

542 RANGE

Section 3 **OUTPUT AND MONITOR PANEL**

CONTENTS

Para		Page
1	GENERAL	2
2	OUTPUT FADERS	2
3	MONO CONTROL	2
4	AUX (AUXILIARY) SECTION	2
5	PLAYBACK TO OUTPUT SECTION	2
6	MONITOR SECTION	3
7	V.U. METERS	4
8	TALKBACK SECTION	5
9	OSCILLATOR SECTION	5
10	MICROPHONE	5
11	HEADSET	5
	PARTS LIST	6

ILLUSTRATIONS

ML50095	Front Panel (Fold out)	8
EC10510	Sheet 2 Wiring Diagram	11 & 12
EK20239	Oscillator Frequency Selector Switch	14

FOLD OUT PAGE 8 FOR REFERENCE TO FRONT PANEL LAYOUT

GENERAL

1. The Output and Monitor Panel contains the controls, switches and V.U. meters associated with the processing circuits of the consoles. The panel location is shown on the appropriate layout drawing in Section 1 and the front panel layout, arranged in the various sections, on drawing number ML50095 applicable to all consoles.

Circuit diagram EC10510, sheet 2, shows the internal wiring of the panel with connections to components external to the panel. In general, the panel controls operate in conjunction with the audio processing circuits of the associated printed circuit board BA683 described in detail in section 4. The following descriptions of the panel controls are therefore with respect to operational effects only.

OUTPUT FADERS

2. The 'left' and 'right', Penny and Giles output faders located on the lower left hand side of the panel independently control the main **LINE-L**, **LINE-R** output signal levels. The fader control knobs are coloured red to distinguish them from the channel faders. The faders are connected pre Talkback-to-Line, Tone-to-Line switch and if either switch is selected the pgm (programme) audio is isolated from the Line outputs.

MONO CONTROL

3. The 'mono' push button, located on the upper right of the 'right' output fader, when selected mixes post fade audio from the **PGM-R** bus to pre-fade **PGM-L** bus to provide a mono output on **PGM-L**. **PGM-R** can be used as a sub-mix.

AUX (AUXILIARY) SECTION

4. The Aux (auxiliary) section contains two rotary level controls which independently control the Aux 1 and Aux 2 output signal levels.

PLAYBACK TO OUTPUT SECTION

5. The Playback to Output section contains two sets of controls arranged in vertical columns and associated with Playback 1 and Playback 2 inputs respectively.
 - (a) Rotary level control
Sets the level of playback audio signal.
 - (b) Pan Control
Provides panoramic positioning of the playback audio signal between the selected stereo busses (**Pgm-L**, **Pgm-R** or **Aud-L**, **Aud-R**).

- (c) **Pushbutton Switches**
The three push button switches associated with each playback input signal, when selected, provide the following mutually exclusive signal routing.
- (i) **OFF:** isolates the playback signals from Pgm and Aud busses.
 - (ii) **AUD:** routes Playback 1 and Playback 2 signals to AUD-L and AUD-R busses respectively.
 - (iii) **PGM:** routes Playback 1 and Playback 2 signals to Pgm-L, Pgm-R mixing busses respectively.

MONITOR SECTION

6. The Monitor section contains a ganged rotary level control, a 'mono' push button and six individually identified push button switches providing mutually exclusive routing of various audio signals to the **MON-L**, **MON-R** outputs. Monitor outputs are unbalanced and 2.5dB below line level.
- (a) **Rotary Level Control**
Sets the level of the monitor output signal.
 - (b) **'mono'**
The 'mono' push button is connected pre monitor output level control and when selected mixes the audio signals on **MON-L** and **MON-R** bus to provide mono outputs on **MON-L** and **MON-R**. Note, however that the V.U. meters continue to indicate the incoming stereo programme. See para 7 (c).
 - (c) **Pushbutton Controls**
The six interlocked push buttons, when selected, provide the following signal routing to the **MON-L**, **MON-R** outputs. In each case the audio signals are routed to the pre monitor dim, talkback to auxiliary, talkback to line and monitor level controls and the selected audio remains under the control of these facilities.
 - (i) **Line:** **LINE-L**, **LINE-R** output signals routed to **MON-L**, **MON-R** outputs respectively.
 - (ii) **Pgm:** **PGM-L** (programme left), **PGM-R** (programme right) Audio signals, pre 'talkback-to-line', 'tone-to-line' control switch, routed to **MON-L** and **MON-R** outputs, respectively.
 - (iii) **Aud:** **AUD-L** (audition left), **AUD-R** (audition right). Postfade audio from the Channel Amplifiers with the aud pb selected is routed to **MON-L**, **MON-R**

respectively. Prefade audio with the pfl push button on the Channel Amplifiers selected routed via **AUD-L** to **MON-L**.

- (iv) Aux 1: **AUX 1** audio output routed to **MON-L** and **MON-R** outputs.
- (v) Aux 2: **AUX 2** audio output routed to **MON-L** and **MON-R** outputs.
- (vi) p.b.: **PLAYBACK 1** and **PLAYBACK 2** audio inputs, pre-level and pan controls. routed to **MON-L**, **MON-R** outputs respectively.

V.U.METERS

7. The V.U. meters are designated 'left' and 'right' corresponding to the bus selected. The upper scale of the meters represents the audio level in VU where the 0 point corresponds to 0 VU.

Normal calibration +4dBu = 0VU.

The indication is dependent on the three position switch located directly above the meters.

- (a) Line
With the switch set to 'line' (centre) the meters indicate audio levels of **LINE-L**, **LINE-R** outputs respectively.
- (b) Aud
With the switch set to 'aud' (left) the meters indicate the audio levels of **AUD-L**, **AUD-R**.
- (c) Mon
With the switch set to 'mon' (right) the meters indicate the signal levels entering the monitor section, as selected by the six interlocked monitor push buttons. The meter indications are not affected by Monitor Dim, Mono or Monitor Output Level settings.

The V.U. meters are driven by V.U. Buffer Amplifier Board BA669 - see Section 4 for details.

P.P.M. METERS (OPTION)

P.P.M. meters are available as an alternative to the standard V.U. meters. The meter selection switches perform as for V.U. versions. The P.P.M. meters are driven by printed circuit board BA374/G - see Section 4 for details.

TALKBACK SECTION

8. The Talkback section provides switching facilities routing audio from the panel microphone to Line and Aux outputs via a rotary level control.
- (a) **Aux 1**
When 'Aux 1' is selected audio on Aux 1 bus is isolated from the Aux 1 output, **MON-L** and **MON-R** outputs are automatically dimmed and 'talkback' audio is routed to the Aux 1 output.
 - (b) **Aux 1-2**
When 'aux 1 and 2' is selected audio from Aux 1 and Aux 2 busses is isolated from respective Aux 1, Aux 2 outputs, **MON-L** and **MON-R** outputs are automatically dimmed and talkback audio is routed to both Aux 1 and Aux 2 outputs.
 - (c) **tb-to-line**
When the 'tb-to-line' switch is selected post-fade audio of Pgm-L, Pgm-R is isolated from respective **LINE-L**, **LINE-R** outputs, the **MON-L** and **MON-R** outputs are automatically dimmed and talkback audio is routed to **LINE-L** and **LINE-R** outputs.

OSCILLATOR SECTION

9. The oscillator section contains a rotary level control and a rotary control switch with seven operating positions. With the switch set to off the oscillator is inoperative. The oscillator output is unbalanced and the remaining five positions select tone signals of 40, 400, 1K, 10K and 15kHz. The tone signals are routed to the oscillator output connector on the connector panel and when the 'tone-to-line' switch is selected Pgm-L, Pgm-R audio is isolated from the line outputs and the selected tone signal is routed to **LINE-L**, **LINE-R** outputs.

MICROPHONE

10. The console microphone, in conjunction with the talkback section controls, provides talkback facilities to **LINE-L**, **LINE-R** or **AUX 1** or **AUX 1** and **AUX 2** outputs.

HEADSET SOCKET

11. The headset jack socket is centrally located on the top of the panel. This facility provides headset monitoring of the selected monitor outputs in mono or stereo, depending on the setting of the 'Mono' push button. The headset signal level is controlled by the Monitor Rotary Level Control.

OUTPUT AND MONITOR PANEL

PARTS LIST PN600006

Ref	Description	Part No.
Potentiometers		
	Pot SFER P11 1K Lin	PT11012
	Pot SFER P11 10K Lin	PT15028
	Pot SFER P11 10K + 10K Lin	PT45013
	Pot Plessey 'M' 1K Lin preset	PT11002
Resistors		
	TR4 360 ohms	RA360RO
	TR4 510 ohms	RA510RO
	TR4 1K0 ohms	RA001K0
	TR4 1K6 ohms	RA001K6
	TR4 5K1 ohms	RA005K1
Switches		
	Isostat 1B, 4P, P/P	SW20001
	Isostat 1B, 2P, P/P	SW20000
	Isostat 3B, 2P, O 2P	
	I/L CD10	SW20042
	Isostat 6B, 4P I/L CD15	SW20101
	Keyswitch 4NL/4NL	SW40062
	Keyswitch 4CL/4NL	SW40063
	Keyswitch 4CL/4CL	SW40064
Fader	P & G 1120 10K	FD10008
SUB-ASSEMBLIES		
	VU Meter R22F 'A' Scale	IM10002
	VU Amp Board*	PL10669
	PPM Amp & Meter (option)*	PL10374/G
	Sw. Assembly	PL20239
	Microphone Assembly	PL21103
	Jack Socket	CN35002
Knobs and Caps		
	Fader knob narrow red	KA11021
	Keyswitch cap ivory	KA14006
	Keyswitch cap Red/ivory	KA14010
	Keyswitch cap Grey/red	KA14015
	Knob 13 dia smooth	MK20055/1
	Knob 18 dia smooth	MK20056/1
	Knob 18 dia bar	MK20057/4

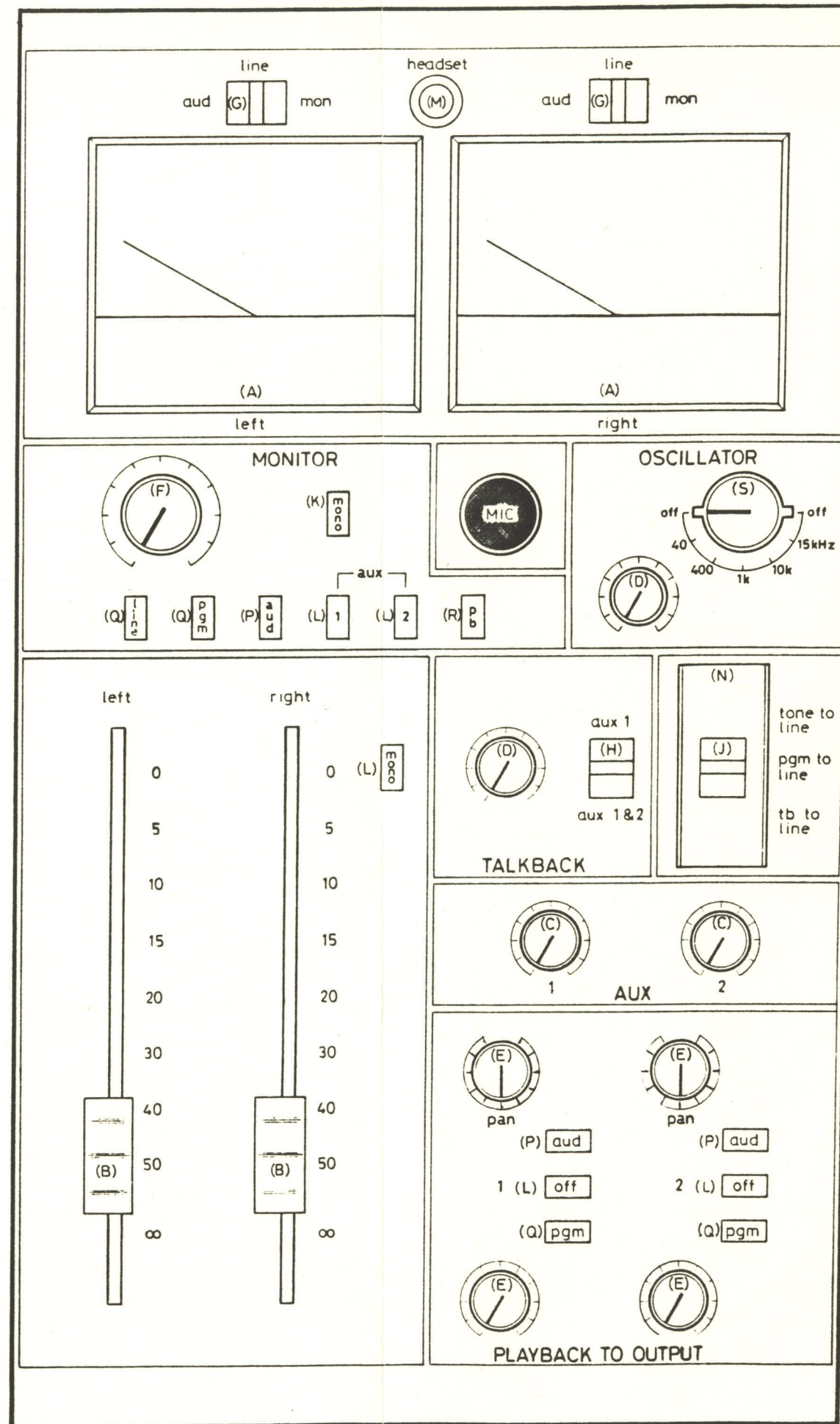
*See Section 4 for details

PARTS LIST continued

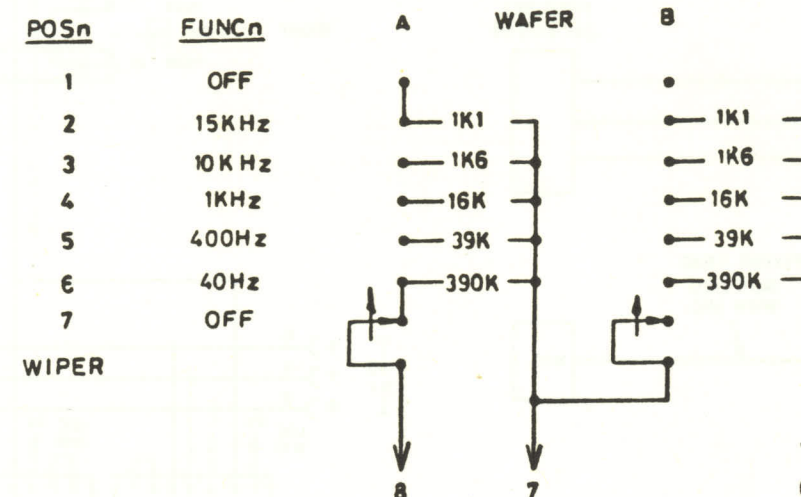
Ref	Description	Part No.
Knobs and Caps		
	Knob cap 13 dia L/Blue	MD20063/1
	Knob cap 13 dia Med/Blue	MD20063/2
	Knob cap 13 dia Dark/Blue	MD20063/3
	Knob cap 18 dia	MD20069/2
Engraved Caps (isostat)		
'pb'	10 mm white	MG53422/R
'aud'	10 mm black	MG54595/W
'1'	10 mm grey	MG55001/B
'2'	10 mm grey	MG55002/B
'mono'	10 mm grey	MG55413/B
'mono'	10 mm grey	MG55413/R
'pgm'	10 mm red	MG56596/W
'line'	10 mm red	MG56602/W
'aud'	10 mm black	MG64595/W
'off'	10 mm grey	MG65389/B
'pgm'	10 mm red	MG66596/W

KEY TO ML50095


ITEM	DETAIL
A	METER (SIFAM 22F FRONT PANEL MOUNTED) VU
B	FADER KNOB (P & G. NARROW) - RED.
C	13mm. DIA. KNOB - LIGHT BLUE INSERT.
D	" " " - MEDIUM BLUE INSERT.
E	" " " - DARK BLUE INSERT.
F	18mm DIA. KNOB - MEDIUM BLUE INSERT.
G	KEYSWITCH CAP - GREY/RED.
H	" " - IVORY. (NON-LOCKING)
J	" " - RED/IVORY (LOCKING UP, NON-LOCKING DOWN)
K	PUSH BUTTON (ISOSTAT 10mm) - GREY/RED.
L	" " " " - GREY/BLACK.
M	JACK SOCKET (STANDARD G.P.O.)
N	KEYSWITCH GUARD.
P	PUSH BUTTON (ISOSTAT 10mm) BLACK/WHITE.
Q	" " " " RED/WHITE.
R	" " " " WHITE/RED.
S	18mm BAR KNOB - MEDIUM BLUE INSERT.



OUTPUTS & MONITOR PANEL
(ML 50095 Issue 5)



NOTES

1. THIS IS A FEME 2P 12 WAY SWITCH.
2. POSITION 1 IS FULLY COUNTER CLOCKWISE VIEWED FROM OPERATING OR PANEL END OF SWITCH.
3. WAFER 'A' IS NEAREST TO PANEL.
4. FUNCTION IS LEGEND PRINTED ON PANEL.
5. —390K— DENOTES  390K

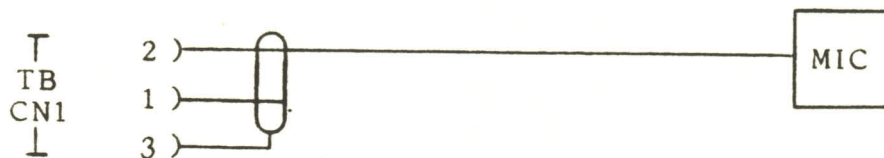
EK 20239
OSCILLATOR FREQUENCY
SELECTOR SWITCH

Addendum to Section 3

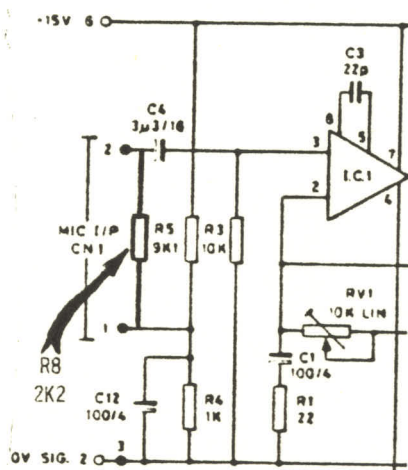
CONSOLE TALKBACK MICROPHONE

One of two versions of Microphone Assembly PL21103 may be fitted to 542 range consoles, as follows:

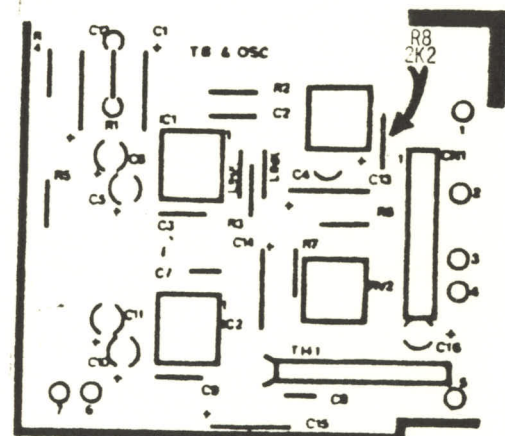
Version A



Version B



Part of EX10683 Sht 1



Part of EW10683

Note: Version B, with single screened lead, has 2K2 ohm resistor R8 added to BA683 TB & OSC Section as shown.
R8 must be fitted in all cases where assembly version A is replaced by version B.