

## Replicator Gain Adjustment Headers for Standard & Custom Levels

For FX8000 and FX2000 units. Last document revision 13/11/2002.

### Factory Settings

Replicator is supplied with factory input and output gains as follows:

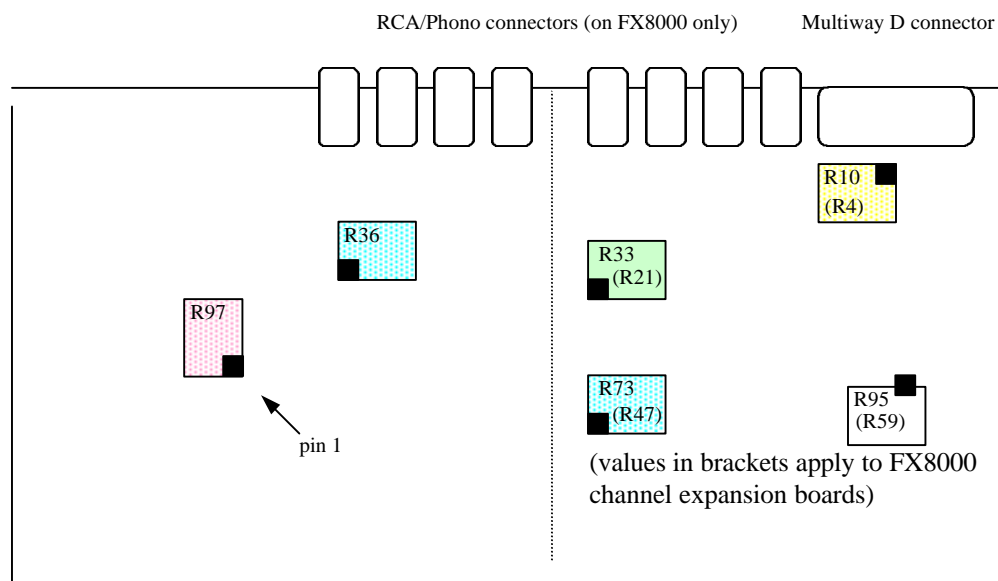
Balanced inputs and outputs:  $0\text{ dBFS} = +18\text{ dBu sine wave} = 17.41\text{ V pk-pk}$

Unbalanced inputs and outputs (FX8000 only):  $0\text{ dBFS} = +10\text{ dBu sine wave} = 6.93\text{ V pk-pk}$

### Location of Gain Adjustment Headers

Gain is adjusted by means of fitting 8-pin dual-in-line headers. Systems can be supplied with these fitted by specifying custom levels with order, or qualified personnel can fit headers “in the field”.

This is an illustration of the main PCB of a Replicator as seen from the front with the lid removed, showing the location of the 8-pin sites. Qualified personnel will have removed all power from the system whilst unqualified personnel will probably now spill a can of drink over the PCB, which will void any warranty and spoil the taste.

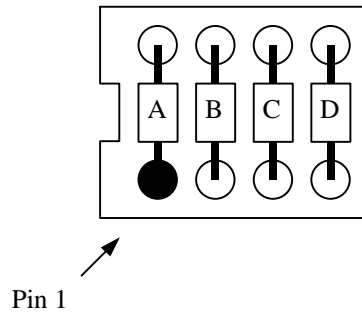


Analogue signal	is controlled by gain control header master board (channel expansion board*)	
Channel balanced in	R95	(R59)
Channel balanced out	R33	(R21)
Channel unbalanced in*	R10	(R4)
Channel unbalanced out*	R73	(R47)
Mix unbalanced out*	R36	n/a
Analysis bal and unbal out*	R97	n/a

\*These items apply to FX8000 only.

### Wiring of Headers

Each 8-pin header has two or four resistors fitted as shown here:



Each programming header has sites for two or four resistors, shown here as A,B,C and D. Note that pin 1 of each header must be inserted into pin 1 of the pcb site.

Parts for the following standard level settings can be ordered from Sintefex Audio or your dealer. Please make sure that if you are selecting a level setting from the following list you will need to select the same setting for all balanced inputs and outputs, including the analysis tone out, and another setting for all unbalanced input and outputs. Failure to fit matching sets will result in unmatched gain and level errors during sampling.

In the following tables resistor values are shown and should be 1% tolerance or better. A dash indicates that a resistor is not required in a particular site.

**Tables of Resistor Values – Balanced Connections**

**WARNING:** If operating above +18dBu it is not permitted to ground either balanced output pin of Replicator. These levels must be fed to a balanced input device.

Channel balanced in (R95 site)(R59 on expansion channels\*)

dBu	Vpp	A	B	C	D	Part No
+24	34.74	-	-	-	-	-
+22	27.60	180k	-	-	180k	12014 22BIN 00
+20	21.92	91k	-	-	91k	12015 20BIN 00
+18	17.41	56k	-	-	56k	12016 18BIN 00
+16	13.83	36k	-	-	36k	12017 16BIN 00
+14	10.99	24k	-	-	24k	12018 14BIN 00
+12	8.73	18k	-	-	18k	12019 12BIN 00
+10	6.93	13k	-	-	13k	12020 10BIN 00

Channel balanced out (R33 site) (R21 on expansion channels\*)

dBu	Vpp	A	B	C	D	Part No
+24	34.74	2k0	-	2k0	-	12026 24BOT 00
+22	27.60	3k3	-	3k3	-	12027 22BOT 00
+20	21.92	7k5	-	7k5	-	12028 20BOT 00
+18	17.41	-	-	-	-	-
+16	13.83	-	10k	-	10k	12029 16BOT 00
+14	10.99	-	3k3	-	3k3	12030 14BOT 00
+12	8.73	-	1k5	-	1k5	12031 12BOT 00
+10	6.93	-	62 Ω	-	62 Ω	12032 10BOT 00

Analysis balanced (XLR) out (R97 site)\*

dBu	Vpp	A	B	C	D	Part No
+24	34.74	3k9	-	-	-	12039 24AOT 00
+22	27.60	6k8	-	-	-	12040 22AOT 00
+20	21.92	15k	-	-	-	12041 20AOT 00
+18	17.41	-	-	-	-	-
+16	13.83	-	39k	-	-	12042 16AOT 00
+14	10.99	-	18k	-	-	12043 14AOT 00
+12	8.73	-	10k	-	-	12044 12AOT 00
+10	6.93	-	6k9	-	-	12045 10AOT 00

Note that the analysis signal on the ¼" balanced jack output level tracks XLR output but is 20dB lower. Either phase output may be safely grounded for unbalanced use.

\*These items apply to FX8000 only.

**Tables of Resistor Values – Unbalanced Connections\***

Channel unbalanced in (R10 site) (R4 on expansion channels)\*

<b>dBu</b>	<b>Vpp</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>Part No</b>
+10	6.93	-	-	-	-	
+8	5.51	82k	-	-	82k	12021 08UIN 00
+6	4.37	39k	-	-	39k	12022 06UIN 00
+4	3.47	22k	-	-	22k	12023 04UIN 00
+2	2.76	15k	-	-	15k	12024 02UIN 00
0	2.19	10k	-	-	10k	12025 00UIN 00

Channel unbalanced out (R73) (R47 on expansion channels)\* and

Mix unbalanced out (R36)\*

<b>dBu</b>	<b>Vpp</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>Part No</b>
+10	6.93	-	-	-	-	
+8	5.51	-	75k	-	75k	12033 08UOT 00
+6	4.37	-	27k	-	27k	12034 06UOT 00
+4	3.47	-	15k	-	15k	12035 04UOT 00
+2	2.76	-	10k	-	10k	12036 02UOT 00
0	2.19	-	6k8	-	6k8	12037 00UOT 00

Note that on revision 1 system boards, unbalanced output levels are approximately 2dB higher than specified on unbalanced outputs. The following part may be fitted to achieve the specified +10dBu output and is available free of charge from Sintefex Audio or via distributors to registered end users where this has not already been fitted.

Channel unbalanced out (R73) and Mix unbalanced out (R36) (v1.0 pcb only)\*

<b>dBu</b>	<b>Vpp</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>Part No</b>
+10	6.93	-	62k	-	62k	12038 V1UOT 00

Note that 0dBu = 0dBm (1 mW) into  $600\Omega$  = -2.2 dBV = 0.775 Vrms = 2.19 Vpp

\*These items apply to FX8000 only.