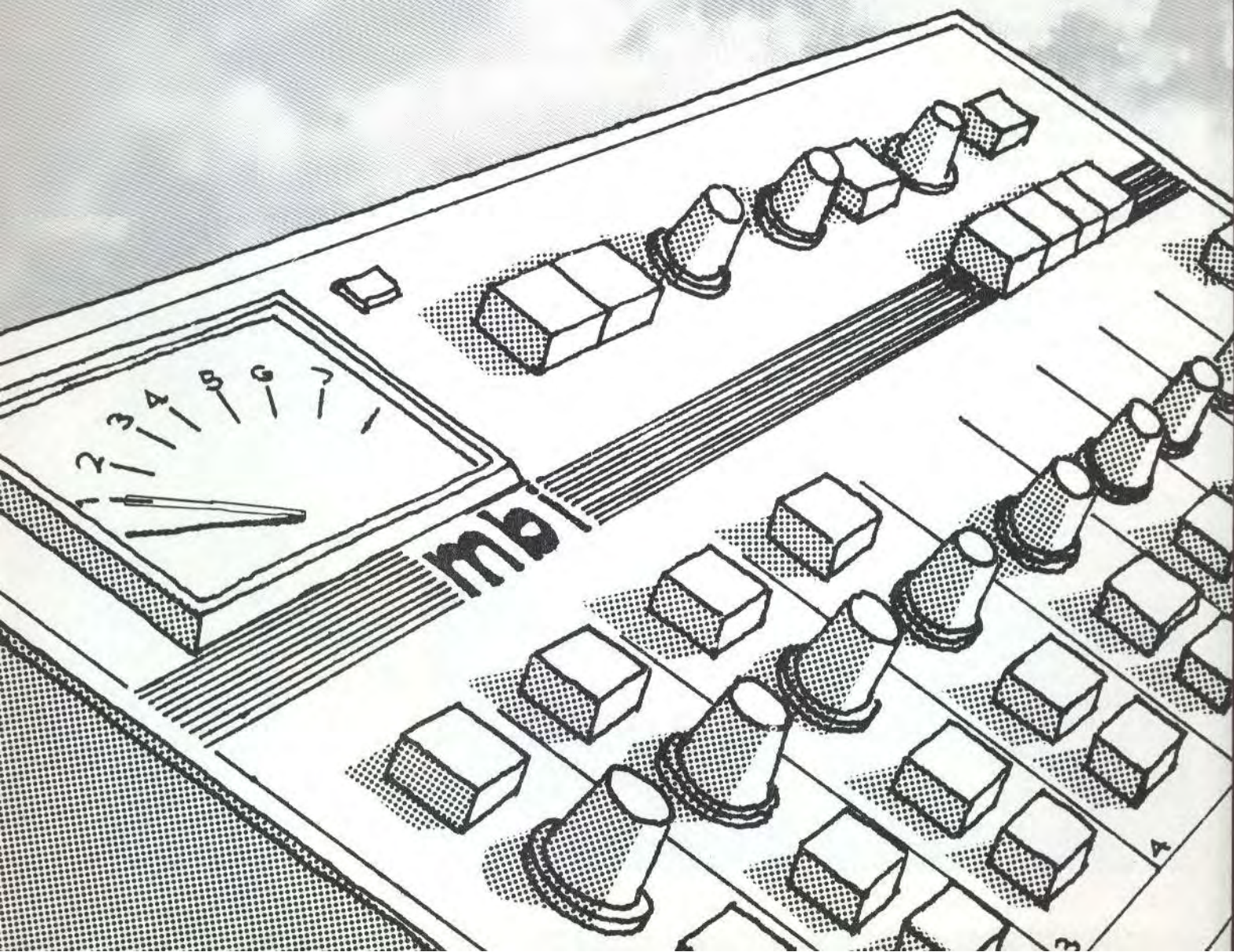

SERIES 12

Stereo/Mono Mixer

mbi

broadcast systems ltd



Series 12 Stereo/Mono Mixer

The MBI Series 12 mixer is primarily designed for use in applications where a simple "foolproof" operation is required such as in busy radio newsrooms, dubbing suites, outside broadcasts, and community radio stations.

Despite its operational simplicity, the mixer fully meets the technical specifications of Britain's Independent Broadcasting Authority and may be used in a number of different operational configurations. It is ruggedly constructed and its circuitry is of modular design.

The system consists of three components: the mixer, power supply, the optional Penny and Giles fader pack. Each component may be mounted in a standard 19 inch rack and appropriate mounting brackets with handles will be supplied if specified with order. Alternatively, the system can be inserted into console furniture or a flight case. Depending on how the system is mounted, the rear controls and connectors may be sited in one of two alternative positions as shown. The mixer and power supply may either be used on their own or linked with the fader pack which can also be retro-fitted after purchase.

Generally, when used without the fader pack, the mixer will probably be used in an "auto-level" mode; i.e. switching in automatic gain control on microphone channels and/or selecting overall output limiting. Soft channel non-latching push-button on/off controls may also be used. With the fader pack, the unit may be switched to manual operation if required.

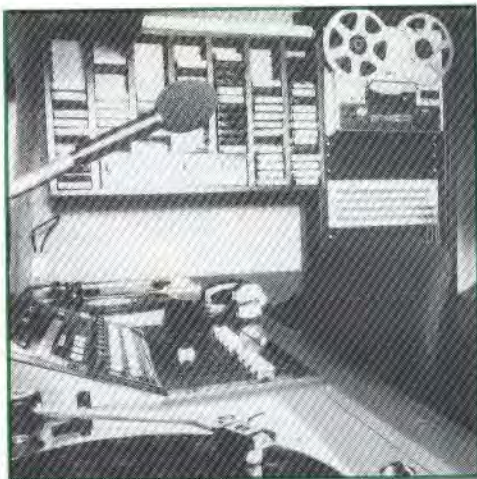
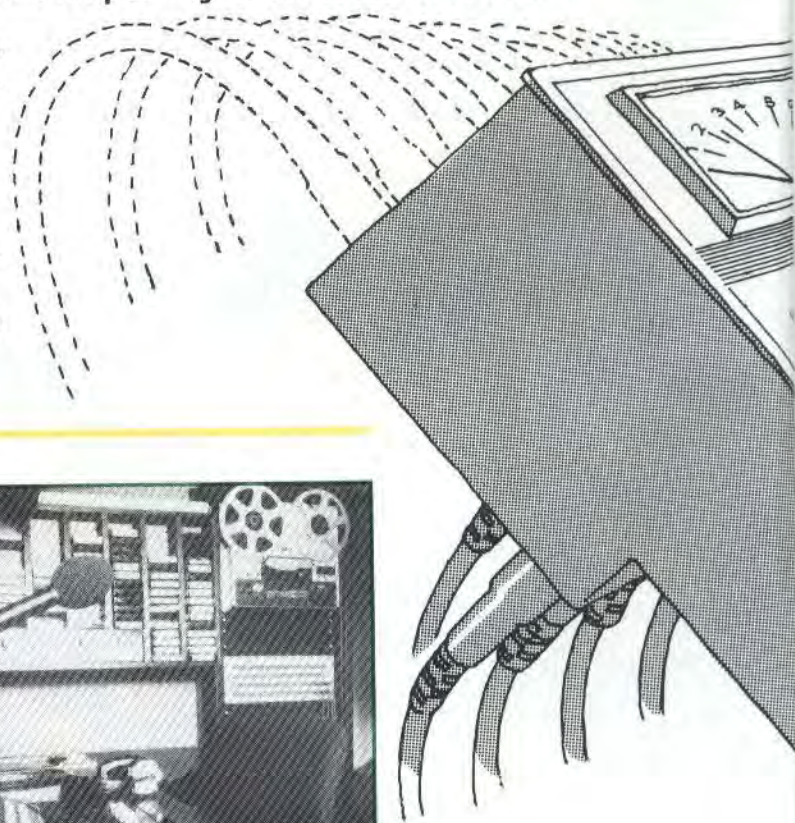
The mixer is equipped with two microphone inputs, a switchable mic/line input, a mono line/telephone input which generates a clean feed of mixer output, four stereo line inputs, and a stereo line input selectable between four stereo sources.

Each microphone channel level may be either manually or automatically controlled. Talkback is provided on the mono line/telephone input and is also available to be sent to two external destinations. All the inputs provide prefade listen; the mono inputs have a soft channel on/off control and the stereo inputs have equipment start controls which can be disabled, if required, when used with the fader pack to enable fader start/stop.

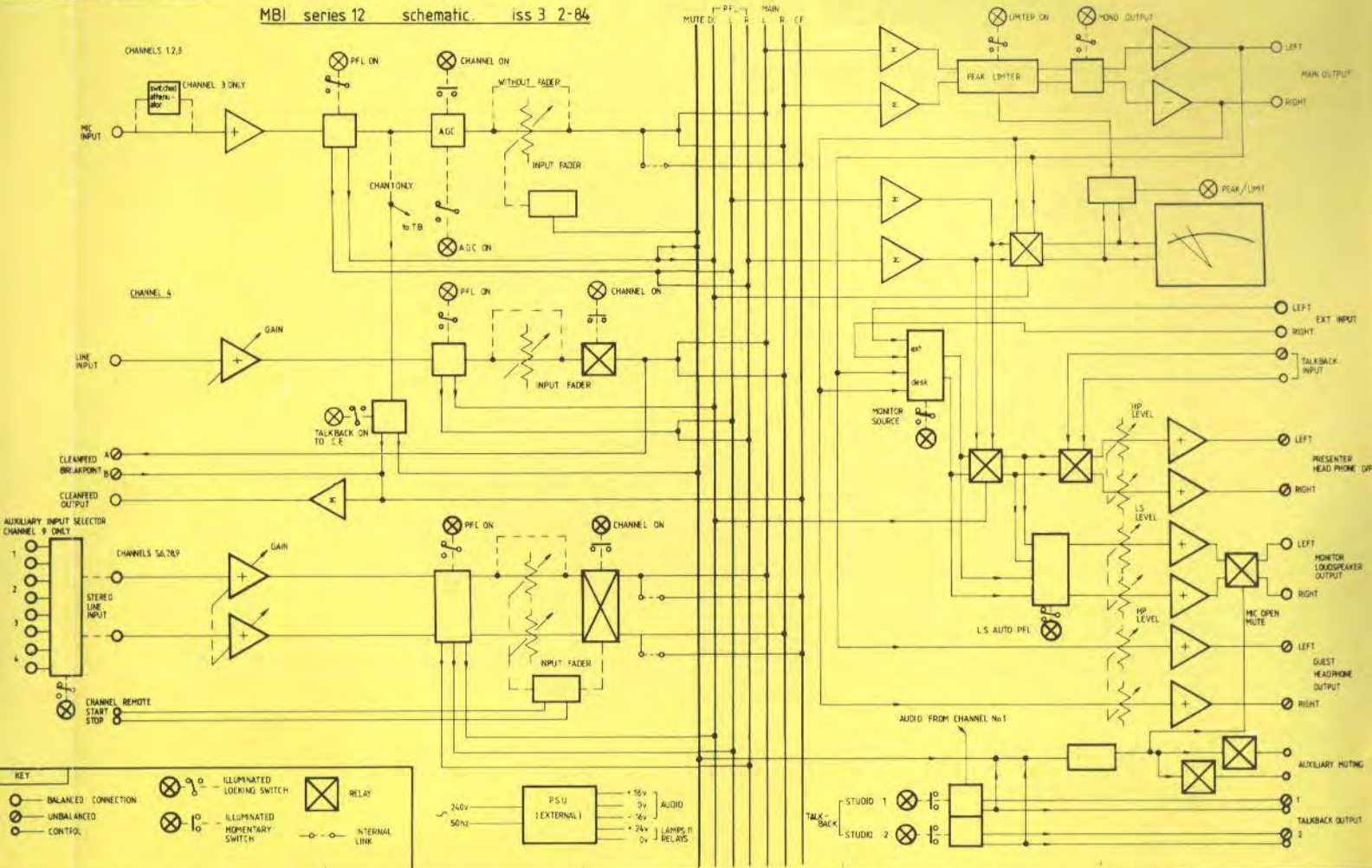
Three separate monitor feeds are provided, each with individual volume control: guest headphones, presenter headphones (which switch to prefade listen when pfl is selected on an input), and monitor loudspeakers which mute automatically when a microphone channel is activated and which can also monitor prefade listen if necessary. The presenter headphones and monitor loudspeakers may be switched to monitor either desk output or 'off-air' while the guest headphones always monitor desk output. The output may be switched via a limiter.

Mixer output and prefade listen are metered via a stereo Ernest Turner PPM or VU and a peak level warning/limiting lamp is provided. The output may be summed from stereo to mono if required. All the main inputs and outputs are via balanced XLR connectors.

The Series 12 mixer is particularly versatile and offers an economical and effective solution to many specialised broadcasting requirements.



MBI series 12 schematic iss 3 2-84

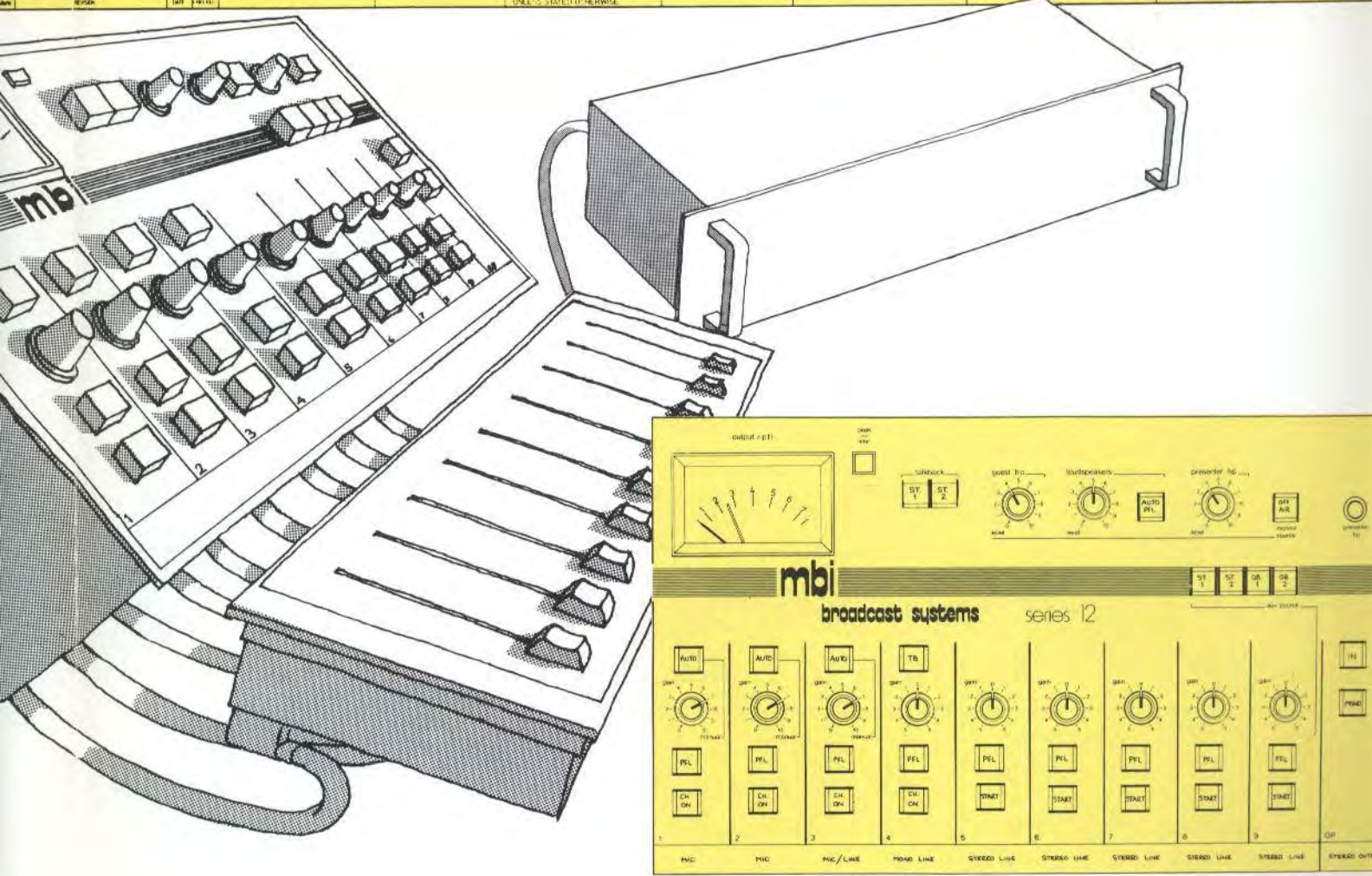


REV	REVISION	DATE	BY	CHKD
1	ISSUE 2	20.08.81		
2	ISSUE 3	13.06.84		

STANDARD NOTES	MATERIAL
ALL DIMENSIONS IN mm DO NOT SCALE DRAWING THIRD ANGLE PROJECTION REMOVE ALL BURRS & SHARP EDGES	
SCALE	

TOLERANCES	FINISH	NOTES
GENERAL: ±0.25 mm		
HOLE CENTRES: ±0.15 mm		
HOLE SIZES: ±0.10 mm		
UNLESS STATED OTHERWISE		

UNIT TITLE	MBI
MBI SERIES 12 BROADCAST MIXER	69 SHIP STREET, BRIGHTON BN1 1AE TEL (0273) 2472
DRAWING TITLE	DRAWING NO. MBD 62 iss 3
SCHEMATIC FOR SERIES 12	



MBI Series 12

TECHNICAL SPECIFICATIONS

(1) CONNECTIONS	
The phase convention is: pin 2 hot, 3 cold, 1 ground, technical earth terminal provided	
Channel Inputs	XLR 3 pin female locking connector
Main stereo output	XLR 3 pin male locking connector
Loudspeaker monitor output	XLR 3 pin male locking connector
Cleanfeed output	XLR 3 pin male locking connector
Channel 9 multisource input	20 way multipole DIN 41618 male connector
Talkback circuits	'D' range chassis socket male 9 way
Headphone outputs	1/4 inch 3 pole jack socket (large tip)
Cleanfeed breakpoint	1/4 inch 2 pole sockets (small tip)
Faders (optional)	Plessey type 159 15 way free socket
Power (mixer)	Cinch 8 way multipole
Power (PSU)	IEC 3 pin chassis socket male
Remote control	'D' range chassis socket male 9 way
(2) CONSTRUCTION	
All items suitable for 19 inch rack mounting	
Mixer	Steel/aluminium case, stove enamel with screenprint finish
Fader Unit	Steel/aluminium to accept P & G 1500 series faders with module width reduced to 40 mm
	Black/Silver anodised finish.
PSU	Steel/aluminium 19 inch rack chassis 3U height. Stove enamel finish. Connections at rear.

ELECTRICAL SPECIFICATIONS

OdBu = 0.775V RMS				
(i) INPUTS	GAIN		INPUT IMPEDANCE	REMARKS
	min	max		
Microphone	+40dB	+74dB	1Kohm	Transformer balanced floating
Line	-10dB	+10dB	10Kohm	Electronic balanced
Input headroom: Mic and line: 28dB between prefader nominal level and clipping level with sine wave.				
(ii) OUTPUTS	NOMINAL LEVEL	MAX LEVEL	OUTPUT IMPEDANCE	REMARKS
Main left/right	OdBu (PPM4)	+22dBu	75ohms	Transformer balanced floating Recommended load 10Kohms
Loudspeaker left/right	OdBu	+22dBu	75ohms	Transformer balanced floating
Cleanfeed	OdBu	+22dBu	75ohms	Transformer balanced floating
Headphone	OdBu	+22dBu	100ohms	Unbalanced; 4-600ohm headphone
Cleanfeed breakpoint A	-6dBu	+22dBu	2Kohms	Unbalanced
Cleanfeed breakpoint B	-6dBu	+28dBu	22Kohms	Unbalanced
Talkback output	OdBu	+22dBu	22ohms	Unbalanced
(iii) POWER	MIXER	+16V, -16V DC smoothed regulated 2A audio supply +24V DC smoothed regulated 3A lamp and relay supply		
	PSU	single phase AC input 150VA 100-115V 60Hz or 210-250V 50Hz to order.		
(iv) REMOTE CONTROL		floating relay closure. 110V max, 0.1A max. momentary relay contact closure, separate START & STOP contacts. latched contact closure when MIC fader open. Two pairs of contacts.		
START/STOP				
MUTING				

METERS

STANDARD:	PPM scale 1-7 twin movement, illuminated. BS 5428 type 2A. PPM 4 = ObBu. Red = Left.			
OPTIONAL:	VU Scale, twin movement, illuminated. ANSI C15.64. PPM types to EBU and DIN specifications.			
MONO SELECTION:	L & R main outputs mixed, both circuits operate. Mono level = $\frac{L+R}{2}$.			
LIMITER:	Preset threshold PPM 6 (+8dBu). Fixed attack 10mS, fixed release 1-5 seconds determined by programme content.			
ALL SERIES 12 units are designed and tested to meet the following specification:				
(i) FREQUENCY RESPONSE ref 1KHz: input to MAIN OUTPUT with 10Kohm load.	Mic Input 70dB gain +0, -1dB 20Hz to 20KHz +0, -0.5dB 40Hz to 15KHz. Line Input OdB gain +0, 0.5dB 20Hz to 20KHz +0, -0.25dB 40Hz to 15KHz.			
(ii) SIGNAL TO NOISE RATIO		RMS 20Hz to 20KHz	CCIR Quasi-Peak	
Output noise, inputs closed		-79dBm	-69dBm	
Output noise, 1 line channel open at unity gain		-78dBm	-68dBm	
Output noise, 1 mic channel open at 70dB gain		-54dBm	-44dBm	
(iii) CROSSTALK dB	40Hz	1KHz	6KHz	15KHz
Interchannel, CCIR Quasi-Peak	70	68	62	70
L-R, unweighted	65	75	60	50
(iv) DISTORTION	Mic or line input with +8dBu output 100Hz-10KHz typically 0.05% THD.			

