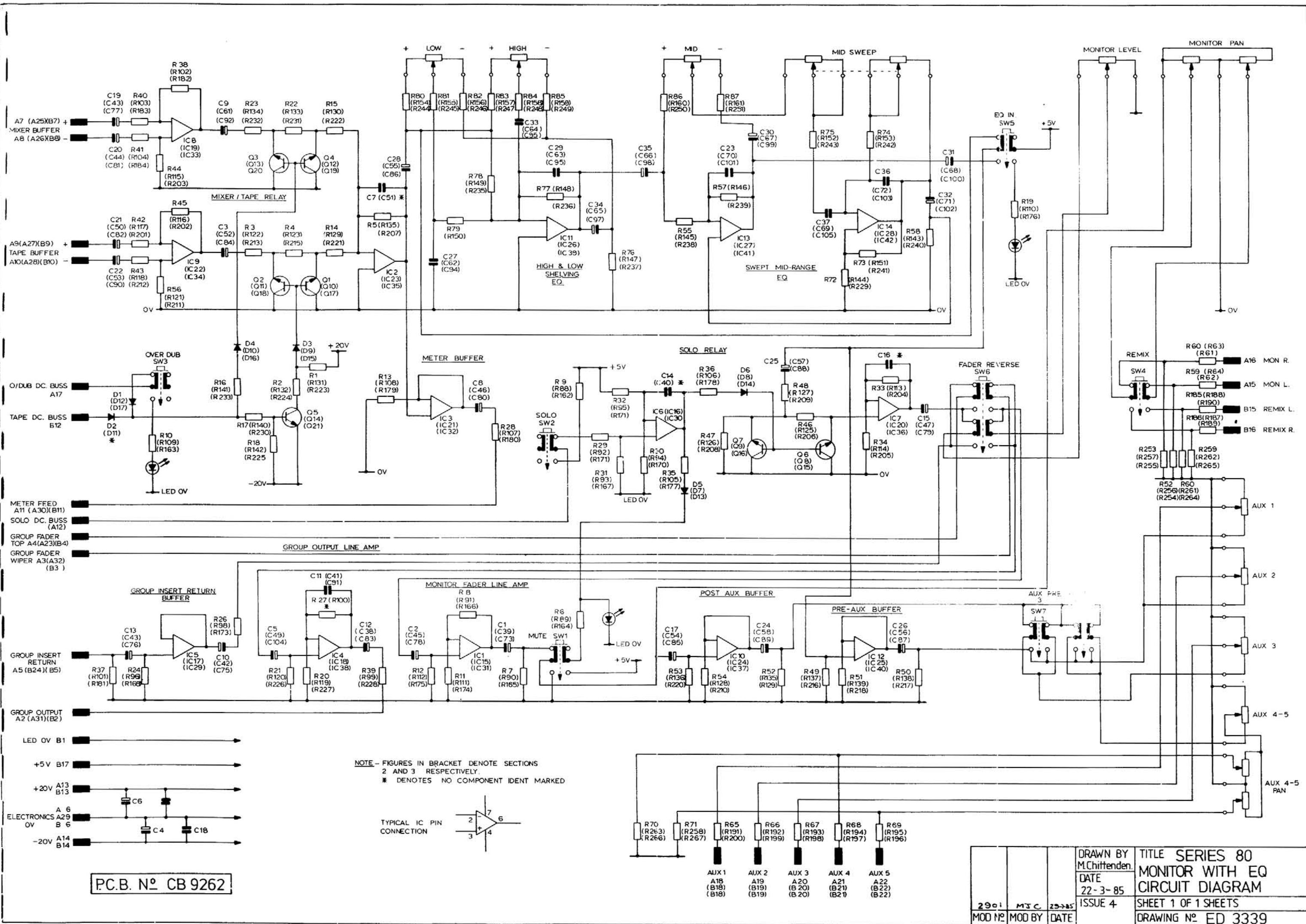


P.C.B No	DESCRIPTION	PART No
C78	CAPACITOR	100 $\mu$ F/25V RADIAL
C79	"	0.1 $\mu$ F C/D
C80	"	0.1 $\mu$ F C/D
C81	"	3n3
C82	"	8n2
C83	"	33Pf C/D
C84	"	100 $\mu$ F/25V RADIAL
C85	"	22 $\mu$ F/25V RADIAL
C86	"	22 $\mu$ F/25V RADIAL
C87	"	22 $\mu$ F/25V RADIAL
C88	"	100PF G/D
C89	"	22 $\mu$ F/25V RADIAL
C90	"	33PF C/D
C91	"	22 $\mu$ F/25V RADIAL
C92	"	0.1 $\mu$ F C/D
C93	"	0.1 $\mu$ F C/D
C94	"	0.1 $\mu$ F C/D
C95	"	0.1 $\mu$ F C/D
C96	"	22 $\mu$ F/25V
C97	"	100 $\mu$ F/25V RADIAL
C98	"	22 $\mu$ F/25V RADIAL
C99	"	22 $\mu$ F/25V RADIAL
C100	"	33PF C/D RADIAL
C101	"	22 $\mu$ F/25V RADIAL
C102	"	22 $\mu$ F/25V RADIAL
C103	"	22 $\mu$ F/25V RADIAL
C104	"	22 $\mu$ F/25V RADIAL
C105	"	22 $\mu$ F/25V RADIAL
C106	"	22 $\mu$ F/25V RADIAL
C107	"	100 $\mu$ F/25V RADIAL
C108	"	22 $\mu$ F/25V RADIAL
C109	"	100 $\mu$ F/25V RADIAL
C110	"	15PF C/D
C111	"	100 $\mu$ F/25V RADIAL
C112	"	470 $\mu$ F/25V AXIAL
C113	"	470 $\mu$ F/25V AXIAL



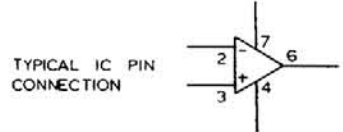




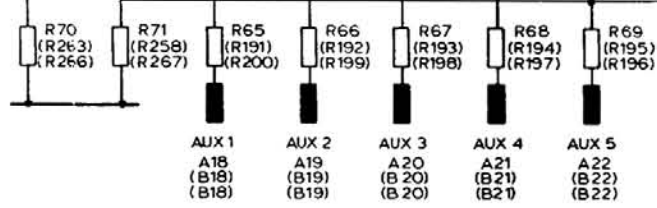


PC.B. N° CB 9262

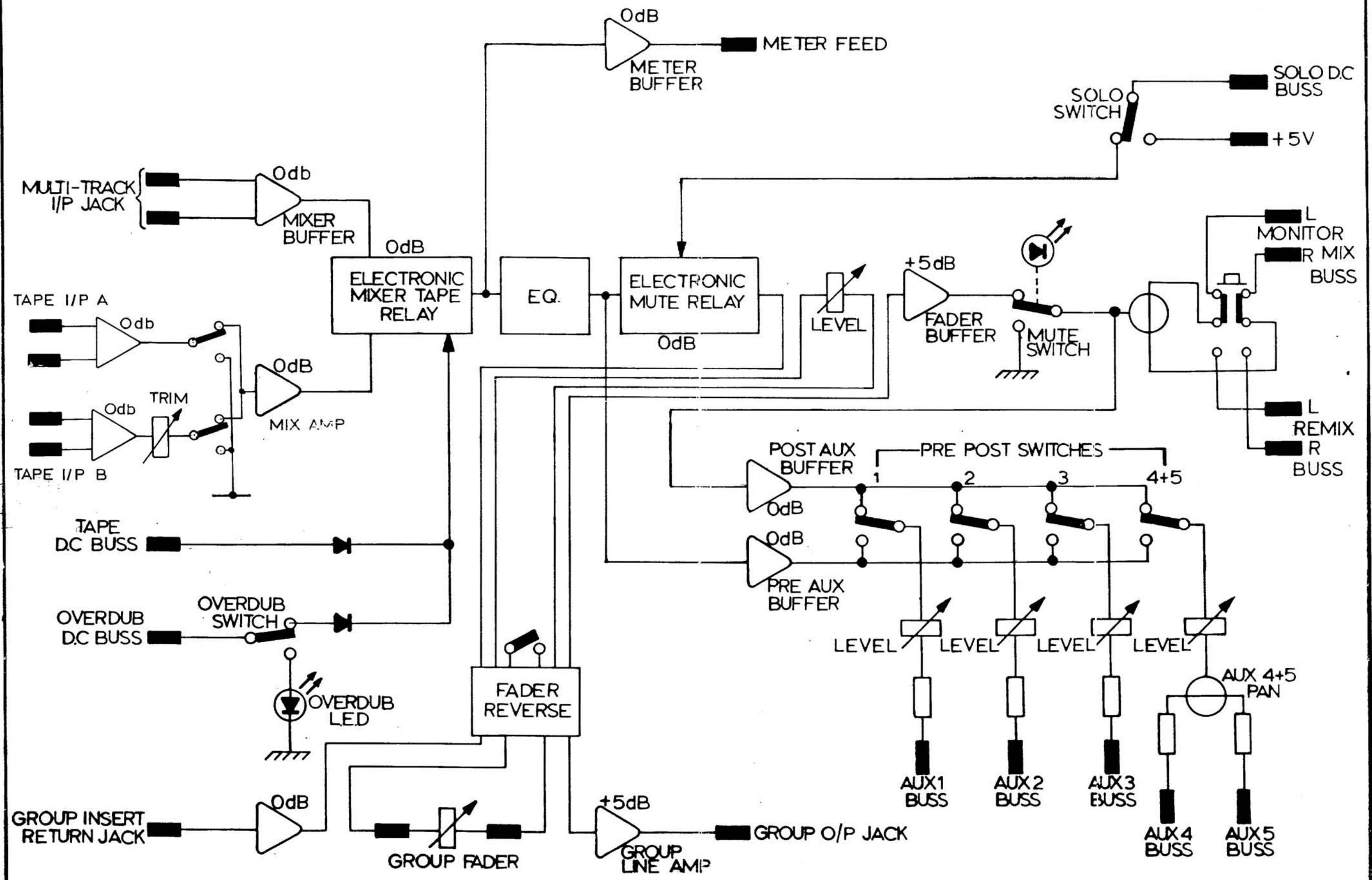
NOTE - FIGURES IN BRACKET DENOTE SECTIONS 2 AND 3 RESPECTIVELY.  
 \* DENOTES NO COMPONENT IDENT MARKED



DRAWN BY M.Chittenden		TITLE SERIES 80 MONITOR WITH EQ CIRCUIT DIAGRAM	
DATE 22-3-85		SHEET 1 OF 1 SHEETS	
ISSUE 4		DRAWING N° ED 3339	
2901 MOD N°	MJC MOD BY	25-85 DATE	

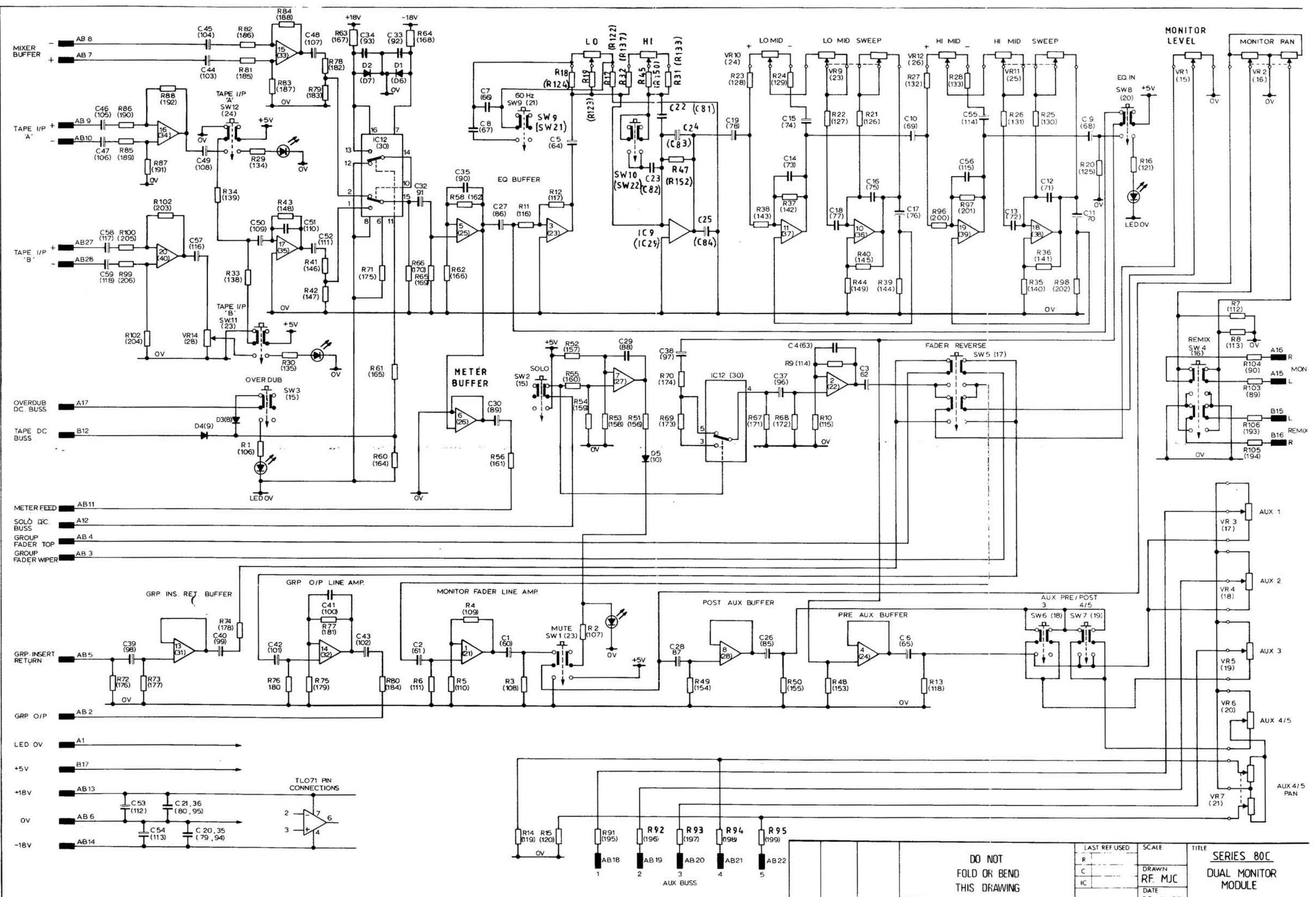


AUX 1 (B18)    AUX 2 (B19)    AUX 3 (B20)    AUX 4 (B21)    AUX 5 (B22)



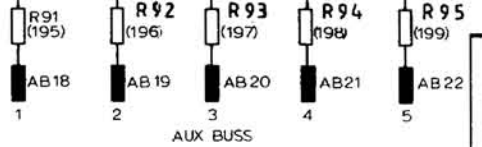
REPEAT 2 TIMES PER MODULE

SERIES 80C MONITOR MODULE FLOW DIAGRAM



DO NOT  
FOLD OR BEND  
THIS DRAWING

LAST REF USED	SCALE	TITLE
R		SERIES 80C
C	DRAWN	DUAL MONITOR
IC	RF. MJC	MODULE
	DATE	



## Section C

### ECHO RETURN/COMMUNICATION MODULE OPERATIONAL DESCRIPTION.

The Echo Return/Communication module as its title suggests, carries out two separate functions which is to provide echo return facilities and studio communications.

There are four identical echo return sections housed in the echo return module and they are designed to accept the high level signal returns from an echo or reverberation device. An electronically balanced input circuit is provided to reduce hum/grounding problems when long cable runs connect the echo device to the console. Following the input circuitry is a high and low frequency equaliser network. This provides up to plus or minus 15dB continuously variable control over the shelving frequency ranges of 50Hz and 10kHz. This equalisation can be very useful for 'brightening' up the output of a particular echo/reverberation device or reducing hum that may be present in the output of such a system. After the equaliser the signal passes through a rotary level control which provides adjustment of the echo return signal. Just prior to the echo return level control, the signal is also routed to a push-button which routes the echo return signal into auxiliary send mix busses 4 and 5. This makes it possible for the operator to provide the stereo musicians headphone feeds with echo or reverberation independently of the main console signal paths. The echo or reverberation will therefore only appear on the musicians headphones and nowhere else.

After the echo return level control the signal passes through a mute switch and then a line amplifier which provides 5dB gain. This allows level matching adjustment via the echo return level control should the output from a particular echo reverberation device not be of sufficient gain.

An 'A.F.L./P.F.L.' toggle switch is provided as on the input modules so that the echo return signal level and quality can be checked on monitor only without interrupting the main multi-track output signals.

After the 5dB line amplifier the signal passes through a continuously variable pan control which then by means of a push-button marked 'to-mon' routes the signal to two places. Firstly, in the un-depressed mode the 'to-mon' push-button allows the output signal from the echo return section to feed the stereo remix buss. It is not therefore necessary to utilise input modules during the remix mode for the return of echo or reverberation signals into the system.

When the 'to-mon' push-button is depressed, the signal no longer routes to the stereo remix buss but instead is fed to the two control room monitoring busses. By this means it is possible to listen to an echo or reverberation effect purely on the monitor system without it being recorded or affecting the main console outputs in any way. This system is sometimes referred to as 'phantom echo'.

## Section C

### ECHO RETURN/COMMUNICATION MODULE OPERATIONAL DESCRIPTION -CONT.

The communication section of the module comprises a high sensitivity microphone (omni-directional) and various push-buttons and level controls.

Their functions are as follows: The 'Studio' level control works in conjunction with the 'studio' push button located at the bottom of the module and allows the operator to adjust the level at which communication from the control room to the studio takes place. The studio talkback system routes into the output of the studio playback circuitry so that it is not necessary to connect a separate amplifier and speaker in the studio for this purpose. Once the desired studio talkback level has been achieved by depressing the studio talkback button and adjusting the 'studio' rotary level control for the required communication level, the operator only has to depress the talkback push-button in future communications. So as to avoid 'howl-round' (the phenomena whereby signal in the studio is picked up by a microphone, fed into the control room speakers, fed back into the studio and picked up by the mic at increased level etc.,) the control room speakers are attenuated by 20dB automatically whenever the studio talkback button is depressed. The control room speakers are only attenuated rather than muted entirely so that continuity of communication can be maintained. If a musician tried to talk to the operator whilst the talkback button was depressed and the talkback button muted the control room speakers, the operator would not be able to hear the musician. 20dB attenuation of the control room monitors is enough to stop 'howl-round' but still allows the operator to hear people in the studio even though at a lower level.

The 'slate' level control and associated push-button located at the bottom of the module provides the same operational facilities as the studio talkback controls but instead routes the signal onto the console multi-track outputs and stereo remix busses. The prime function of this system is to allow the operator to make identification announcements directly onto tape either during multi-track recording or remix. A low frequency tone (20Hz) is mixed with the communications signal in this mode so that when the tape is spooling at high speed, the identification announcement can be located easily as the low frequency tone becomes a high frequency audible note. The level of the 20Hz tone can be adjusted internally inside the module by means of a pre-set control.

The final communication facility provided is that of 'talk to auxiliary systems'. This consists of a rotary level control together with four selector push-buttons and a master push-button located among the 'slate' and 'studio' master push-buttons.

The selector switches are provided so that the operator may choose which auxiliary system to talk to. This is particularly useful when talking to musicians who are on different headphone circuits - thus

## Section C

### ECHO RETURN/COMMUNICATION MODULE OPERATIONAL DESCRIPTION - CONT'D

for example, the operator can communicate with the musical director without the rest of the musicians hearing.

Also contained in the echo return/communication module although not operated by any front panel controls, are the stereo buss mix and line amplifiers. The stereo buss first of all feeds a mixing amplifier which raises the combined signal to line level (typically +4dBv) and from there the signal passes to the patch-bay as 'stereo buss insert send and return'.

This is so that a Limiter/Compressor or other such signal processing device can be inserted in the signal chain ahead of the stereo (or remix) buss master fader. From the 'stereo buss insert return' jack the signal passes through a buffer amplifier and then the stereo remix buss master fader situated directly below the auxiliary module. A line amplifier follows this fader and the signal from here passes to the patchbay again as the final 'stereo buss output'. So as to avoid unnecessary patching by the operator during remix the 'stereo buss outputs' left and right are automatically connected to the 'back contacts' of stereo tape machine one inputs.

SERIES 80C ECHO RETURN MODULE  
PIN CONNECTIONS

LOWER EDGE CONNECTOR

A1 CASE EARTH  
A2 MONITOR FEED TO TB SWITCHES "R"  
A3 MONITOR FEED TO TB SWITCHES "L"  
A4 MONITOR O/P "L"  
A5 MONITOR O/P "R"  
A6 STUDIO PLAYBACK FEED TO TB SWITCHES "L"  
A7 STUDIO PLAYBACK FEED TO TB SWITCHES "R"  
A8 STUDIO PLAYBACK O/P "R"  
A9 STUDIO PLAYBACK LINE AMP EARTH  
A10 STUDIO PLAYBACK O/P "L"  
A11 TB TO SLATE O/P  
A12 + 18 VOLTS  
A13 + 18 VOLTS  
A14 - 18 VOLTS  
A15 - 18 VOLTS  
A16 TB EARTH  
A17 AUX RELAY I/P "3"  
A18 AUX SEND "3"  
A19 L.E.D. EARTH  
A20 +5V  
A21 AFL/PFL DC BUSS  
A22 NC  
A23 AUX RELAY I/P "2"  
A24 AUX RELAY I/P "4"  
A25 AUX SEND "2"  
A26 AUX SEND "4"  
A27 AUX RELAY I/P "1"  
A28 AUX SEND "1"  
A29 AUX RELAY EARTH  
A30 -Ive ECHO RETURN "4" I/P  
A31 +Ive ECHO RETURN "4" I/P  
A32 ECHO RETURN "4" EARTH

UPPER EDGE CONNECTOR

B1 AUX RELAY I/P "5"  
B2 AUX SEND "5"  
B3 AUX RELAY EARTH  
B4 -Ive ECHO RETURN "3" I/P  
B5 +Ive ECHO RETURN "3" I/P  
B6 ECHO RETURN 3 EARTH  
B7 REMIX BUSS "R"  
B8 REMIX BUSS MIX AMP EARTH "R"  
B9 REMIX BUSS "L"  
B10 REMIX BUSS MIX AMP EARTH "L"  
B11 REMIX INSERT SEND "R"  
B12 REMIX INSERT SEND "L"  
B13 AFL/PFL MIX BUSS  
B14 MONITOR MIX BUSS "L"  
B15 MONITOR MIX BUSS "R"  
B16 - ) ECHO RETURN "2" I/P  
B17 + ) ECHO RETURN "2" I/P  
B18 ECHO RETURN "2" EARTH  
B19 AUX MIX BUSS  
B20 AUX MIX BUSS  
B21 ECHO RETURN "1" EARTH  
B22 - ) ECHO RETURN "1" I/P  
B23 + ) ECHO RETURN "1" I/P  
B24 REMIX FADER TOP "L"  
B25 REMIX INSERT RETURN "L"  
B26 REMIX FADER TOP "R"  
B27 REMIX INSERT RETURN "R"  
B28 REMIX O/P "L"  
B29 REMIX FADER WIPER "L"  
B30 REMIX LINE AMP EARTH  
B31 REMIX O/P "R"  
B32 REMIX FADER WIPER "R"



# COMPONENT SCHEDULE

MODULE SERIES 80 ECHO RETURN MODULE

SHEET 1 OF 13

ISSUE 1

DATE 7/7/86



P.C.B No	DESCRIPTION	PART No
R1	RESISTOR	470K 1/4W 1%
R2	"	470K 1/4W 1%
R3	"	47K 1/4W 1%
R4	"	47K 1/4W 1%
R5	"	7K5 1/4W 1%
R6	"	7K5 1/4W 1%
R7	"	470K 1/4W 1%
R8	"	470K 1/4W 1%
R9	"	1K5 1/4W 1%
R10	"	1K5 1/4W 1%
R11	"	150Ω 1/4W 1%
R12	"	150Ω 1/4W 1%
R13	"	100Ω 1/4W 1%
R14	"	47K 1/4W 1%
R15	"	1Meg 1/4W 1%
R16	"	15K 1/4W 1%
R17	"	68K 1/4W 1%
R18	"	8K2 1/4W 1%
R19	"	68K 1/4W 1%
R20	"	68K 1/4W 1%
R21	"	1K5 1/4W 1%
R22	"	47K 1/4W 1%
R23	"	4K7 1/4W 1%
R24	"	10K 1/4W 1%
R25	"	47K 1/4W 1%
R26	"	100Ω 1/4W 1%
R27	"	470K 1/4W 1%
R28	"	10K 1/4W 1%
R29	"	100Ω 1/4W 1%
R30	"	12K 1/4W 1%
R31	"	10Ω 1/4W 1%
R32	"	7K5 1/4W 1%
R33	"	10Ω 1/4W 1%
R34	"	7K5 1/4W 1%
R35	"	47K 1/4W 1%
R36	"	470K 1/4W 1%

# COMPONENT SCHEDULE

MODULE      SERIES 80 ECHO- RETURN MODULE

SHEET 2    OF    13

ISSUE    1

DATE    7/7/86



P.C.B No	DESCRIPTION	PART No	
R37	RESISTOR	10K	1/4W 1%
R38	"	100Ω	1/4W 1%
R39	"	12K	1/4W 1%
R40	"	10Ω	1/4W 1%
R41	"	7K5	1/4W 1%
R42	"	10Ω	1/4W 1%
R43	"	7K5	1/4W 1%
R44	"	47K	1/4W 1%
R45	"	7K5	1/4W 1%
R46	"	18K	1/4W 1%
R47	"	16K	1/4W 1%
R48	"	300K	1/4W 1%
R49	"	7K5	1/4W 1%
R50	"	7K5	1/4W 1%
R51	"	15K	1/4W 1%
R52	"	7K5	1/4W 1%
R53	"	30K	1/4W 1%
R54	"	100Ω	1/4W 1%
R55	"	12K	1/4W 1%
R56	"	7K5	1/4W 1%
R57	"	10Ω	1/4W 1%
R58	"	10Ω	1/4W 1%
R59	"	47K	1/4W 1%
R60	"	270Ω	1/4W 1%
R61	"	220K	1/4W 1%
R62	"	7K5	1/4W 1%
R63	"	7K5	1/4W 1%
R64	"	10K	1/4W 1%
R65	"	220K	1/4W 1%
R66	"	4K7	1/4W 1%
R67	"	4K7	1/4W 1%
R68	"	47K	1/4W 1%
R69	"	47K	1/4W 1%
R70	"	10K	1/4W 1%
R71	"	3K9	1/4W 1%
R72	"	3K9	1/4W 1%

# COMPONENT SCHEDULE

**MODULE**      SERIES 80 ECHO-RETURN MODULE

**SHEET 3 OF 13**

**ISSUE 1**

**DATE 7/7/86**



PC.B No	DESCRIPTION	PART No
R73	RESISTOR	15K 1/4W 0.25%
R74	"	2K2 1/4W 1%
R75	"	7K5 1/4W 0.25%
R76	"	7K5 1/4W 0.25%
R77	"	15K 1/4W 0.25%
R78	"	7K5 1/4W 1%
R79	"	18K 1/4W 1%
R80	"	16K 1/4W 1%
R81	"	300K 1/4W 1%
R82	"	7K5 1/4W 1%
R83	"	30K 1/4W 1%
R84	"	100Ω 1/4W 1%
R85	"	12K 1/4W 1%
R86	"	7K5 1/4W 1%
R87	"	7K5 1/4W 1%
R88	"	15K 1/4W 1%
R89	"	7K5 1/4W 1%
R90	"	10Ω 1/4W 1%
R91	"	10Ω 1/4W 1%
R92	"	47K 1/4W 1%
R93	"	7K5 1/4W 1%
R94	"	18K 1/4W 1%
R95	"	30K 1/4W 1%
R96	"	16K 1/4W 1%
R97	"	300K 1/4W 1%
R98	"	7K5 1/4W 1%
R99	"	100Ω 1/4W 1%
R100	"	12K 1/4W 1%
R101	"	7K5 1/4W 1%
R102	"	7K5 1/4W 1%
R103	"	15K 1/4W 1%
R104	"	7K5 1/4W 1%
R105	"	10Ω 1/4W 1%
R106	"	10Ω 1/4W 1%
R107	"	47K 1/4W 1%
R108	"	270Ω 1/4W 1%

# COMPONENT SCHEDULE

**MODULE** SERIES 80 ECHO-RETURN MODULE

**SHEET** 4 **OF** 13

**ISSUE** 1

**DATE** 7/7/86



P.C.B No	DESCRIPTION	PART No
R109	RESISTOR	220K 1/4W 1%
R110	"	7K5 1/4W 1%
R111	"	10K 1/4W 1%
R112	"	220K 1/4W 1%
R113	"	7K5 1/4W 1%
R114	"	4K7 1/4W 1%
R115	"	4K7 1/4W 1%
R116	"	47K 1/4W 1%
R117	"	47K 1/4W 1%
R118	"	10K 1/4W 1%
R119	"	3K9 1/4W 1%
R120	"	2K2 1/4W 1%
R121	"	3K9 1/4W 1%
R122	"	2K2 1/4W 1%
R123	"	15K 1/4W 0.25%
R124	"	7K5 1/4W 0.25%
R125	"	7K5 1/4W 0.25%
R126	"	15K 1/4W 0.25%
R127	"	7K5 1/4W 1%
R128	"	18K 1/4W 1%
R129	"	30K 1/4W 1%
R130	"	16K 1/4W 1%
R131	"	300K 1/4W 1%
R132	"	7K5 1/4W 1%
R133	"	100Ω 1/4W 1%
R134	"	12K 1/4W 1%
R135	"	7K5 1/4W 1%
R136	"	7K5 1/4W 1%
R137	"	7K5 1/4W 1%
R138	"	10Ω 1/4W 1%
R139	"	10Ω 1/4W 1%
R140	"	47K 1/4W 1%
R141	"	7K5 1/4W 1%
R142	"	18K 1/4W 1%
R143	"	30K 1/4W 1%
R144	"	16K 1/4W 1%

# COMPONENT SCHEDULE

**MODULE**      SERIES 80 ECHO-RETURN MODULE

**SHEET 5 OF 13**

**ISSUE 1**

**DATE 7/7/86**



PC.B No	DESCRIPTION	PART No		
R145	RESISTOR	300K	1/4W	1%
R146	"	7K5	1/4W	1%
R147	"	100Ω	1/4W	1%
R148	"	12K	1/4W	1%
R149	"	7K5	1/4W	1%
R150	"	7K5	1/4W	1%
R151	"	15K	1/4W	1%
R152	"	7K5	1/4W	1%
R153	"	10Ω	1/4W	1%
R154	"	10Ω	1/4W	1%
R155	"	47K	1/4W	1%
R156	"	270Ω	1/4W	1%
R157	"	220K	1/4W	1%
R158	"	7K5	1/4W	1%
R159	"	7K5	1/4W	1%
R160	"	10K	1/4W	1%
R161	"	220K	1/4W	1%
R162	"	4K7	1/4W	1%
R163	"	4K7	1/4W	1%
R164	"	47K	1/4W	1%
R165	"	47K	1/4W	1%
R166	"	10K	1/4W	1%
R167	"	3K9	1/4W	1%
R168	"	2K2	1/4W	1%
R169	"	3K9	1/4W	1%
R170	"	2K2	1/4W	1%
R171	"	15K	1/4W	0.25%
R172	"	7K5	1/4W	0.25%
R173	"	7K5	1/4W	0.25%
R174	"	15K	1/4W	0.25%
R175	"	12K	1/4W	1%
R176	"	12K	1/4W	1%
R177	"	12K	1/4W	1%
R178	"	12K	1/4W	1%
R179	"	12K	1/4W	1%
R180	"	12K	1/4W	1%

# COMPONENT SCHEDULE

MODULE SERIES 80 ECHO-RETURN MODULE

SHEET 6 OF 13

ISSUE 1

DATE 7/7/86



P.C.B No	DESCRIPTION	PART No
R181	RESISTOR	12K 1/4W 1%
R182	"	12K 1/4W 1%
R183	"	12K 1/4W 1%
R184	"	12K 1/4W 1%
R185	"	12K 1/4W 1%
R186	"	12K 1/4W 1%
R187	"	12K 1/4W 1%
R188	"	12K 1/4W 1%
R189	"	12K 1/4W 1%
R190	"	12K 1/4W 1%
R191	"	12K 1/4W 1%
R192	"	12K 1/4W 1%
R193	"	12K 1/4W 1%
R194	"	12K 1/4W 1%
R195	"	12K 1/4W 1%
R196	"	12K 1/4W 1%
R197	"	12K 1/4W 1%
R198	"	12K 1/4W 1%
R199	"	12K 1/4W 1%
R200	"	12K 1/4W 1%
R201	"	12K 1/4W 1%
R202	"	12K 1/4W 1%
R203	"	270Ω 1/4W 1%
R204	"	220K 1/4W 1%
R205	"	7K5 1/4W 1%
R206	"	7K5 1/4W 1%
R207	"	10K 1/4W 1%
R208	"	220K 1/4W 1%
R209	"	4K7 1/4W 1%
R210	"	4K7 1/4W 1%
R211	"	10K 1/4W 1%
R212	"	3K9 1/4W 1%
R213	"	47K 1/4W 1%
R214	"	47K 1/4W 1%
R215	"	2K2 1/4W 1%
R216	"	3K9 1/4W 1%

# COMPONENT SCHEDULE

MODULE SERIES 80 ECHO-RETURN MODULE

SHEET 7 OF 13

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P.C.B No	DESCRIPTION	PART No
R217	RESISTOR	2K2 1/4W 1%
R218	"	15K 1/4W 1%
R219	"	7K5 1/4W 1%
R220	"	7K5 1/4W 1%
R221	"	15K 1/4W 1%
R222	"	100Ω 1/4W 1%
R223	"	100Ω 1/4W 1%
R224	"	47K 1/4W 1%
R225	"	47K 1/4W 1%
R226	"	47K 1/4W 1%
R227	"	47K 1/4W 1%
R228	"	47K 1/4W 1%
R229	"	100K 1/4W 1%
R230	"	10K 1/4W 1%
R231	"	7K5 1/4W 1%
R232	"	47K 1/4W 1%
R233	"	100K 1/4W 1%
R234	"	10K 1/4W 1%
R235	"	7K5 1/4W 1%
R236	"	100Ω 1/4W 1%
R237	"	12K 1/4W 1%
R238	"	7K5 1/4W 1%
R239	"	100Ω 1/4W 1%
R240	"	12K 1/4W 1%
R241	"	7K5 1/4W 1%
R242	"	10Ω 1/4W 1%
R243	"	10Ω 1/4W 1%
R244	"	10Ω 1/4W 1%
R245	"	10Ω 1/4W 1%
R246	"	2K2 1/4W 1%
R247	"	15K 1/4W 1%
R248	"	4K7 1/4W 1%
R249	"	4K7 1/4W 1%
R250	"	100Ω 1/4W 1%
R251	"	12K 1/4W 1%
R252	"	10Ω 1/4W 1%

# COMPONENT SCHEDULE

MODULE SERIES 80 ECHO-RETURN MODULE

SHEET 8 OF 13

ISSUE 1

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P.C.B No	DESCRIPTION	PART No		
R253	RESISTOR	12K	1/4W	1%
R254	"	10Ω	1/4W	1%
R255	"	7K5	1/4W	1%
R256	"	47K	1/4W	1%
R257	"	4K7	1/4W	1%
R258	"	4K7	1/4W	1%
R259	"	100Ω	1/4W	1%
R260	"	12K	1/4W	1%
R261	"	10Ω	1/4W	1%
R262	"	12K	1/4W	1%
R263	"	10Ω	1/4W	1%
R264	"	7K5	1/4W	1%
R265	"	47K	1/4W	1%
R266	"	7K5	1/4W	1%
R267	"	7K5	1/4W	1%
R268				
R269				
R270	"	15K	1/4W	1%
C1	CAPACITOR	100μF	25V	RADIAL
C2	"	68pF		C/D
C3	"	22μF	25V	RADIAL
C4	"	82nF		S.I.E.
C5	"	82nF		S.I.E.
C6	"	22μF	25V	RADIAL
C7	"	100pF		C/D
C8	"	22μF	25V	RADIAL
C9	"	22μF	25V	RADIAL
C10	"	0.1μF		C/D
C11	"	0.1μF		C/D
C12	"	1500pF		S.I.E.
C13	"	0.1μF		C/D
C14	"	0.1μF		C/D
C15	"	22μF	25V	RADIAL
C16	"	100μF	25V	RADIAL



# COMPONENT SCHEDULE

**MODULE** SERIES 80 ECHO-RETURN MODULE

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**ISSUE** 1

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P.C.B No	DESCRIPTION	PART No		
C17	CAPACITOR	100μF	25V	RADIAL
C18	"	22μF	25V	RADIAL
C19	"	100pF		C/D
C20	"	100μF	25V	RADIAL
C21	"	470μF	6.3V	RADIAL
C22	"			
C23	"	0.1μF		C/D
C24	"	22μF	25V	RADIAL
C25	"	100pF		C/D
C26	"	100μF	25V	RADIAL
C27	"	470μF	6.3V	RADIAL
C28	"	100μF	25V	RADIAL
C29	"	100μF	25V	RADIAL
C30	"	22μF	25V	RADIAL
C31	"	33pF		C/D
C32	"	470μF	6.3V	RADIAL
C33	"	22μF	25V	RADIAL
C34	"	100μF	25V	RADIAL
C35	"	100pF		C/D
C36	"	100μF	25V	RADIAL
C37	"	0.1μF		C/D
C38	"	0.1μF		C/D
C39	"	100μF	25V	RADIAL
C40	"	68nF		S.I.E.
C41	"	100μF	25V	RADIAL
C42	"	2200pF		S.I.E.
C43	"	22μF	25V	RADIAL
C44	"	22μF	25V	RADIAL
C45	"	22μF	25V	RADIAL
C46	"	33pF		C/D
C47	"	470μF	6.3V	RADIAL
C48	"	22μF	25V	RADIAL
C49	"	33pF		C/D
C50	"	470μF	6.3V	RADIAL
C51	"	22μF	25V	RADIAL
C52	"	100μF	25V	RADIAL

# COMPONENT SCHEDULE

MODULE SERIES 80 ECHO-RETURN MODULE

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P.C.B No	DESCRIPTION	PART No		
C53	CAPACITOR	100pF		C/D
C54	"	0.1μF		C/D
C55	"	0.1μF		C/D
C56	"	100μF	25V	RADIAL
C57	"	100μF	25V	RADIAL
C58	"	68nF		S.I.E.
C59	"	100μF	25V	RADIAL
C60	"	22μF	25V	RADIAL
C61	"	22μF	25V	RADIAL
C62	"	2200pF		S.I.E.
C63	"	22μF	25V	RADIAL
C64	"	33pF		C/D
C65	"	470μF	6.3V	RADIAL
C66	"	22μF	25V	RADIAL
C67	"	33pF		C/D
C68	"	470μF	6.3V	RADIAL
C69	"	22μF	25V	RADIAL
C70	"	100μF	25V	RADIAL
C71	"	100pF		C/D
C72	"	100μF	25V	RADIAL
C73	"	0.1μF		C/D
C74	"	0.1μF		C/D
C75	"	100μF	25V	RADIAL
C76	"	68nF		S.I.E.
C77	"	100μF	25V	RADIAL
C78	"	22μF	25V	RADIAL
C79	"	22μF	25V	RADIAL
C80	"	2200pF		S.I.E.
C81	"	22μF	25V	RADIAL
C82	"	100μF	25V	RADIAL
C83	"	100pF		C/D
C84	"	100μF	25V	RADIAL
C85	"	0.1μF		C/D
C86	"	0.1μF		C/D
C87	"	100μF	25V	RADIAL
C88	"	68pF		S.I.E.

# COMPONENT SCHEDULE

MODULE SERIES 80 ECHO-RETURN MODULE

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PC.B No	DESCRIPTION	PART No		
C89	CAPACITOR	100μF	25V	RADIAL
C90	"	22μF	25V	RADIAL
C91	"	22μF	25V	RADIAL
C92	"	2200pF		S.I.E.
C93	"	22μF	25V	RADIAL
C94	"	22μF	25V	RADIAL
C95	"	22μF	25V	RADIAL
C96	"	22μF	25V	RADIAL
C97	"	0.1μF		C/D
C98	"	100pF		C/D
C99	"	22μF	25V	RADIAL
C100	"	100pF		C/D
C101	"	22μF	25V	RADIAL
C102	"	100μF	25V	RADIAL
C103	"	0.1μF		C/D
C104	"	100μF	25V	RADIAL
C105	"	470μF	6.3V	RADIAL
C106	"	470μF	6.3V	RADIAL
C107	"	100μF	25V	RADIAL
C108	"	0.1μF		C/D
C109	"	470μF	6.3V	RADIAL
C110	"	68pF		C/D
C111	"	100μF	25V	RADIAL
C112	"	0.1μF		C/D
C113	"	470μF	6.3V	RADIAL
C114	"	470μF	6.3V	RADIAL
C115	"	0.1μF		C/D
C116	"	100μF	25V	RADIAL
C117	"	68pF		C/D
C118	"	470μF	6.3V	RADIAL
C119	"	0.1μF		C/D
C120	"	100μF	25V	RADIAL
C121	"	0.1μF		C/D
C122	"	0.1μF		C/D
C123	"	0.1μF		C/D
C124	"	0.1μF		C/D

# COMPONENT SCHEDULE

MODULE      SERIES 80 ECHO-RETURN MODULE

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P.C.B No	DESCRIPTION	PART No
C125	CAPACITOR	0.1μF C/D
C126	"	0.1μF C/D
C127	"	0.1μF C/D
C128	"	0.1μF C/D
C129	"	68pF C/D
C130	"	68pF C/D
C131	"	68pF C/D
C132	"	68pF C/D
D1-32	DIODE	IN 4148
Q1,3,8	TRANSISTOR	BD 519
Q2,4,9	"	BD 520
Q5-7	"	BC 413C
Q10-12	"	BC 413C
Q13,18,23	"	BD 519
Q14,19,24	"	BD520
Q15-17	"	BC 413C
Q20-22.	"	BC 413C
Q25-27	"	BC 413C
Q28,30,32, 34,36	"	BD 519
Q29,31,33, 35,37	"	BD 520
I-C 1-27		I-C TLO 71
I-C28,30		NE 5534N
I-C29,31		TLO 71
LED 1-4	RED LED	XC209
MIC 1	MICROPHONE	50K

# COMPONENT SCHEDULE

MODULE          SERIES 80 ECHO -RETURN MODULE

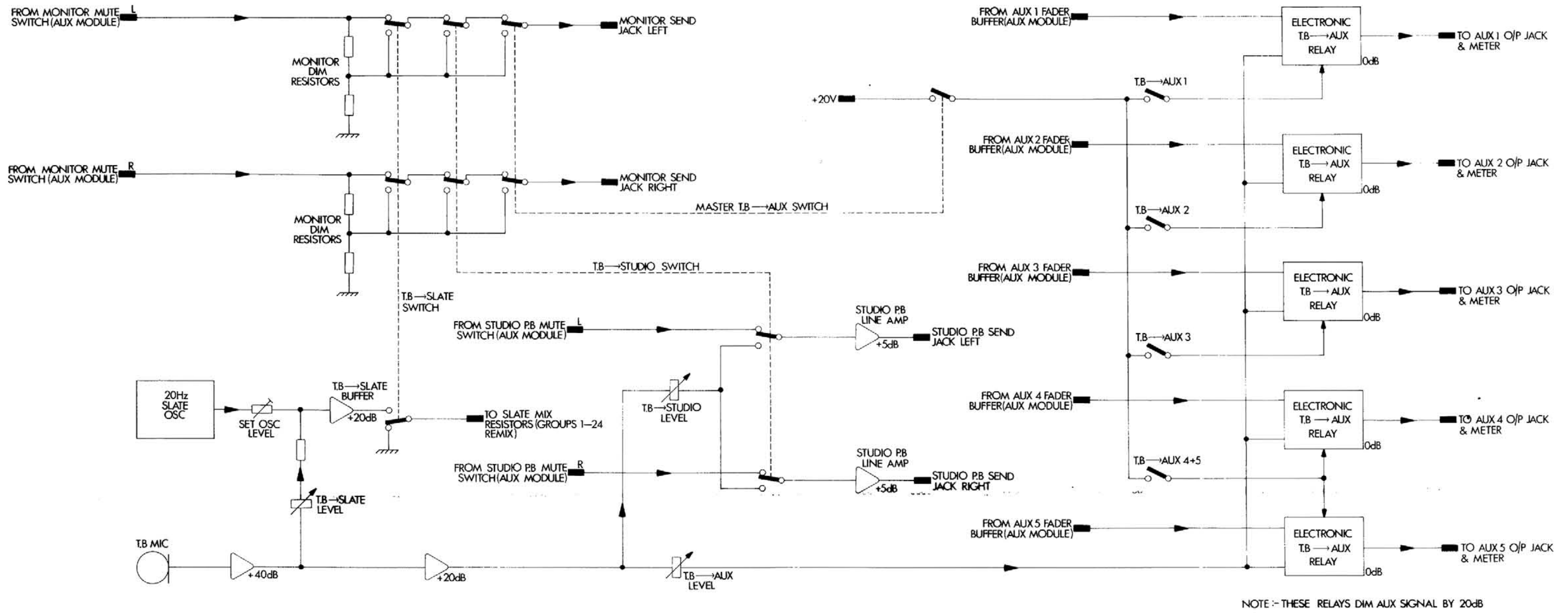
SHEET 13 OF 13

ISSUE 1

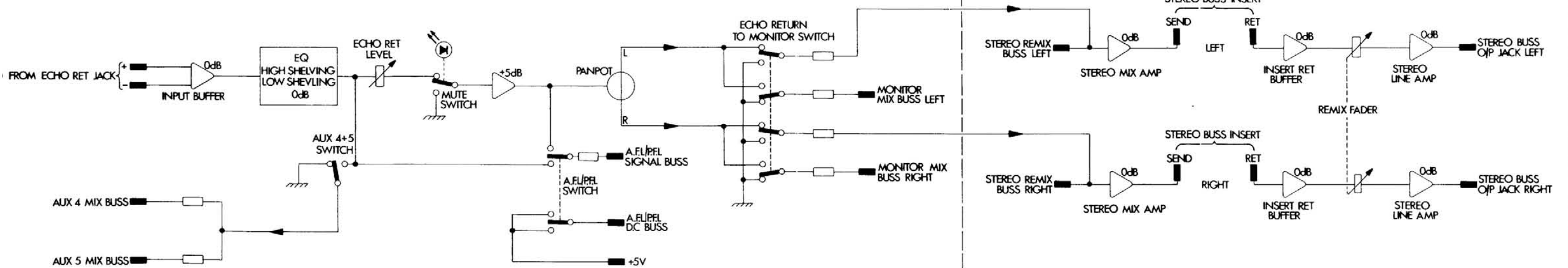
DATE 7/7/86

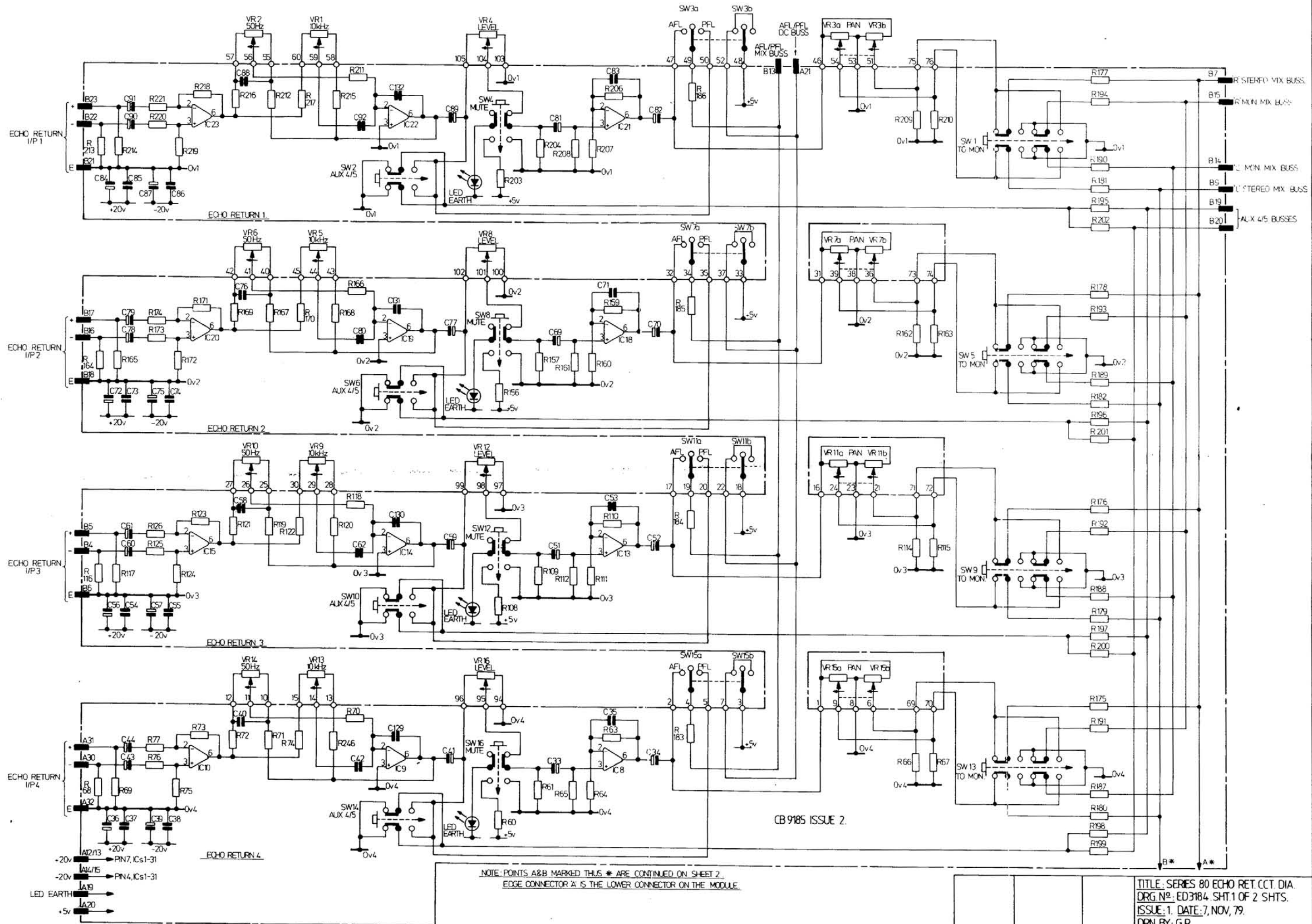


P.C.B No	DESCRIPTION	PART No
SW 1,5,9,13	SWITCH	SWT F4UEE
SW 2,4,6,8	"	SWT F2UEE
SW 3,7,11,15	"	7305-P3YZQ
SW 10,12,14	"	F2UEE
SW 16-20	"	F2UEE
SW 21-23	"	F2UEE
RV1	POTENTIOMETER	POT-22K LIN 1 GANG
RV2	"	POT-22K LIN 1 GANG
RV3	"	POT 10K LOG/ALOG 2 GANG
RV4	"	POT 10K LOG 1 GANG
RV5	"	POT 22K LIN 1 GANG
RV6	"	POT 22K LIN 1 GANG
RV7	"	POT 10K LOG/ALOG 2 GANG
RV8	"	POT 10K LOG 1 GANG
RV9	"	POT 22K LIN 1 GANG
RV10	"	POT 22K LIN 1 GANG
RV11	"	POT 10K LOG/ALOG 2 GANG
RV12	"	POT 10K LOG 1 GANG
RV13	"	POT 22K LIN 1 GANG
RV14	"	POT 22K LIN 1 GANG
RV15	"	POT 10K LOG/ALOG 2 GANG
RV16 - 19	"	POT 10K LOG 1 GANG



ECHO RETURN ( 4 OFF PER MODULE)



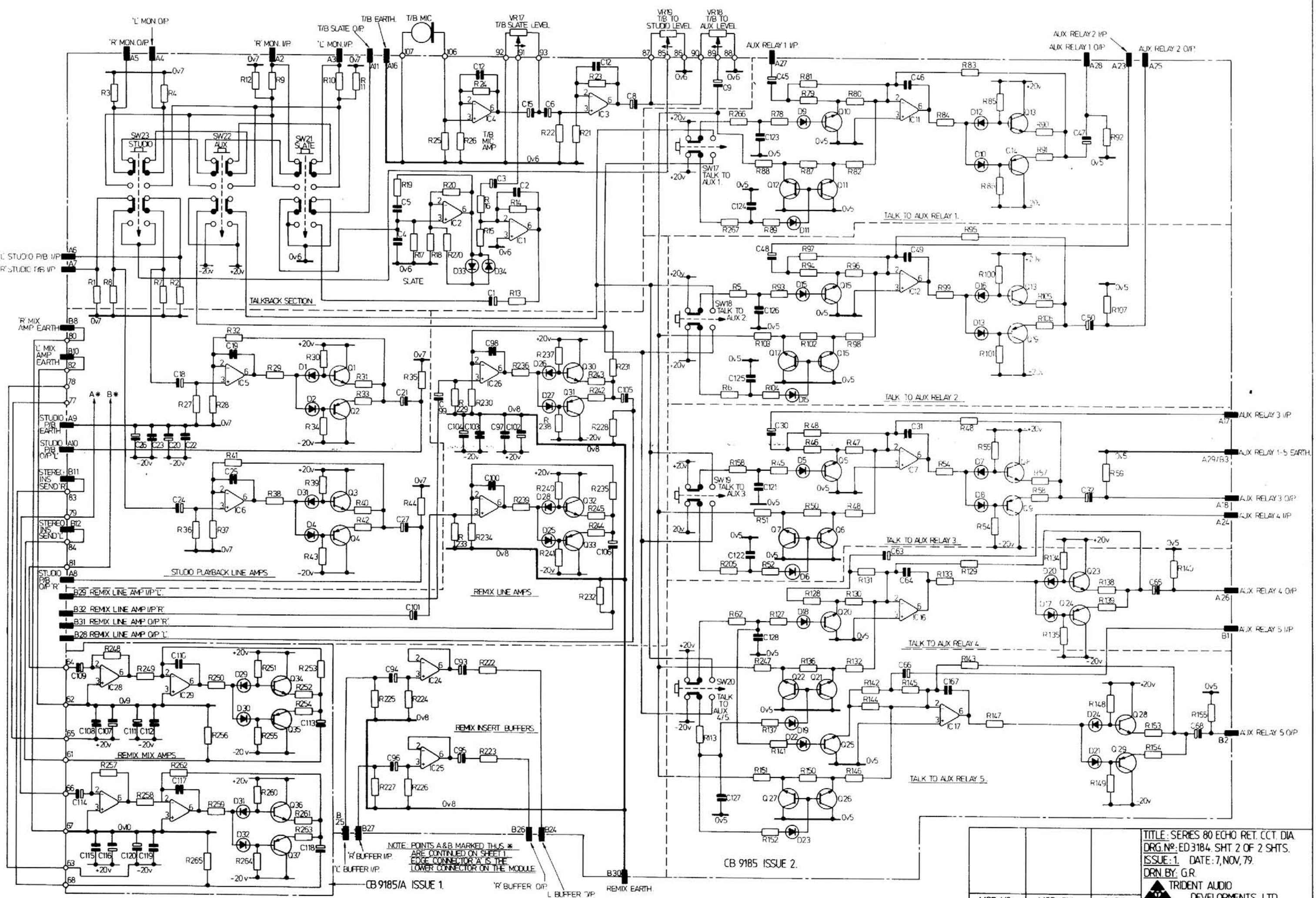


CB 9185 ISSUE 2.

NOTE: POINTS A&B MARKED THUS \* ARE CONTINUED ON SHEET 2.  
EDGE CONNECTOR A IS THE LOWER CONNECTOR ON THE MODULE.

- 20v → PIN7, ICs1-31
- 20v → PIN4, ICs1-31
- LED EARTH → A19
- +5v → A20

TITLE: SERIES 80 ECHO RET. CCT. DIA.  
DRG. NO: ED3184. SHT.1 OF 2 SHTS.  
ISSUE: 1. DATE: 7, NOV, 79.  
DRN. BY: G.R.  
▲ TRIDENT AUDIO



TITLE: SERIES 80 ECHO RET. CCT. DIA  
 DRG. NO: ED3184. SHT 2 OF 2 SHTS.  
 ISSUE: 1. DATE: 7, NOV, 79.  
 DRN. BY: G.R.  
 TRIDENT AUDIO DEVELOPMENTS LTD.

MOD. NO	MOD. BY	DATE

CB 9185 ISSUE 2.

CB 9185/A ISSUE 1.



## SECTION D

### AUXILIARY MODULE OPERATIONAL DESCRIPTION

The Auxiliary module contains the master controls for a number of different functions which are as follows ; Auxiliary master sends, each of the five auxiliary send systems has an overall level control so that signal levels of this composite mix can be raised or lowered to suit input level requirements of the equipment they are being sent to. Coupled with this is a 'solo' facility which allows the operator to monitor each of the auxiliary send outputs (or auxiliary sends 4 and 5 in stereo) on the control room monitor speakers. This system does not affect the multi-track console outputs or the auxiliary send main signals so that programme continuity is maintained. A variable frequency sine wave oscillator is provided on the auxiliary module which can be used for various alignment purposes. Six switch selected frequencies together with three range multiplier push-buttons gives a total of eighteen possible frequencies. The oscillator circuitry is designed for low distortion operation (typically less than 0.05%) and the maximum output level is +10dBv. Constant amplitude when switching frequencies is maintained to within 1dB or better. This is a useful feature when the oscillator is used to check frequency response. A continuously variable level control allows precise setting of the oscillator output for alignment purposes. A push-button marked 'slate' routes the oscillator output to all multi-track console outputs and the remix buss. The signal is fed to the groups before the main output group faders (situated below the monitor module) so that fine level control for each track can be carried out. Completing the oscillator section is an 'oscillator on/off' push button. The oscillator should always be switched off whenever not in use to avoid signal leakage onto the output groups etc. especially at low frequency.

The next section of the Auxiliary module is the studio playback system. This provides a completely separate selection of studio playback sources to those being monitored in the control room. The various sources are selected by push-buttons and a rotary level control allows the correct volume level setting to be adjusted through the studio playback speakers. The studio playback system is particularly useful if musicians wish for example, to hear any of the auxiliary sends through speakers rather than headphones. This is achieved simply by depressing the appropriate auxiliary send push-button in the studio playback section and adjusting the studio playback level control to suit. Care must be taken however to position any microphones away from the studio playback speakers as 'howl-round' will occur if that too is being fed through the same auxiliary send system via the console. A studio playback 'mute' button situated below the studio playback source selector buttons is provided to instantly mute the speakers should 'howl-round' occur.

An 'A.F.L./P.F.L.' master level control is provided on the Auxiliary module which controls the overall level of the 'A.F.L./P.F.L.' system and is fully described in the section describing the input module. An 'auto-mute' master push-button and L.E.D. which indicates when the system is in operation is provided on the auxiliary module.

## SECTION D

### AUXILIARY MODULE OPERATIONAL DESCRIPTION - CONTD

This facility is also fully described in the section which describes the input module.

Next on auxiliary module are the 'control room source' selection push-buttons. These select the source to be monitored in the control room in the same way that the 'studio playback' selector buttons determine the studio playback source. Whenever a 'control room source' selector button is depressed the normal monitor system is interrupted (either stereo buss or multi-track), and whatever source is selected is routed to the control room monitor speakers. At the same time as routing the source selected to the control room monitor system, it is also routed to the 'stereo buss' large illuminated meters situated in the middle of the multi-track meter penthouse. This gives automatic level indication of the 'control room source'.

A 'mono compatibility' push-button situated below the 'control room source' selector buttons makes it possible to listen monophonically to whatever signal is being monitored via the control room speaker system. This is useful for checking how a stereo recording will sound when broadcast for example on a mono A.M. radio.

The meter couple facility on the auxiliary module controls the multi-track V.U. metering source and is fully described in the Monitor module section.

Next on the module are five illuminated push-buttons. The top one of these provides a monitor mute facility which completely attenuates the control room speaker system. The next push-button when depressed, initiates monitoring of the stereo remix buss. This overrides the multi-track monitoring system and also displays the remix buss signal levels on the two large illuminated 'stereo buss' V.U. meters. When neither the stereo buss or any one of the 'control room source' select push-buttons are depressed, the stereo buss V.U. meters indicate the control room monitor outputs from the console.

Below the remix push-button are the three momentary action push-buttons that select the multi-track monitoring modes. These again are fully described in the Monitor module section.

\* \* \* \*

SERIES 80C AUXILIARY MODULE  
PIN CONNECTIONS

LOWER EDGE CONNECTOR

A1 CASE EARTH  
A2 L.E.D. EARTH  
A3 + 5V  
A4 TAPE D.C. BUSS  
A5 AUTOMUTE D.C. BUSS  
A6 AFL/PFL MIX BUSS  
A7 AFL/PFL METER FEED  
A8 REMIX METER FEED "R"  
A9 REMIX METER FEED "L"  
A10 AFL/PFL DC BUSS  
A11 MAIN EARTH  
A12 METERCUPLE DC BUSS  
A13 + 18V  
A14 - 18V  
A15 MONITOR FEED TO TB SWITCHES "R"  
A16 MONITOR FEED TO TB SWITCHES "L"  
A17 OVERDUB D.C. BUSS  
A18 REMIX O/P "L"  
A19 REMIX O/P "R"  
A20 MONITOR O/P "R"  
A21 MONITOR O/P "L"  
A22 MONITOR FADER TOP "R"  
A23 MONITOR FADER TOP "L"  
A24 MONITOR FADER WIPER "R"  
A25 MONITOR FADER WIPER "L"  
A26 STUDIO PLAYBACK FEED TO TB SWT"L"  
A27 STUDIO PLAYBACK FEED TO TB SWT"R"  
A28 AUX SEND "4"  
A29 AUX SEND "5"  
A30 AUX SEND "3"  
A31 AUX SEND "2"  
A32 AUX SEND "1"

UPPER EDGE CONNECTOR

B1 STEREO TAPE "3" L O/P  
B2 STEREO TAPE "3" R O/P  
B3 STEREO TAPE "2" L O/P  
B4 STEREO TAPE "2" R O/P  
B5 STEREO TAPE "1" L O/P  
B6 STEREO TAPE "1" R O/P  
B7 OSCILLATOR EARTH  
B8 OSCILLATOR O/P  
B9 MON PRE-FADER SEND O/P R  
A10 MON PRE-FADER SEND O/P "L"  
B11 MONITOR MIX AMP EARTH "L"  
B12 MONITOR MIX AMP EARTH "R"  
B13 + 18V  
B14 - 18V  
B15 MONITOR MIX BUSS "L"  
B16 MONITOR MIX BUSS "R"  
B17 OSCILLATOR TO SLATE O/P  
B18 AUX "5" FEED TO RELAY  
B19 AUX "4" FEED TO RELAY  
B20 AUX "3" FEED TO RELAY  
B21 AUX "2" FEED TO RELAY  
B22 AUX "1" FEED TO RELAY  
B23 AUX "5" MIX AMP EARTH  
B24 AUX "5" MIX BUSS  
B25 AUX "4" MIX AMP EARTH  
B26 AUX "4" MIX BUSS  
B27 AUX "3" MIX AMP EARTH  
B28 AUX "3" MIX BUSS  
B29 AUX "2" MIX AMP EARTH  
B30 AUX "2" MIX BUSS  
B31 AUX "1" MIX AMP EARTH  
B32 AUX "1" MIX BUSS

# COMPONENT SCHEDULE

MODULE    SERIES 80 AUXILIARY MODULE

SHEET 1 OF 9

ISSUE 3

DATE 4/9/86



P.C.B No	DESCRIPTION	PART No		
R1	RESISTOR	4K7	1/4W	1%
R2	"	47K	1/4W	1%
R3	"	10K	1/4W	1%
R4	"	100K	1/4W	1%
R5	"	36K	1/4W	1%
R6	"	100Ω	1/4W	1%
R7	"	100Ω	1/4W	1%
R8	"	36K	1/4W	1%
R9	"	47K	1/4W	1%
R10	"	10K	1/4W	1%
R11	"	100K	1/4W	1%
R12	"	4K7	1/4W	1%
R13	"	4K7	1/4W	1%
R14	"	47K	1/4W	1%
R15	"	10K	1/4W	1%
R16	"	100K	1/4W	1%
R17	"	36K	1/4W	1%
R18	"	100Ω	1/4W	1%
R19	"	100Ω	1/4W	1%
R20	"	36K	1/4W	1%
R21	"	47K	1/4W	1%
R22	"	10K	1/4W	1%
R23	"	100K	1/4W	1%
R24	"	4K7	1/4W	1%
R25	"	4K7	1/4W	1%
R26	"	47K	1/4W	1%
R27	"	10K	1/4W	1%
R28	"	100K	1/4W	1%
R29	"	36K	1/4W	1%
R30	"	100Ω	1/4W	1%
R31	"	3K6	1/4W	1%
R32	"	4K7	1/4W	1%
R33	"	6K8	1/4W	1%
R34	"	10K	1/4W	1%
R35	"	15K	1/4W	1%
R36	"	36K	1/4W	1%

# COMPONENT SCHEDULE

**MODULE** SERIES 80 AUXILIARY MODULE

**SHEET** 2 **OF** 9

**ISSUE** 3

**DATE** 4/9/86



P.C.B No	DESCRIPTION	PART No		
R37	RESISTOR	3K6	1/4W	1%
R38	"	4K7	1/4W	1%
R39	"	6K8	1/4W	1%
R40	"	10K	1/4W	1%
R41	"	15K	1/4W	1%
R42	"	36K	1/4W	1%
R43	"	1K	1/4W	1%
R44	"	47K	1/4W	1%
R45	"	7K5	1/4W	1%
R46	"	10Ω	1/4W	1%
R47	"	12K	1/4W	1%
R48	"	10Ω	1/4W	1%
R49	"	12K	1/4W	1%
R50	"	100Ω	1/4W	1%
R51	"	4K7	1/4W	1%
R52	"	4K7	1/4W	1%
R53	"	4K7	1/4W	1%
R54	"	47K	1/4W	1%
R55	"	47K	1/4W	1%
R56	"	4K7	1/4W	1%
R57	"	100Ω	1/4W	1%
R58	"	12K	1/4W	1%
R59	"	10Ω	1/4W	1%
R60	"	12K	1/4W	1%
R61	"	10Ω	1/4W	1%
R62	"	7K5	1/4W	1%
R63	"	470K	1/4W	1%
R64	"	22K	1/4W	1%
R65	"	22K	1/4W	1%
R66	"	47K	1/4W	1%
R67	"	100Ω	1/4W	1%
R68	"	470K	1/4W	1%
R69	"	22K	1/4W	1%
R70	"	47K	1/4W	1%
R71	"	100Ω	1/4W	1%
R72	"	22K	1/4W	1%

# COMPONENT SCHEDULE

**MODULE** SERIES 80 AUXILIARY MODULE

**SHEET** 3 **OF** 9

**ISSUE** 3

**DATE** 4/9/86



P.C.B No	DESCRIPTION	PART No		
R73	RESISTOR	120K	1/4W	1%
R74	"	220K	1/4W	1%
R75	"	10K	1/4W	1%
R76	"	10K	1/4W	1%
R77	"	7K5	1/4W	1%
R78	"	15K	1/4W	1%
R79	"	15K	1/4W	1%
R80	"	47K	1/4W	1%
R81	"	47K	1/4W	1%
R82	"	47K	1/4W	1%
R83	"	100Ω	1/4W	1%
R84	"	47K	1/4W	1%
R85	"	47K	1/4W	1%
R86	"	270Ω	1/4W	1%
R87	"	4K7	1/4W	1%
R88	"	22K	1/4W	1%
R89	"	10K	1/4W	1%
R90	"	18K	1/4W	1%
R91	"	10Ω	1/4W	1%
R92	"	10Ω	1/4W	1%
R93	"	56K	1/4W	1%
R94	"	7K5	1/4W	1%
R95	"	12K	1/4W	1%
R96	"	100Ω	1/4W	1%
R97	"	6K8	1/4W	1%
R98	"	6K8	1/4W	1%
R99	"	6K8	1/4W	1%
R100	"	6K8	1/4W	1%
R101	"	15K	1/4W	1%
R102	"	15K	1/4W	1%
R103	"	18K	1/4W	1%
R104	"	220K	1/4W	1%
R105	"	100K	1/4W	1%
R106	"	15K	1/4W	1%
R107	"	15K	1/4W	1%
R108	"	18K	1/4W	1%

# COMPONENT SCHEDULE

MODULE      SERIES 80 AUXILLIARY MODULE

SHEET 4 OF 9

ISSUE 3

DATE 4/9/86



P.C.B No	DESCRIPTION	PART No		
R109	RESISTOR	6K8	1/4W	1%
R110	"	100Ω	1/4W	1%
R111	"	12K	1/4W	1%
R112	"	7K5	1/4W	1%
R113	"	6K8	1/4W	1%
R114	"	56K	1/4W	1%
R115	"	10Ω	1/4W	1%
R116	"	10Ω	1/4W	1%
R117	"	6K8	1/4W	1%
R118	"	6K8	1/4W	1%
R119	"	18K	1/4W	1%
R120	"	4K7	1/4W	1%
R121	"	10K	1/4W	1%
R122	"	22K	1/4W	1%
R123	"	27Ω	1/4W	1%
R124	"	27Ω	1/4W	1%
R125	"	470K	1/4W	1%
R126	"	470K	1/4W	1%
R127	"	470K	1/4W	1%
R128	"	470K	1/4W	1%
R129	"	10Ω	1/4W	1%
R130	"	10Ω	1/4W	1%
R131	"	47K	1/4W	1%
R132	"	47K	1/4W	1%
R133	"	12K	1/4W	1%
R134	"	100Ω	1/4W	1%
R135	"	3K9	1/4W	1%
R136	"	22K	1/4W	1%
R137	"	10K	1/4W	1%
R138	"	4K7	1/4W	1%
R139	"	10K	1/4W	1%
R140	"	22K	1/4W	1%
R141	"	3K9	1/4W	1%
R142	"	3K9	1/4W	1%
R143	"	10K	1/4W	1%
R144	"	10K	1/4W	1%

# COMPONENT SCHEDULE

MODULE      SERIES 80 AUXILIARY MODULE

SHEET 5 OF 9

ISSUE 3

DATE 4/9/86



P.C.B No	DESCRIPTION	PART No		
R145	RESISTOR	10K	1/4W	1%
R146	"	10K	1/4W	1%
R147	"	82Ω	1/4W	1%
R148	"	1meg	1/4W	1%
R149	"	4K7	1/4W	1%
C1	CAPACITOR	22μF	25V	RADIAL
C2	"	0.1μF		C/D
C3	"	470μF	6.3V	AXIAL
C4	"	100pF		C/D
C5	"	0.1μF		C/D
C6	"	100μF	25V	RADIAL
C7	"	100μF	25V	RADIAL
C8	"	22pF		C/D
C9	"	22μF	25V	RADIAL
C10	"	100μF	25V	RADIAL
C11	"	100μF	25V	RADIAL
C12	"	22μF	25V	RADIAL
C13	"	22pF		C/D
C14	"	100μF	25V	RADIAL
C15	"	100μF	25V	RADIAL
C16	"	0.1μF		C/D
C17	"	100pF		C/D
C18	"	22μF	25V	RADIAL
C19	"	0.1μF		C/D
C20	"	470μF	6.3V	AXIAL
C21	"	22μF	25V	RADIAL
C22	"	0.1μF		C/D
C23	"	470μF	6.3V	AXIAL
C24	"	100pF		C/D
C25	"	0.1μF		C/D
C26	"	100μF	25V	RADIAL
C27	"	100μF	25V	RADIAL
C28	"	22pF		C/D
C29	"	22μF	25V	RADIAL
C30	"	100μF	25V	RADIAL



# COMPONENT SCHEDULE

MODULE SERIES 80 AUXILIARY MODULE

SHEET 6 OF 9

ISSUE 3

DATE 4/9/86



P.C.B No	DESCRIPTION	PART No		
C31	CAPACITOR	100μF	25V	RADIAL
C32	"	22μF	25V	RADIAL
C33	"	22pF		C/D
C34	"	100μF	25V	RADIAL
C35	"	100μF	25V	RADIAL
C36	"	0.1μF		C/D
C37	"	100pF		C/D
C38	"	22μF	25V	RADIAL
C39	"	0.1μF		C/D
C40	"	470μF	6.3V	AXIAL
C41	"	22μF	25V	RADIAL
C42	"	0.1μF		C/D
C43	"	470μF	6.3V	AXIAL
C44	"	100pF		C/D
C45	"	0.1μF		C/D
C46	"	100μF	25V	RADIAL
C47	"	100μF	25V	RADIAL
C48	"	22pF		C/D
C49	"	100μF	25V	RADIAL
C50	"	22μF	25V	RADIAL
C51	"	0.22μF		S.I.E.
C52	"	0.22μF		S.I.E.
C53	"	2200pF		SUFLEX
C54	"	2200pF		SUFLEX
C55	"	0.22μF		S.I.E.
C56	"	0.22μF		S.I.E.
C57	"	22μF	25V	RADIAL
C58	"	100μF	25V	RADIAL
C59	"	470μF	6.3V	RADIAL
C60	"	68pF		C/D
C61	"	100μF	25V	RADIAL
C62	"	100pF		C/D
C63	"	470μF	6.3V	RADIAL
C64	"	100μF	25V	RADIAL
C65	"	0.1μF		C/D
C66	"	0.1μF		C/D

# COMPONENT SCHEDULE

**MODULE**    SERIES 80 AUXILIARY MODULE

**SHEET** 7 **OF** 9

**ISSUE** 3

**DATE** 4/9/86



P.C.B No	DESCRIPTION	PART No		
C67	CAPACITOR	100pF		C/D
C68	"	470μF	6.3V	RADIAL
C69	"	100μF	25V	RADIAL
C70	"	0.1μF		C/D
C71	"	68pF		C/D
C72	"	100μF	25V	RADIAL
C73	"	0.1μF		C/D
C74	"	470μF	6.3V	RADIAL
C75	"	100μF	25V	RADIAL
C76	"	22μF	25V	RADIAL
C77	"	15pF		C/D
C78	"	100μF	25V	RADIAL
C79	"	15pF		C/D
C80	"	22μF	25V	RADIAL
C81	"	100μF	25V	RADIAL
C82	"	22pF		C/D
C83	"	22pF		C/D
C84	"	100μF	25V	RADIAL
C85	"	100μF	25V	RADIAL
C86	"	100μF	25V	RADIAL
C87	"	2.2μF	35V	TANT
C88	"	10NF		S.I.E.
C89	"	10NF		S.I.E.
C90	"	10NF		S.I.E.
C91	"	22μF	25V	RADIAL
C92	"	22μF	25V	RADIAL
C93	"	22μF	25V	RADIAL
C94	"	15pF		C/D
C95	"	470μF	6.3V	AXIAL
C96	"	22μF	25V	RADIAL
C97	"	15pF		C/D
C98	"	470μF	6.3V	RADIAL
C99	"	22μF	25V	RADIAL
C100	"	100μF	25V	RADIAL
C101	"	100μF	25V	RADIAL
C102	"	22μF	25V	RADIAL

# COMPONENT SCHEDULE

MODULE SERIES 80 AUXILIARY MODULE

SHEET 8 OF 9

ISSUE 3

DATE 4/9/86



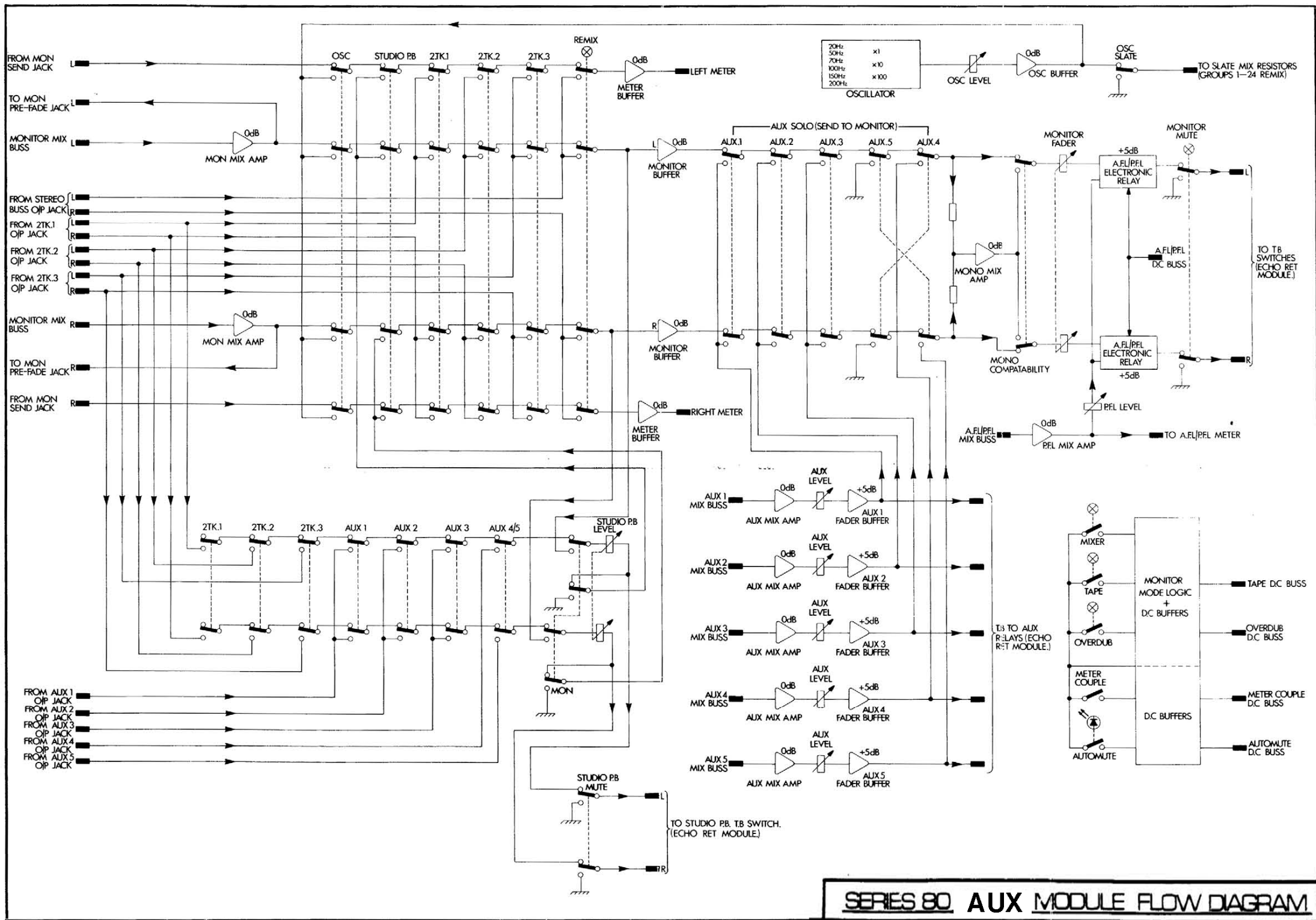
P.C.B No	DESCRIPTION	PART No		
C103	CAPACITOR	22 $\mu$ F	25V	RADIAL
C104	"	22 $\mu$ F	25V	RADIAL
C105	"	22 $\mu$ F	25V	RADIAL
C106	"	100 $\mu$ F	25V	RADIAL
C107	"	22pF		C/D
C108	"	470 $\mu$ F	6.3V	AXIAL
C109	"	0.1 $\mu$ F		C/D
C110	"	100 $\mu$ F	25V	RADIAL
C111	"	0.1 $\mu$ F		C/D
C112	"	100 $\mu$ F	25V	RADIAL
C113	"	0.1 $\mu$ F		C/D
C114	"	100 $\mu$ F	25V	RADIAL
D1-11	DIODE	IN4148		
Q1,3,11,18	TRANSISTOR	BD 519		
Q2,4,12,19	"	BD 520		
Q5,7-10	"	BC 413-C		
Q6,20,26,28	"	BD 180		
Q13 - 17	"	BC 413C		
Q21 - 25,27	"	BC 413C		

# COMPONENT SCHEDULE

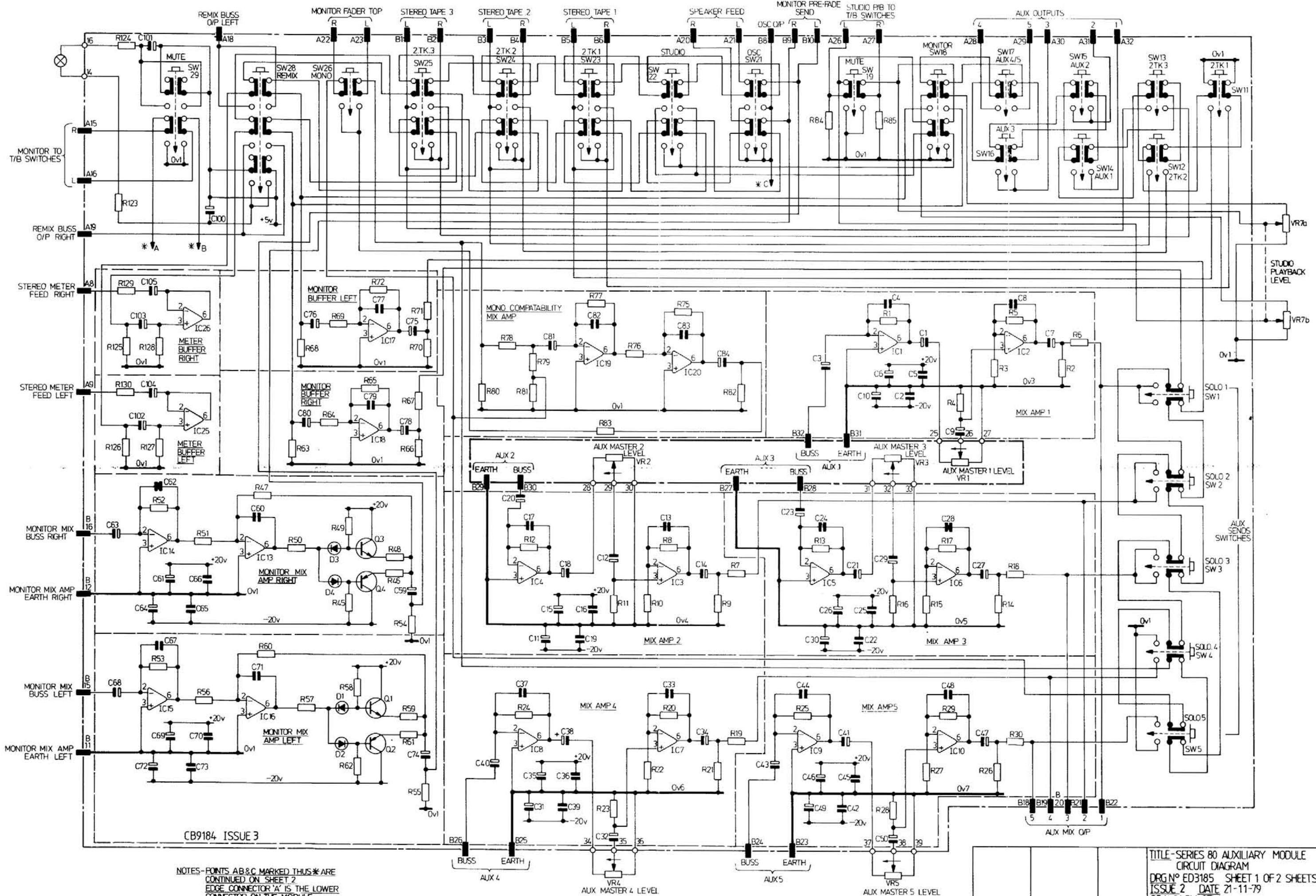
**MODULE**    SERIES 80 AXILIARY MODULE  
**SHEET 9 OF 9**    **ISSUE 3**    **DATE** 4/9/86



PC.B No	DESCRIPTION	PART No
THRI	THERMISTORS	151 - 114
L.E.D.	L.E.D.	XC 209 - C
IC,1,4,5,8 9,14,15	INTERGRATED CIRCUIT	NE 5534 N
IC,2,3,6,7, 10-13 16-27	INTERGRATED CIRCUIT	TL071
IC 28		MC 14049 UB
IC 29,30		4025 B
RV1-6,8	POT	10K LOG 1 GANG
RV7	POT	10K LOG 2 GANG
SW1-17	SWITCH	F2UEE
SW18,21-25	SWITCH	F4UEE
SW19,20-26, 27	SWITCH	F2UEE
SW28	SWITCH	F6UEE
SW29	SWITCH	F4UEE
SW31-32	SWITCH	F2UEE
SW33	ROTARY SWITCH	2 X 6 WAY ELMA
	SWITCH LAMPS	6 VOLT 35ma F SERIES




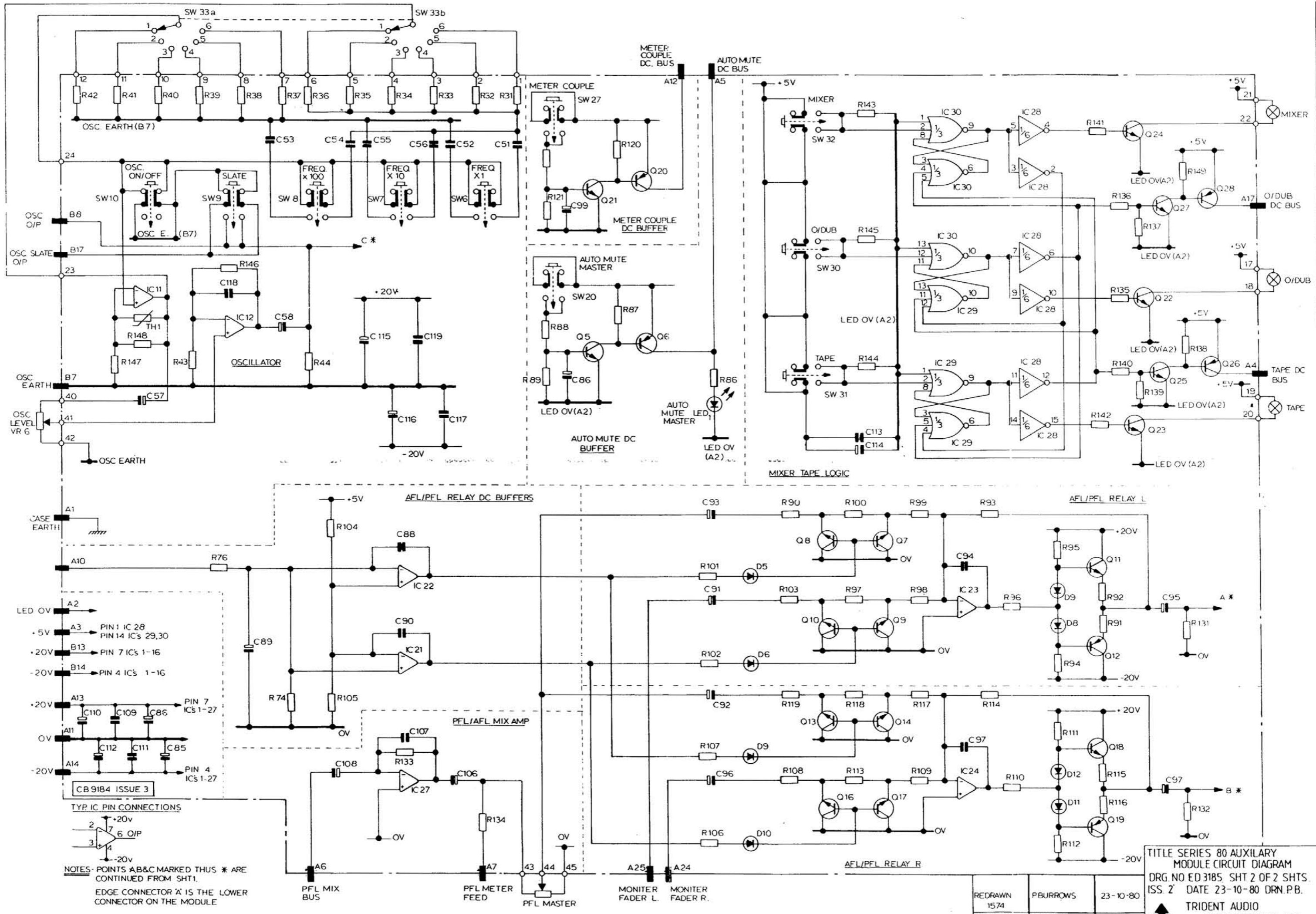
**SERIES 80 AUX MODULE FLOW DIAGRAM**



CB9184 ISSUE 3

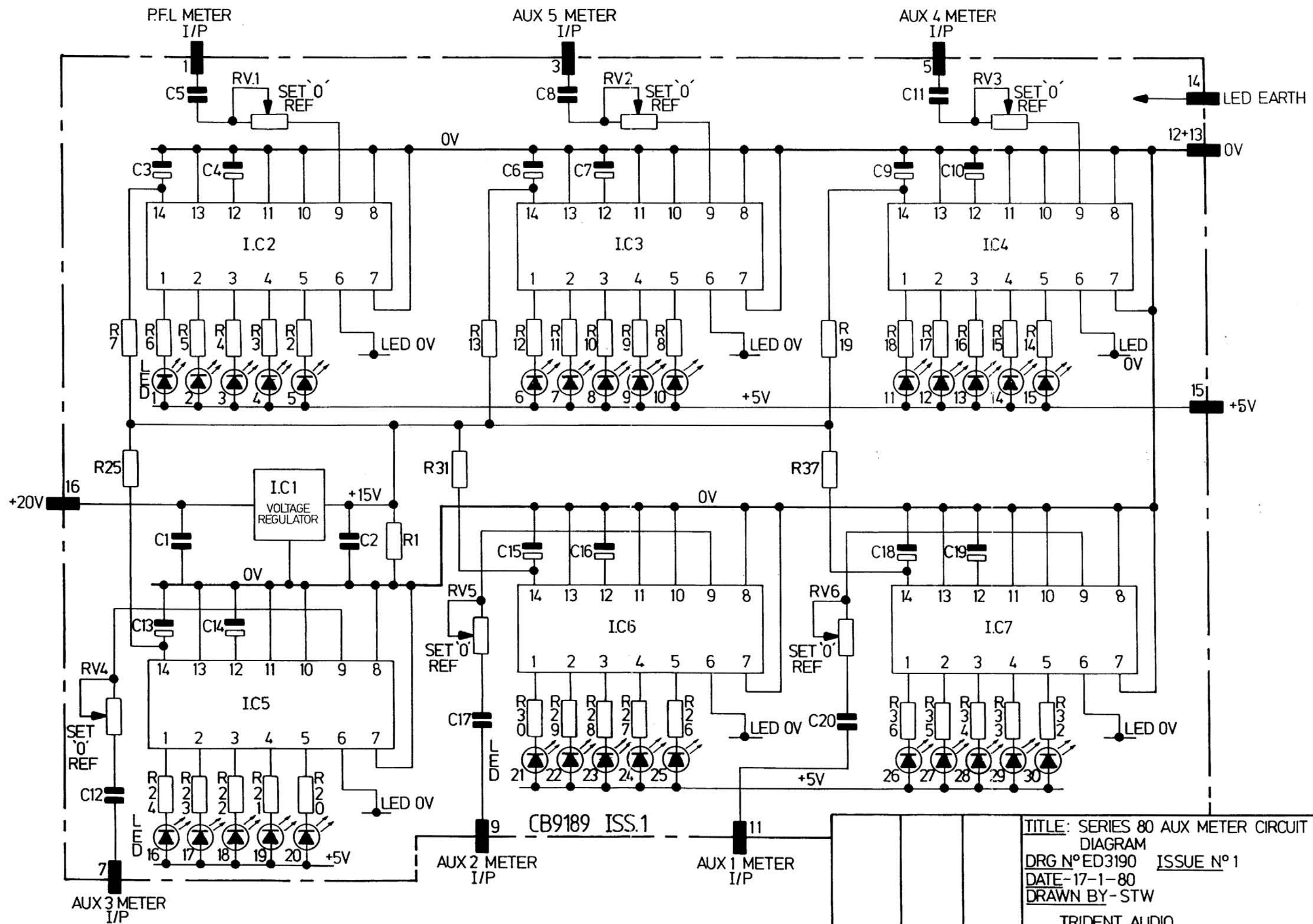
NOTES - POINTS AB & C MARKED WITH \* ARE CONTINUED ON SHEET 2  
EDGE CONNECTOR 'A' IS THE LOWER CONNECTOR ON THE MODULE

TITLE - SERIES 80 AUXILIARY MODULE CIRCUIT DIAGRAM DRG NO ED3185 SHEET 1 OF 2 SHEETS ISSUE 2 DATE 21-11-79 DRAWN BY STW		
1343 MOD NO	SWD MOD BY	18-1-80 DATE
 TRIDENT AUDIO DEVELOPMENTS LTD		



REDRAWN 1574	PBURROWS	23-10-80
MOD. NO.	MOD. BY	DATE

TITLE SERIES 80 AUXILIARY  
MODULE CIRCUIT DIAGRAM  
DRG. NO ED 3185, SHT 2 OF 2 SHTS.  
ISS. 2 DATE 23-10-80 DRN.P.B.  
TRIDENT AUDIO  
DEVELOPMENTS LTD.

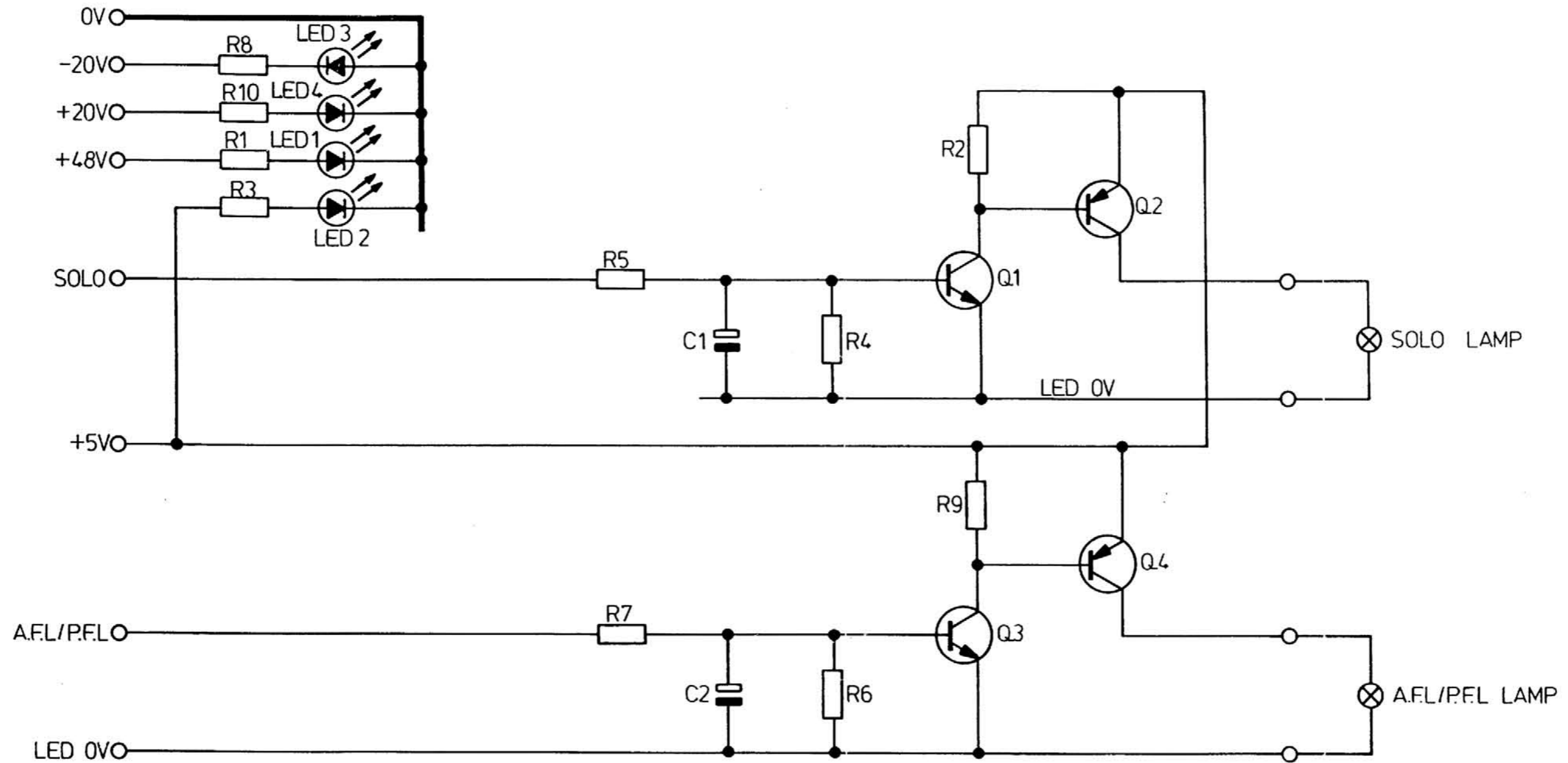


TITLE: SERIES 80 AUX METER CIRCUIT  
 DIAGRAM  
 DRG N° ED3190 ISSUE N° 1  
 DATE-17-1-80  
 DRAWN BY-STW  
 TRIDENT AUDIO  
 DEVELOPMENTS LTD.

MOD N° MOD BY DATE



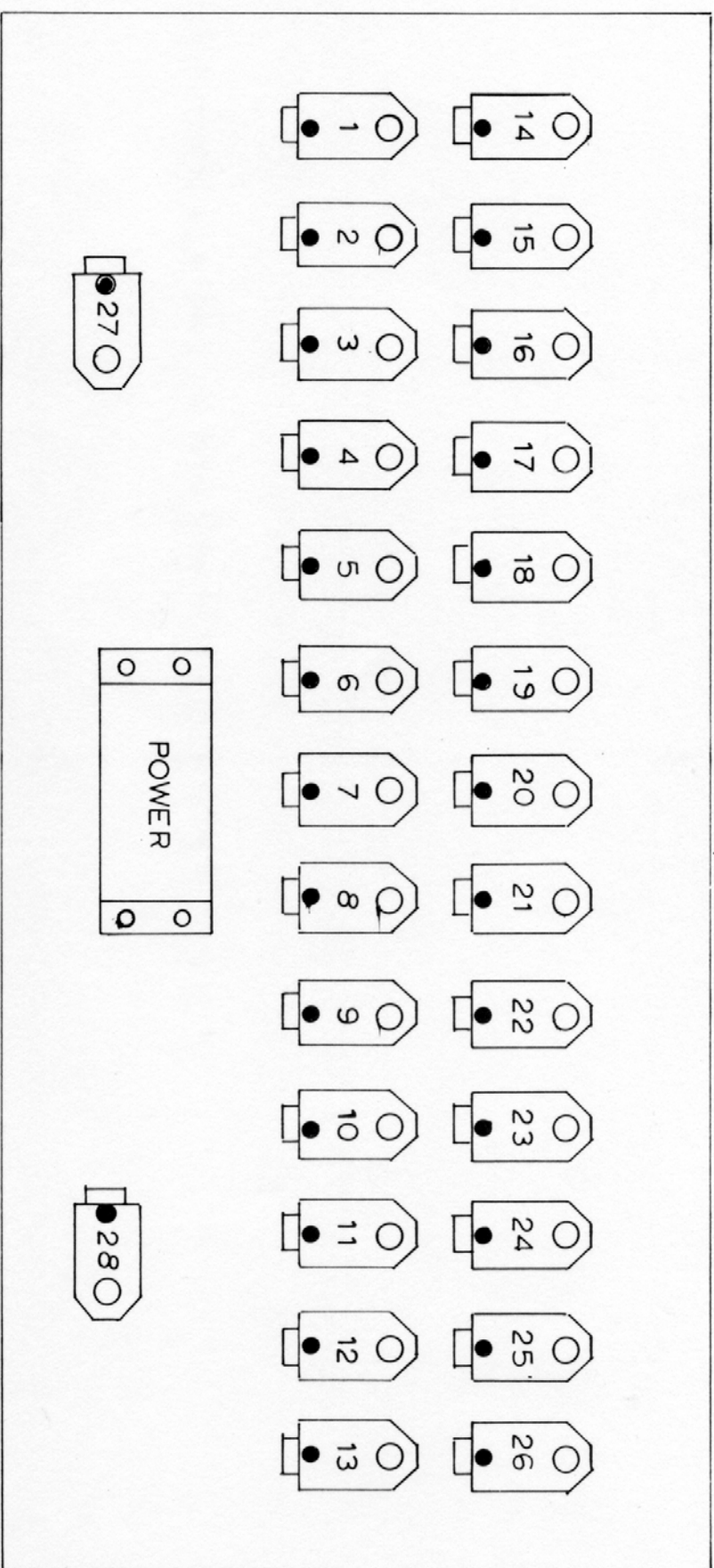
# TRIDENT AUDIO DEVELOPMENTS LIMITED



CB9167 ISS. 2

			TITLE :- METER PANEL PCB CIRCUIT DIAGRAM
			DRAWN BY STW ISSUE 2
			DATE 28-8-81
			DRAWING N° ED 3194
1856	STW	28-8-81	
MOD N°	MOD BY	DATE	

FRONT OF CONSOLE

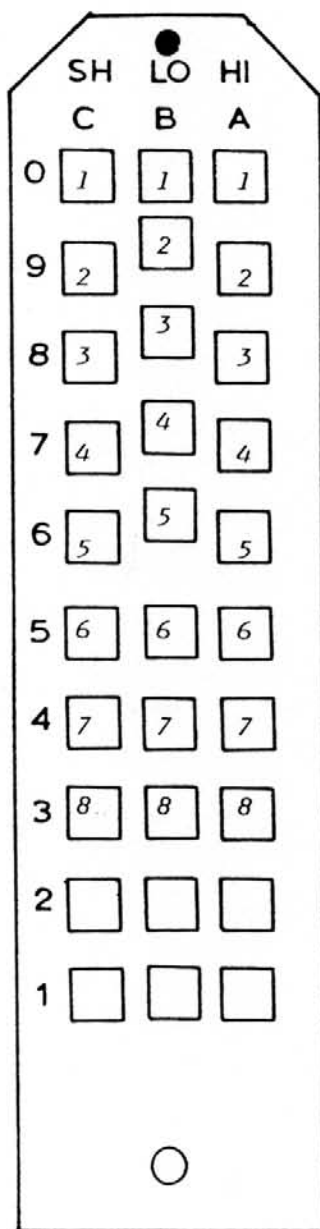


REAR OF CONSOLE

VIEWED FROM UNDERSIDE OF CONSOLE  
SERIES 80 - TUCHEL IDENTIFICATION DETAILS

STUDIO END

# RECEPTACLE



DELAY DEVICE OUTPUTS

1 - 8

HI - HOT  
LO - COLD  
SH - SCREEN

CONNECTOR REF

1

CUSTOMER

TRIDENT AUDIO DEVELOPMENTS LTD.

TRIDENT HOUSE, RODD INDUSTRIAL ESTATE

GOVETT AVENUE, SHEPPERTON,

MIDDLESEX, TW17 8AQ

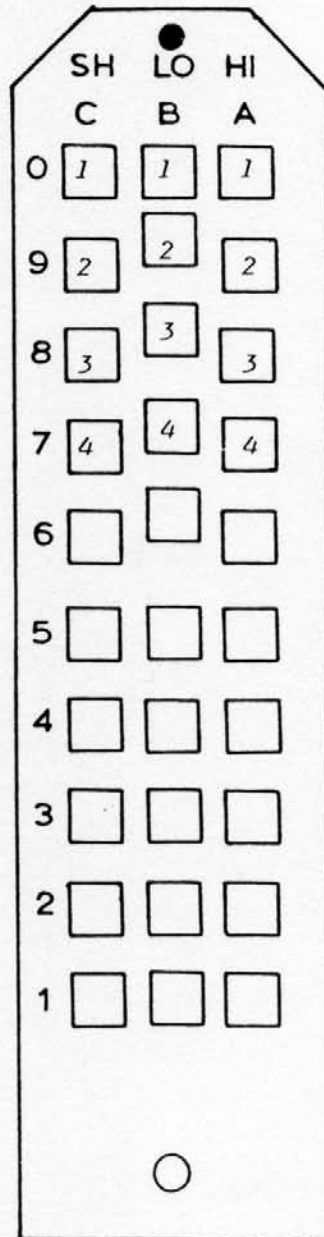
TEL: WALTON-on-THAMES (0932) 224665 Telex 8813982

DESK TYPE SERIES

80-C/32-24-48

STUDIO END

# RECEPTACLE



DELAY DEVICE INPUTS

1 - 4.

HI - HOT  
LO - COLD  
SH - SCREEN

CONNECTOR REF

2

CUSTOMER

DESK TYPE SERIES

80-C / 32-24-48



TRIDENT AUDIO DEVELOPMENTS LTD.

TRIDENT HOUSE, RODD INDUSTRIAL ESTATE

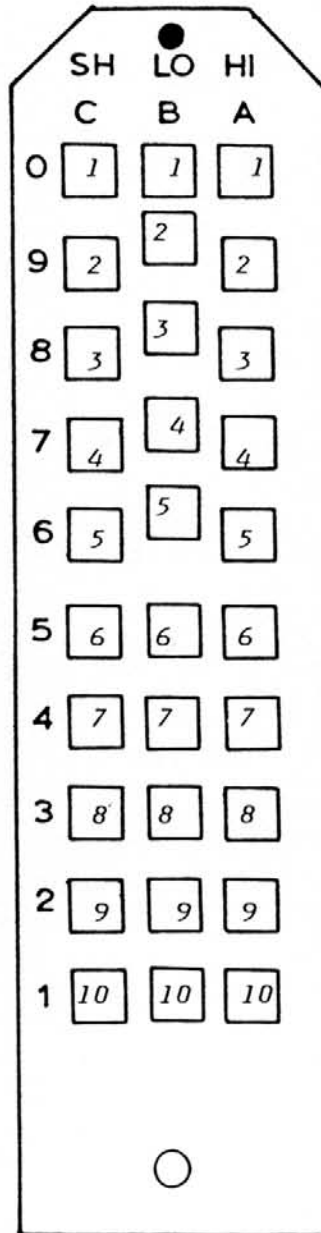
GOVETT AVENUE, SHEPPERTON.

MIDDLESEX, TW17 8AQ

Telex: WALTON-on-THAMES (0932) 224665 Telex 8813982

STUDIO END

# RECEPTACLE



EXTERNAL EQPT INPUTS

1 - 10

HI - HOT  
LO - COLD  
SH - SCREEN

CONNECTOR REF

3

CUSTOMER

DESK TYPE SERIES

80-C / 32-24-48



TRIDENT AUDIO DEVELOPMENTS LTD.

TRIDENT HOUSE, RODD INDUSTRIAL ESTATE,

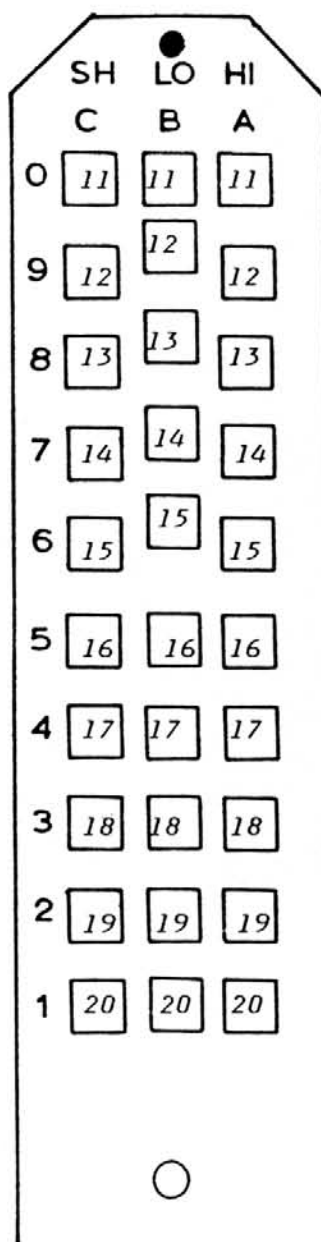
GOVETT AVENUE, SHEPPERTON,

MIDDLESEX, TW17 8AQ

Tel: WALTON-on-THAMES (0932) 224665 Telex 8813982

STUDIO END

# RECEPTACLE



EXTERNAL EQPT INPUTS

11 - 20

HI - HOT  
LO - COLD  
SH - SCREEN

CONNECTOR REF

4

CUSTOMER

DESK TYPE SERIES

80-C / 32-24-48



TRIDENT AUDIO DEVELOPMENTS LTD.

TRIDENT HOUSE, RODD INDUSTRIAL ESTATE

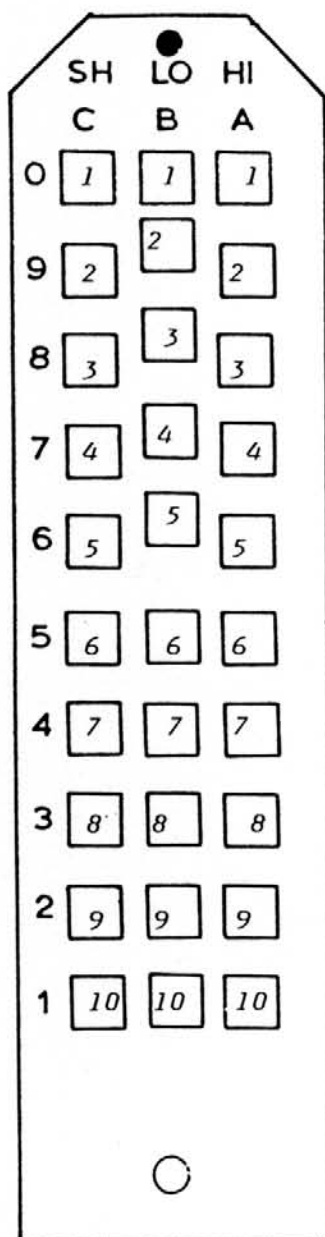
GOVETT AVENUE, SHEPPERTON,

MIDDLESEX, TW17 8AQ

TEL: WALTON-on-THAMES (0932) 224665 Telex B813982

STUDIO END

# RECEPTACLE



EXTERNAL EQPT OUTPUTS

1 - 10

HI - HOT  
LO - COLD  
SH - SCREEN

CONNECTOR REF

5

CUSTOMER

TRIDENT AUDIO DEVELOPMENTS LTD.

TRIDENT HOUSE, ROOD INDUSTRIAL ESTATE  
GOVETT AVENUE, SHEPPERTON,  
MIDDLESEX, TW17 8AG

Tel: WALTON-on-THAMES (0932) 224665 Telex 0813982

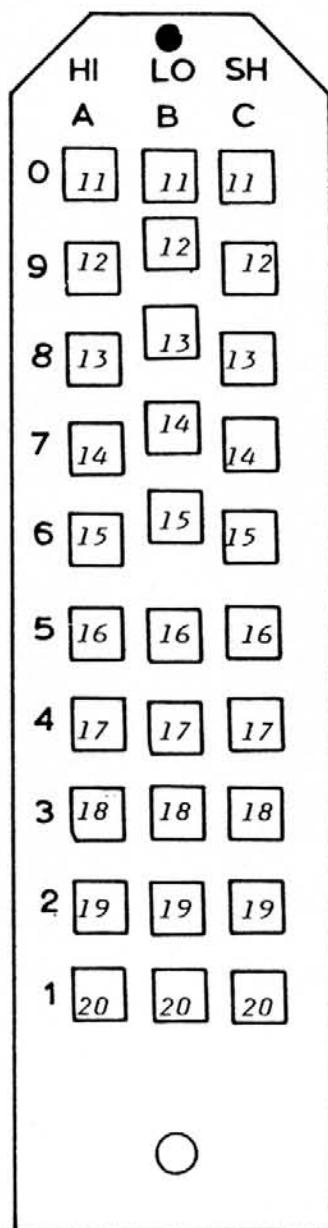
DESK TYPE SERIES

80-C / 32-24-48



STUDIO END

# PLUG



EXTERNAL EQPT OUTPUTS  
11 - 20

HI - HOT  
LO - COLD  
SH - SCREEN

CONNECTOR REF

6

CUSTOMER

DESK TYPE SERIES

80-C / 32-24-48



TRIDENT AUDIO DEVELOPMENTS LTD.

TRIDENT HOUSE, ROOD INDUSTRIAL ESTATE

GOVETT AVENUE, SHEPPERTON,

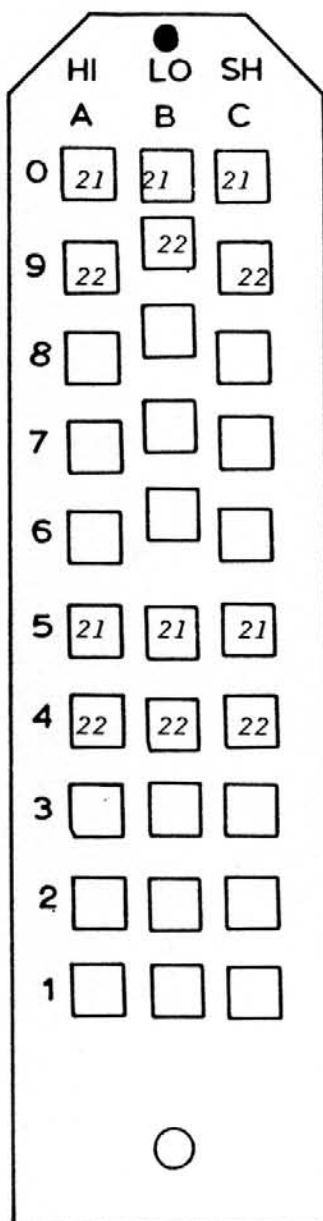
MIDDLESEX, TW17 8AQ

Tel: WALTON on THAMES (0922) 224445 Telex 881396Z



STUDIO END

# PLUG



EXTERNAL EQPT INPUTS

21 - 22

EXTERNAL EQPT OUTPUTS

21 - 22

HI - HOT  
LO - COLD  
SH - SCREEN

CONNECTOR REF

7

CUSTOMER

DESK TYPE SERIES

80-C / 32-24-48



TRIDENT AUDIO DEVELOPMENTS LTD.

TRIDENT HOUSE, RODD INDUSTRIAL ESTATE

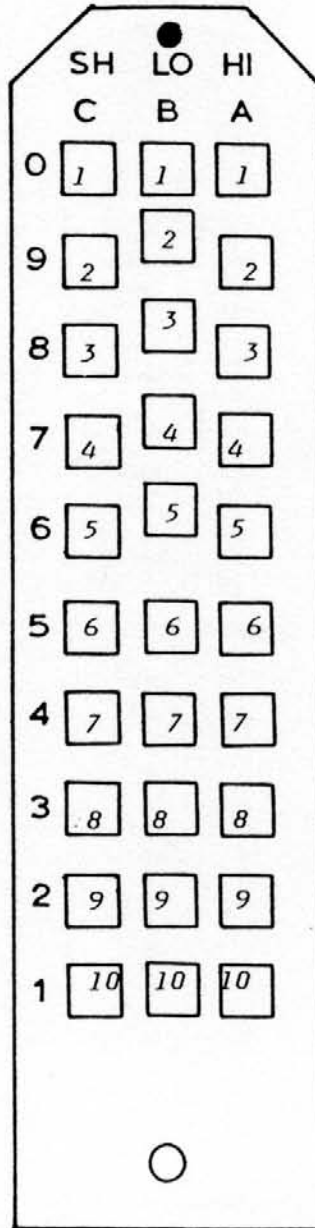
GOVETT AVENUE, SHEPPERTON.

MIDDLESEX, TW17 8AQ

Tel: WALTON-on-THAMES (0932) 224665 Telex B812982

STUDIO END

# RECEPTACLE



MIC INPUTS  
1 - 10

HI - HOT  
LO - COLD  
SH - SCREEN

CONNECTOR REF

8

CUSTOMER



TRIDENT AUDIO DEVELOPMENTS LTD.

TRIDENT HOUSE, RODD INDUSTRIAL ESTATE

GOVETT AVENUE, SHEPPERTON.

MIDDLESEX, TW17 8AQ

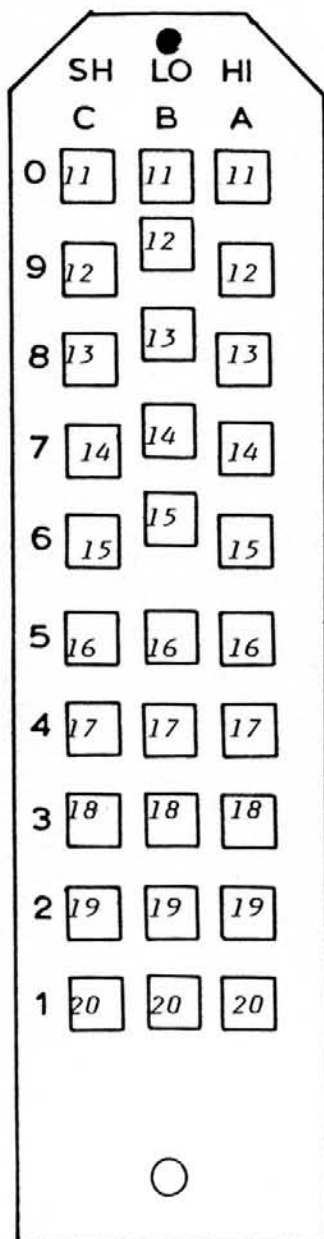
Tel: WALTON-on-THAMES (0932) 224665 Telex 8813982

DESK TYPE SERIES

80-C 32-24-48

STUDIO END

# RECEPTACLE



MIC INPUTS  
11 - 20

HI - HOT  
LO - COLD  
SH - SCREEN

CONNECTOR REF

9

CUSTOMER



TRIDENT AUDIO DEVELOPMENTS LTD.

TRIDENT HOUSE, ROOD INDUSTRIAL ESTATE

GOVETT AVENUE, SHEPPERTON.

MIDDLESEX, TW17 8AQ

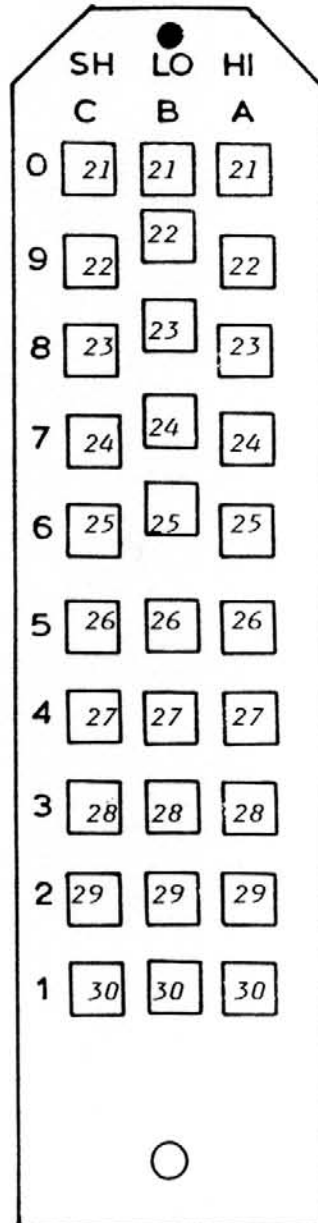
TeL: WALTON-on-THAMES (0932) 224665 Telex 8B1398Z

DESK TYPE SERIES

80-C 32-24-48

STUDIO END

# RECEPTACLE



MIC INPUTS  
21 - 30

HI - HOT  
LO - COLD  
SH - SCREEN

CONNECTOR REF

10

CUSTOMER

DESK TYPE SERIES

80-C / 32-24-48



TRIDENT AUDIO DEVELOPMENTS LTD.

TRIDENT HOUSE, RODD INDUSTRIAL ESTATE

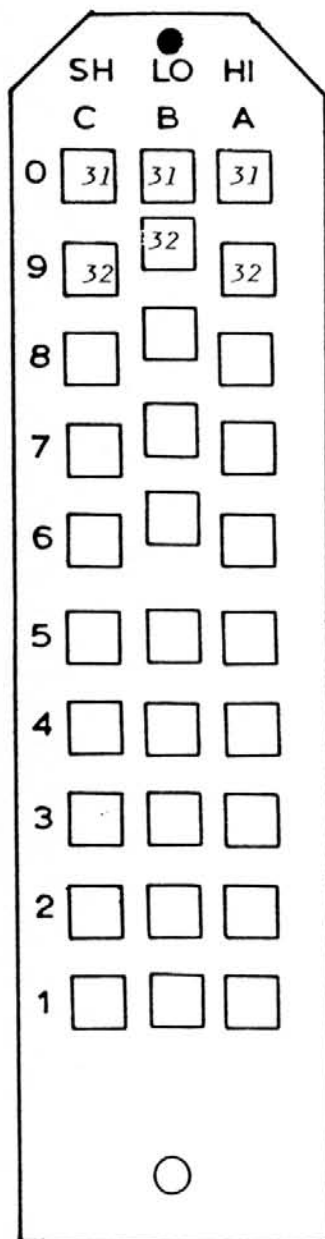
GOVETT AVENUE, SHEPPERTON,

MIDDLESEX, TW17 8AQ

Telex: WALTON-on-THAMES (0932) 224665 Telex 8813982

STUDIO END

# RECEPTACLE



MIC INPUTS 31 - 32

HI - HOT  
LO - COLD  
SH - SCREEN

CONNECTOR REF

11

CUSTOMER

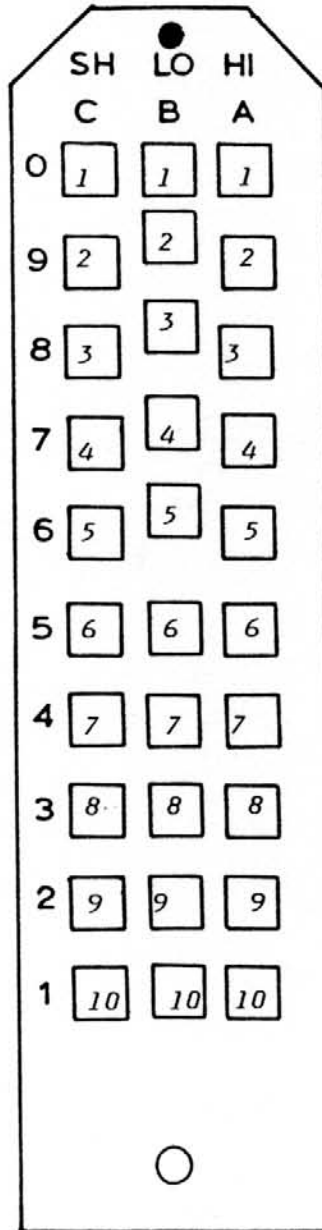
DESK TYPE SERIES

80-C 32-24-48



TRIDENT AUDIO DEVELOPMENTS LTD.  
TRIDENT HOUSE, RODD INDUSTRIAL ESTATE  
GOVETT AVENUE, SHEPPERTON,  
MIDDLESEX, TW17 8AQ  
Tel: WALTON-07-THAMES (0932) 224665 Telex BR13982

STUDIO END  
**RECEPTACLE**



TIE LINES  
1 - 10

HI - HOT  
LO - COLD  
SH - SCREEN

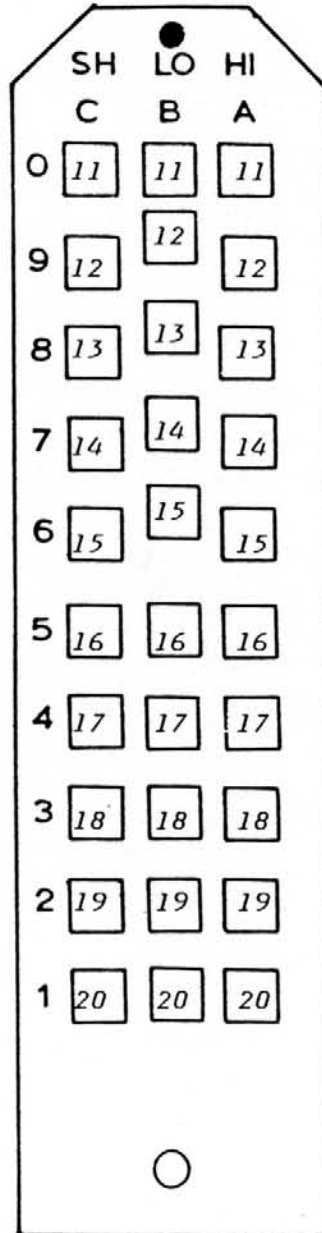
CONNECTOR REF
12
CUSTOMER
DESK TYPE SERIES
80-C / 32-24-48



**TRIDENT AUDIO DEVELOPMENTS LTD.**  
TRIDENT HOUSE, RIDD INDUSTRIAL ESTATE  
GOVETT AVENUE, SHEPPERTON,  
MIDDLESEX, TW17 8AQ  
Tel: WALTON-on-THAMES (0932) 224665 Telex 8813982

STUDIO END

# RECEPTACLE



TIE LINES.

11 - 20 <sup>14</sup>

HI - HOT  
LO - COLD  
SH - SCREEN

CONNECTOR REF

13

CUSTOMER

DESK TYPE SERIES

80-C / 32-24-48



TRIDENT AUDIO DEVELOPMENTS LTD.

TRIDENT HOUSE, ROOD INDUSTRIAL ESTATE

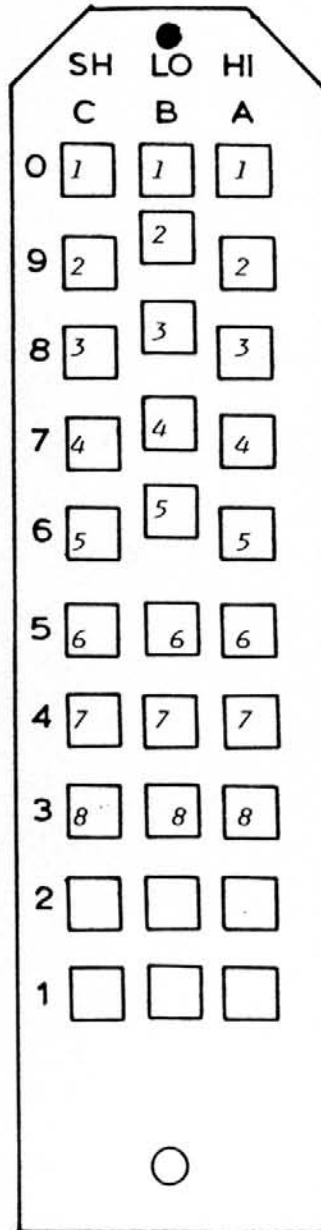
GOVETT AVENUE, SHEPPERTON.

MIDDLESEX, TW17 8AQ

Tel: WALTON-on-THAMES (0932) 224665 Telex 8813982

STUDIO END

# RECEPTACLE



MULTI TRACK "I" INPUTS  
1 - 8.

HI - HOT  
LO - COLD  
SH - SCREEN

CONNECTOR REF

14

CUSTOMER

TRIDENT AUDIO DEVELOPMENTS LTD.

TRIDENT HOUSE, RODD INDUSTRIAL ESTATE

GOVETT AVENUE, SHEPPERTON

MIDDLESEX, TW17 8AQ

Tel. WALTON-on-THAMES (0932) 224665 Telex 8813982

DESK TYPE SERIES

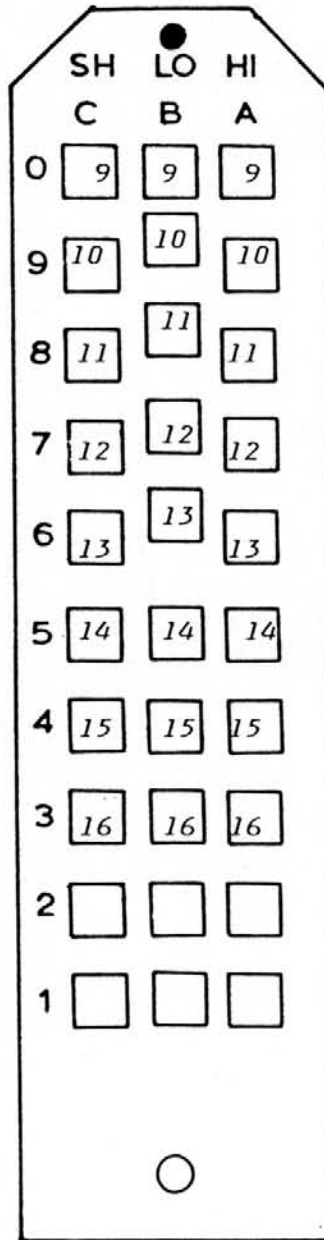
80-C 32-24-48





STUDIO END

# RECEPTACLE



MULTI TRACK "1" INPUTS  
9 - 16

HI - HOT  
LO - COLD  
SH - SCREEN

CONNECTOR REF

15

CUSTOMER

DESK TYPE SERIES

80-C 32-24-48



TRIDENT AUDIO DEVELOPMENTS LTD.

TRIDENT HOUSE, RODD INDUSTRIAL ESTATE

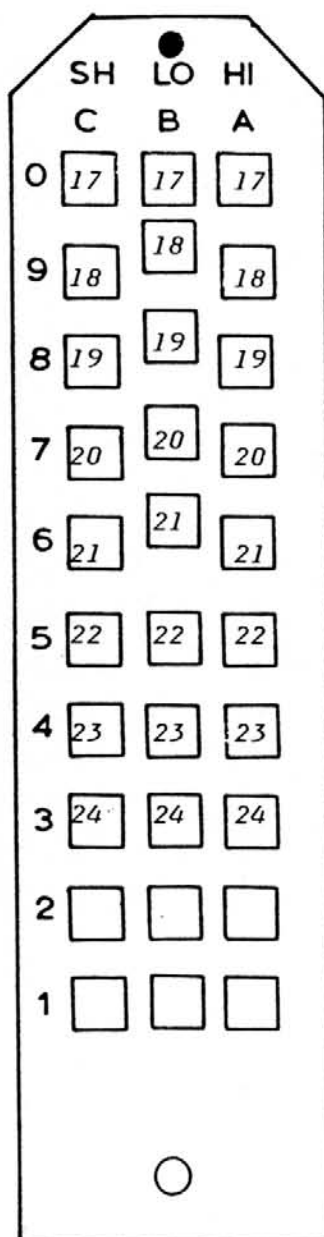
GOVETT AVENUE, SHEPPERTON

MIDDLESEX, TW17 8AQ

TEL: WALTON-on-THAMES (0932) 224665 Telex BR13982

STUDIO END

# RECEPTACLE



MULTI TRACK "1" INPUT.

17 - 24

HI - HOT  
LO - COLD  
SH - SCREEN

CONNECTOR REF

16

CUSTOMER

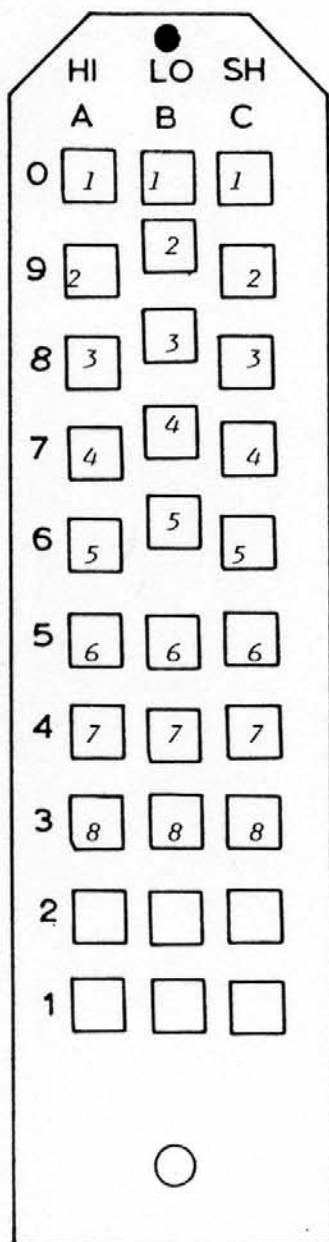
DESK TYPE SERIES  
80-C/32-24-48



TRIDENT AUDIO DEVELOPMENTS LTD.  
TRIDENT HOUSE, ROOD INDUSTRIAL ESTATE  
GOVETT AVENUE, SHEPPERTON,  
MIDDLESEX, TW17 8AQ  
Tel: WALTON-on-THAMES (0932) 224665 Telex 881398Z

STUDIO END

# PLUG



MULTI TRACK "1" OUTPUT  
1 - 8

HI - HOT  
LO - COLD  
SH - SCREEN

CONNECTOR REF

17

CUSTOMER



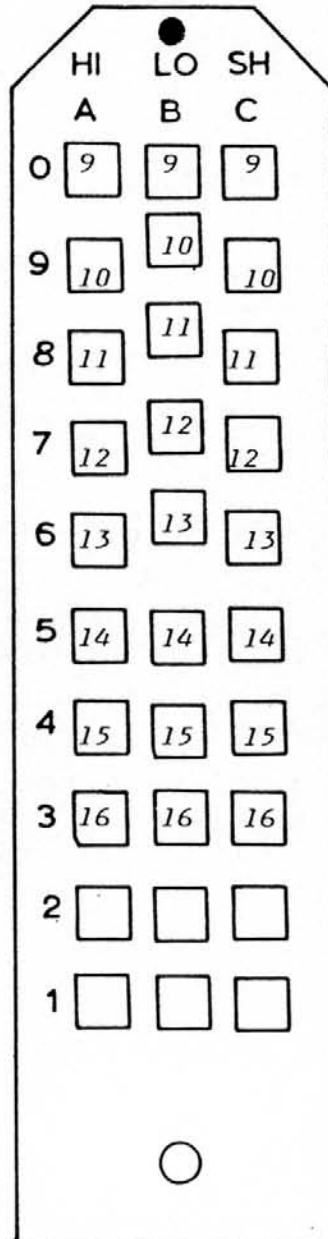
TRIDENT AUDIO DEVELOPMENTS LTD.  
TRIDENT HOUSE, RODD INDUSTRIAL ESTATE  
GOVETT AVENUE, SHEPPERTON  
MIDDLESEX, TW17 8AQ

DESK TYPE SERIES

80-C / 32-24-48

STUDIO END

# PLUG



MULTI TRACK "1" OUTPUTS  
9 - 16

HI - HOT  
LO - COLD  
SH - SCREEN

CONNECTOR REF  
18

CUSTOMER

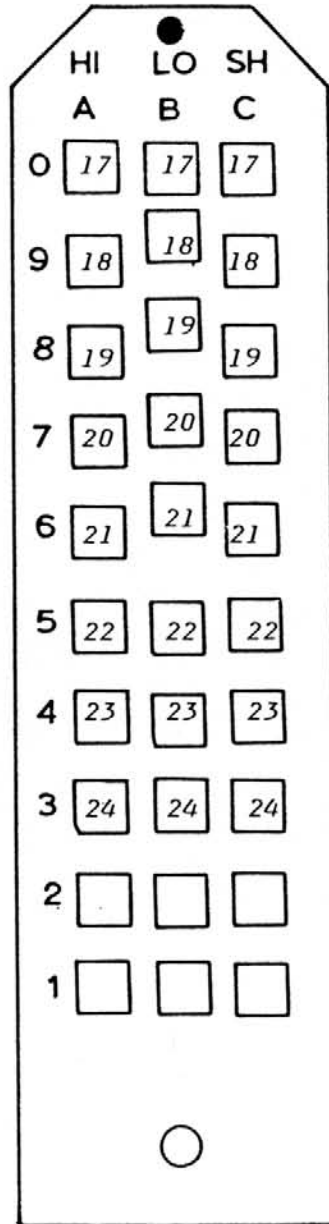


TRIDENT AUDIO DEVELOPMENTS LTD.  
TRIDENT HOUSE, RODD INDUSTRIAL ESTATE  
GOVETT AVENUE, SHEPPERTON,  
MIDDLESEX, TW17 8AQ

DESK TYPE SERIES  
80-C / 32-24-48

STUDIO END

# PLUG



MULTI TRACK "1" OUTPUTS

17 - 24

HI - HOT  
LO - COLD  
SH - SCREEN

CONNECTOR REF

19

CUSTOMER

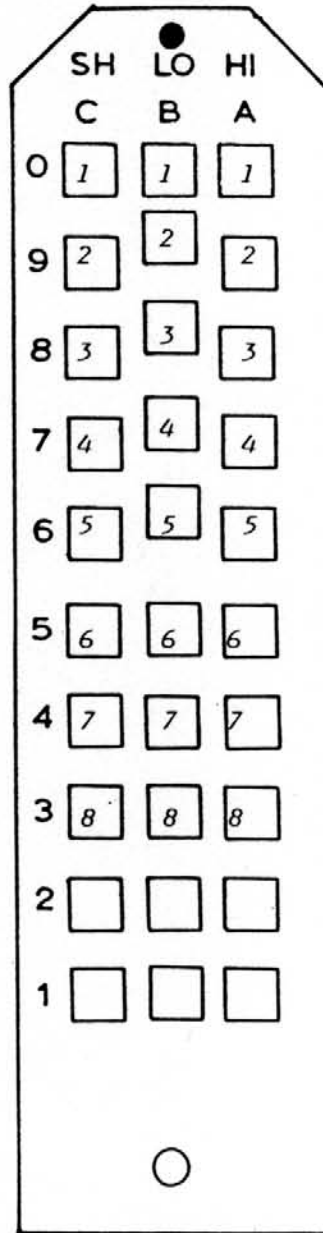


TRIDENT AUDIO DEVELOPMENTS LTD.  
TRIDENT HOUSE, RODD INDUSTRIAL ESTATE  
GOVETT AVENUE, SHEPPERTON,  
MIDDLESEX, TW17 8AQ  
Tel: WALTON-on-THAMES (0932) 224665 Telex B813982

DESK TYPE SERIES  
80-C / 32-24-48

STUDIO END

# RECEPTACLE



MULTI TRACK "2" INPUT  
1 - 8

HI - HOT  
LO - COLD  
SH - SCREEN

CONNECTOR REF

20

CUSTOMER

DESK TYPE SERIES

80-C / 32-24-48.



TRIDENT AUDIO DEVELOPMENTS LTD.

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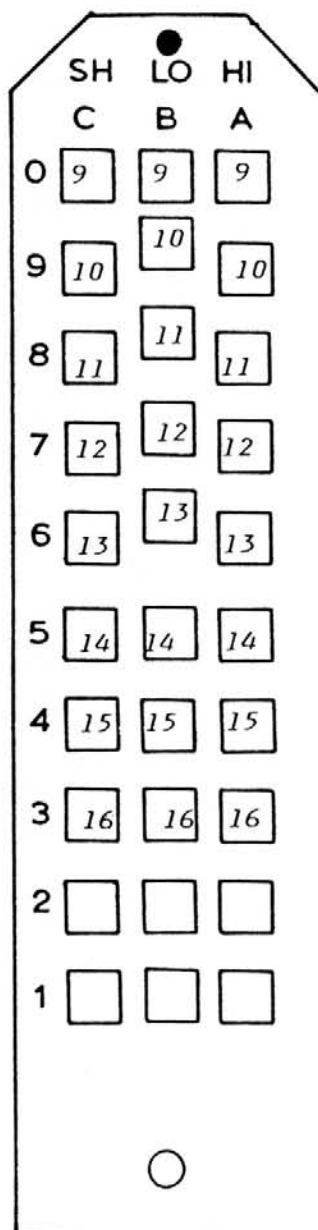
GOVETT AVENUE, SHEPPERTON

MIDDLESEX, TW17 8AQ

TEL: WALTON-on-THAMES (0932) 224665 Telex BR13982

STUDIO END

# RECEPTACLE



MULTI TRACK "2" INPUTS  
9 - 16

HI - HOT  
LO - COLD  
SH - SCREEN

CONNECTOR REF

21

CUSTOMER

TRIDENT AUDIO DEVELOPMENTS LTD.

TRIDENT HOUSE, ROOD INDUSTRIAL ESTATE

GOVETT AVENUE, SHEPPERTON,

MIDDLESEX, TW17 8AQ

Tel: WALTON-on-THAMES (0932) 224665 Telex 8813982

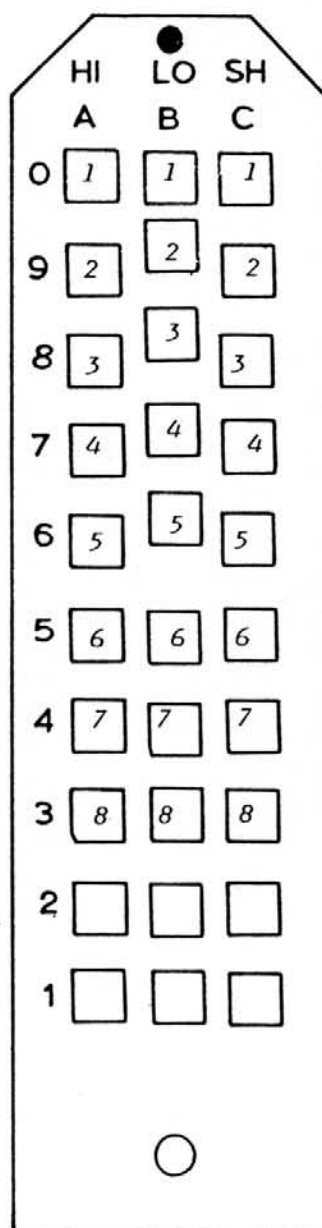
DESK TYPE SERIES

80-C / 32-24-48



STUDIO END

# PLUG



MULTI TRACK "2" OUTPUT

1 - 8

HI - HOT  
LO - COLD  
SH - SCREEN

CONNECTOR REF

23

CUSTOMER



TRIDENT AUDIO DEVELOPMENTS LTD.

TRIDENT HOUSE, ROOD INDUSTRIAL ESTATE,

GOVETT AVENUE, SHEPPERTON,

MIDDLESEX, TW17 8AQ

Tel: WALTON-on-THAMES (0932) 224665 Telex 8813982

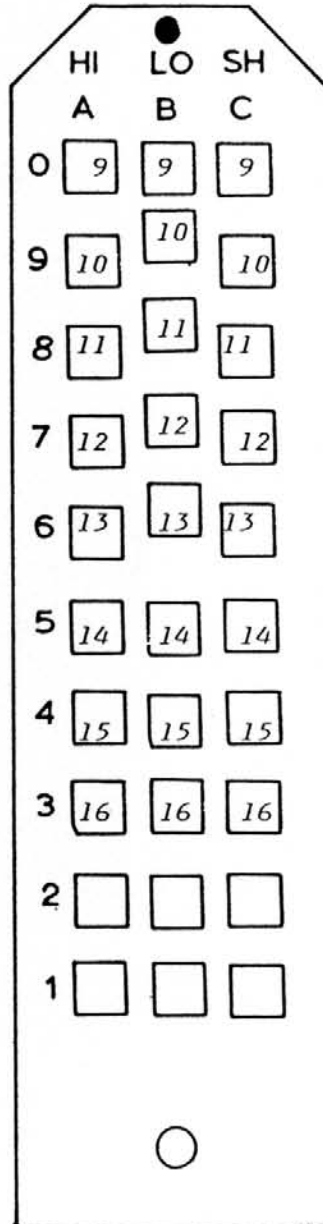
DESK TYPE SERIES

80-C / 32-24-48



STUDIO END

# PLUG



MULTI TRACK "2" OUTPUT  
9 - 16

HI - HOT  
LO - COLD  
SH - SCREEN

CONNECTOR REF

24

CUSTOMER



**TRIDENT AUDIO DEVELOPMENTS LTD.**

TRIDENT HOUSE, ROOD INDUSTRIAL ESTATE

GOVETT AVENUE, SHEPPERTON

MIDDLESEX, TW17 8AQ

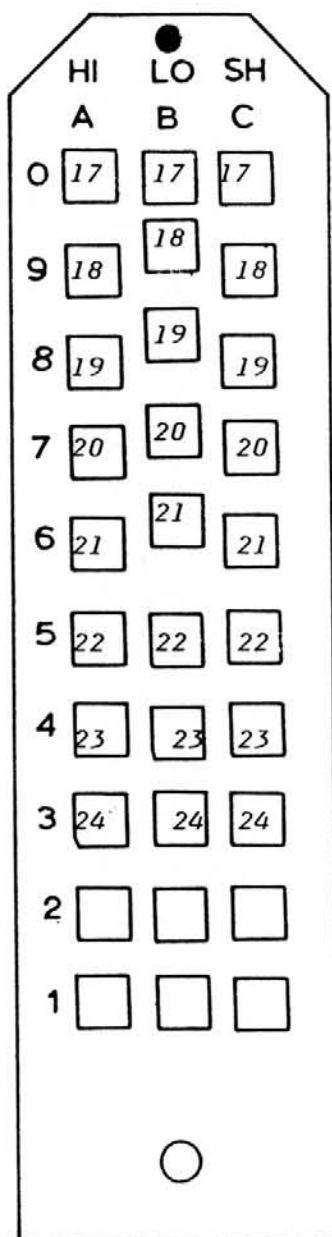
Tel: WALTON-on-THAMES (0932) 224665 Telex 8813982

**DESK TYPE SERIES**

80-C / 32-24-48

STUDIO END

# PLUG



MULTI TRACK "2" OUTPUT  
17 - 24

HI - HOT  
LO - COLD  
SH - SCREEN

CONNECTOR REF

25

CUSTOMER

DESK TYPE SERIES

80-C / 32-24-48



TRIDENT AUDIO DEVELOPMENTS LTD.

TRIDENT HOUSE, RODD INDUSTRIAL ESTATE

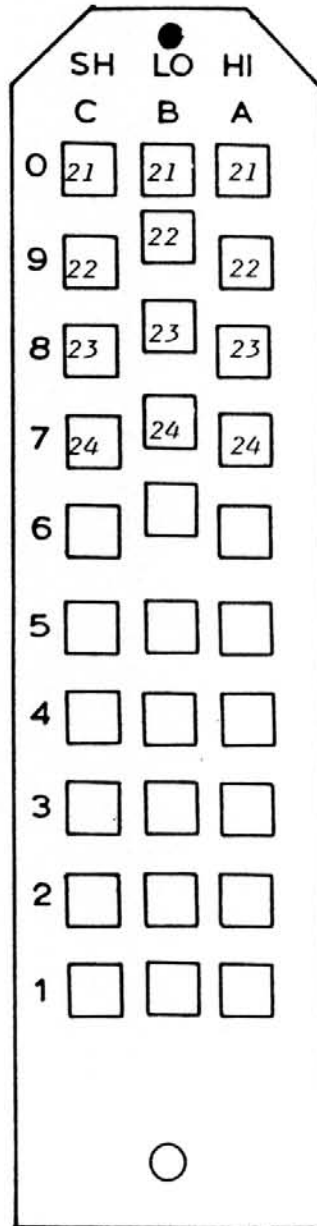
GOVETT AVENUE, SHEPPERTON.

MIDDLESEX, TW17 8AQ

Tel. WATTON-on-THAMES (0932) 224645 Telex 8813982

STUDIO END

# RECEPTACLE



TIE LINES  
21 - 24

HI - HOT  
LO - COLD  
SH - SCREEN

CONNECTOR REF

26

CUSTOMER

DESK TYPE SERIES

80-C / 32-24-48



TRIDENT AUDIO DEVELOPMENTS LTD.

TRIDENT HOUSE, RODD INDUSTRIAL ESTATE

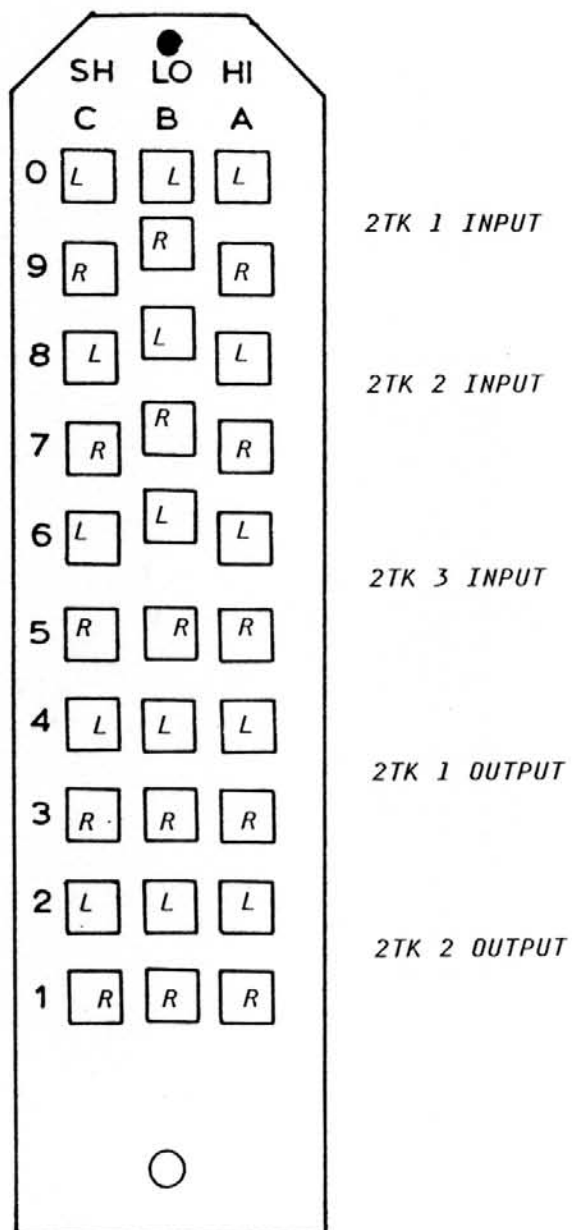
GOVETT AVENUE, SHEPPERTON,

MIDDLESEX, TW17 8AQ

Tel: WALTON-on-THAMES (0932) 224665 Telex 8813982

STUDIO END

# RECEPTACLE



HI - HOT  
LO - COLD  
SH - SCREEN

CONNECTOR REF

27

CUSTOMER

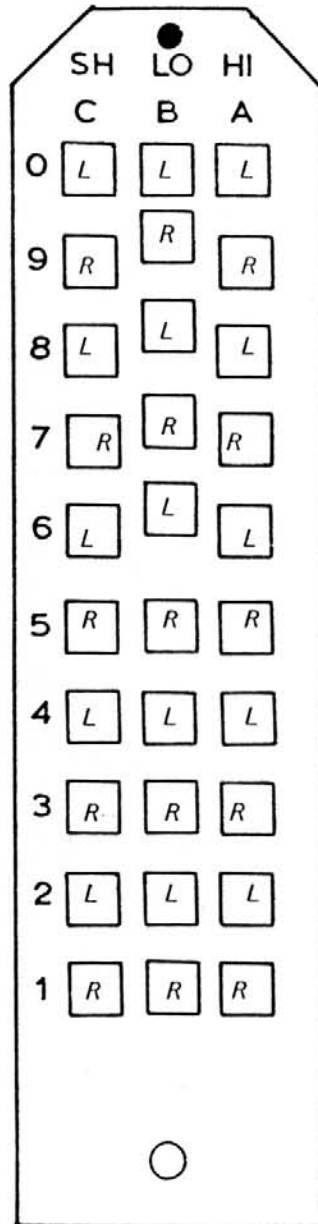


TRIDENT AUDIO DEVELOPMENTS LTD.  
TRIDENT HOUSE, RODD INDUSTRIAL ESTATE  
GOVETT AVENUE, SHEPPERTON  
MIDDLESEX, TW17 8AQ  
Tel: WALTON-on-THAMES (0932) 224665 Telex B813982

DESK TYPE SERIES  
80-C / 32-24-48

STUDIO END

# RECEPTACLE



2TK 3 OUTPUT

ALT SPEAKER SEND "1"

ALT SPEAKER SEND "2"

FOLD BACK AMP INPUT

STUDIO PLAY AMP INPUT

HI - HOT  
LO - COLD  
SH - SCREEN

CONNECTOR REF

28

CUSTOMER

TRIDENT AUDIO DEVELOPMENTS LTD.

TRIDENT HOUSE, RODD INDUSTRIAL ESTATE

GOVETT AVENUE, SHEPPERTON.

MIDDLESEX, TW17 8AQ

Telex 8813982

DESK TYPE SERIES

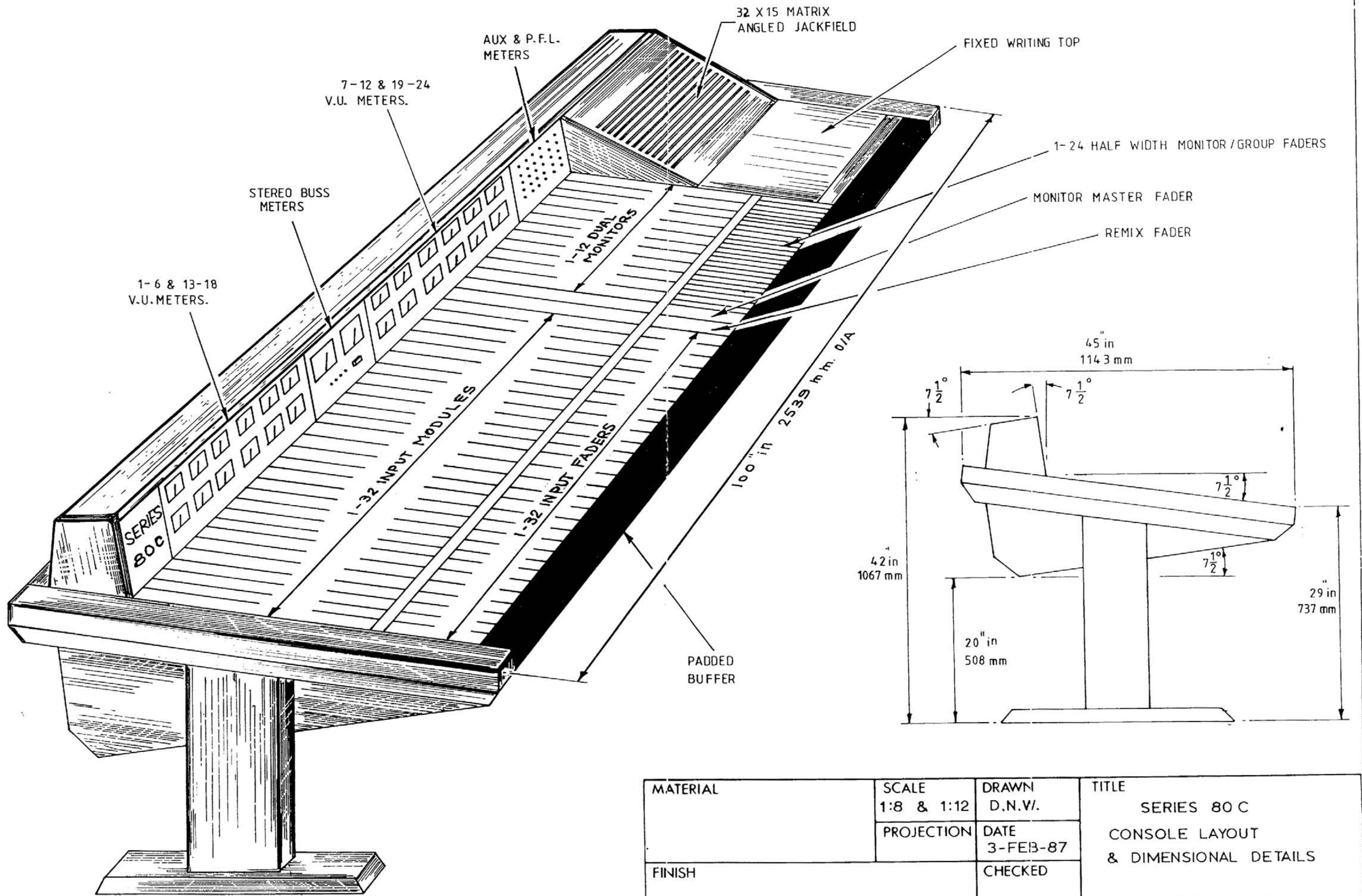
80-C / 32-24-48




SERIES 80C JACKFIELD-NORMALLING LIST (32 INPUTS)

<u>SEND</u>		<u>RETURN</u>
1) MULTI-TRK O/P'S 1-24	NORMALLED TO	LINE I/P'S 1-24
2) MULTI-TRK O/P'S 1-24	" "	MONITOR LINE I/P'S 1-24
3) DELAY DEVICE O/P'S 1-8	" "	LINE I/P'S 25-32
4) DELAY DEVICE O/P'S 1-4	" "	ECHO RETURNS 1-4
5) CHANNEL INSERT SEND 1-30	" "	CHANNEL INSERT RETURN 1-30
6) GROUP INSERT SEND 1-24	" "	GROUP INSERT RETURN 1-24
7) GROUP OUTPUTS 1-24	" "	MULTI-TRK I/P'S 1-24
8) AUX SENDS 1-3	" "	DELAY DEVICE I/P'S 1-3
9) AUX SEND 4-5	" "	F.B. AMP I/P'S L & R
10) MONITOR SEND L & R	" "	MONITOR AMP I/P L & R
11) STEREO BUSS INSERT SEND L & R	" "	STEREO BUSS INSERT RETURN L&R
12) STEREO BUSS O/P L & R	" "	STEREO I/P 1 L & R
13) STUDIO PLAY SENDS L & R	" "	STUDIO PLAY AMP I/P L & R

NOTE : ALL NORMALLING LINKS BREAK ON THE RETURN JACK ONLY



MATERIAL	SCALE	DRAWN	TITLE	
	1:8 & 1:12	D.N.V.		
FINISH	PROJECTION	DATE	SERIES 80 C CONSOLE LAYOUT & DIMENSIONAL DETAILS	
		3-FEB-87		
		CHECKED	DRAWING NO	ISSUE
			LD 6539	2
 TRIDENT AUDIO DEVELOPMENTS LTD. TRIDENT HOUSE, RODD INDUSTRIAL ESTATE, GOVETT AVENUE, SHEPPERTON, MIDDLESEX, TW17 8AQ Tel: WALTON-on-THAMES (0932) 224665 Telex 8813982			SHEET	OF SHEETS