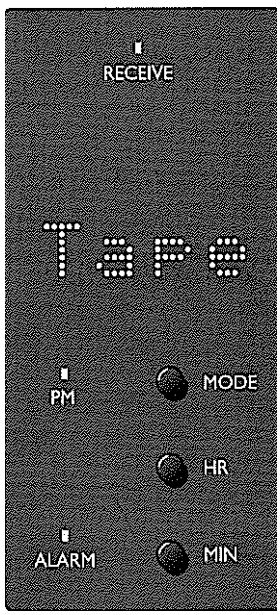
S U P P L E M E N T A R Y M A N U A L

S4.2 & DMS

(To be used in conjunction with, the-S4.1, Super Controller Installation Manual)



INSTALLATION AND OPERATING MANUAL

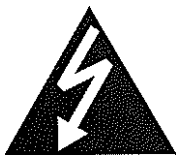
SYSTEMLINE
Integrated Home Entertainment

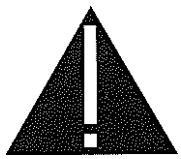
ALSO CONTAINS:

The KD Kit Installation &
Operating Instructions.

SYSTEMLINE
Integrated Home Entertainment

Table of Contents





WARNING: There are no user serviceable parts inside. Refer all servicing to qualified service personnel.

WARNING: The information given in Sections 4-8 is intended for qualified installation and service personnel only.

WARNING: To reduce the risk of fire or electric shock, do not expose the equipment to moisture or water. Do not allow foreign objects to get into the enclosures. If any unit is exposed to moisture, or a foreign object enters an enclosure, immediately disconnect the Super Controller power cord from the supply socket. Seek advice from qualified service personnel for inspection and repair.

GUARANTEE

All products are covered by a 2 year guarantee for parts and labour. Site visits are not covered by this guarantee and will normally result in a call out charge if such a visit is requested or deemed necessary.

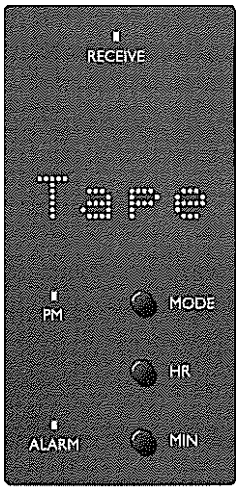
1 Introduction

This manual is intended to be read in conjunction with the S4.1 Super Controller Installation manual, to provide full installation and operating instructions for the S4.2 Super Controller System.

For full details on installing the KD-KIT which updates an installed S4.1 Super Controller System to an S4.2 Super Controller System, refer to Section 8.

Note: A new type of IR receiver is used in the DMS. In the event that the range of the standard handset is found to be insufficient, an upgraded version is available. Please contact QED for details. This new version is supplied as standard with the SDS System package.

2 Operating Instructions



ALARM LED: this lights up to show that an alarm has been set and will execute when the set time is reached. If this LED is not lit, no alarm settings will have any effect.

MODE Button: this button is used to set up the DMS as detailed in Section 3. When a zone is active, pressing this button will display the current time.

HR Button: the HR (hour) button is used in conjunction with the MODE button to set up the DMS. It has no function when a zone is active.

MIN Button: like the HR button, the MIN (minutes) button is used in conjunction with the MODE button to set-up the DMS. It has no function when a zone is active.

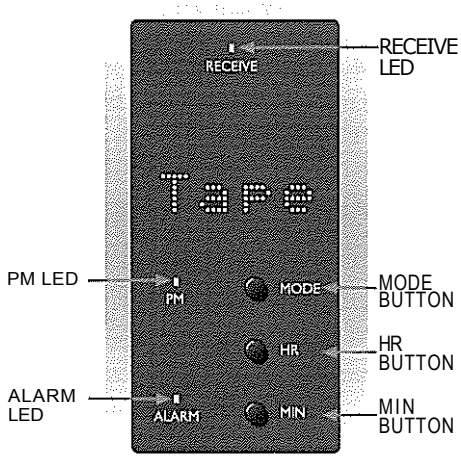
Zones and Modes

DMS units are installed in zones, and each zone can be set in either of two modes: Standby or Active. When a zone is active, the DMS responds to control commands from the RHS handset or the KMS keypad and shows appropriate messages such as the Source chosen etc.

Controls and Displayed Information

RECEIVE LED: this lights up when the DMS receives a signal (an IR code) from the handset or the KMS keypad in the same zone.

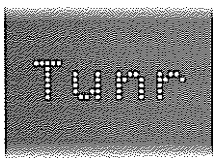
PM LED: this lights up when the 12hr clock time is after 12 noon and before 12 midnight.



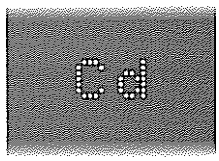
Dot Matrix Display

The display also responds to commands from the handset or the keypad, and provides the following features:

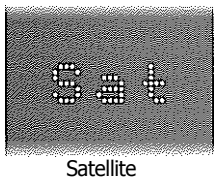
Source Selected: the display shows the source in use:



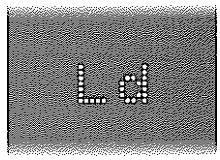
Tuner



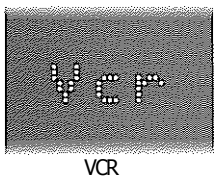
Compact Disc



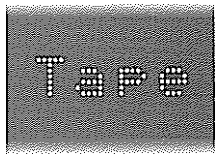
Satellite



Laser Disc



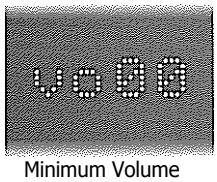
VCR



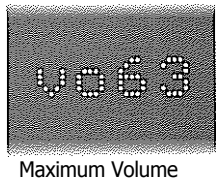
Tape

Clock Display and Greeting: when a zone is in standby mode, the time is displayed in 4-digit 12hr format. When the zone is activated, the DMS shows the greeting 'Good morning', 'Good afternoon' or 'Good evening' appropriate to the time of day. At shutdown and after 10pm the DMS shows 'Good night'. When a zone is active, pressing the MODE button will display the time.

Volume Level: when a Volume control command is sent, the DMS will display a 2digit number counting up or down between vo 00 (min. volume) to vo 63 (max. volume).



Minimum Volume



Maximum Volume

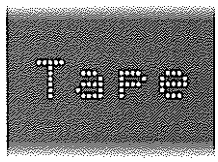
When a Mute ON signal is sent the display will ramp down to zero and show the message ' Mute'. On receipt of a Mute OFF or source select or volume up/down command signal, the display will ramp up to its previous level.

If a zone is active and a Paging signal is received, the display will ramp down to zero and then show'(())'. If a Paging signal is received while the DMS is muted, the display will immediately show '(())'.

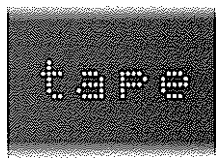
If the zone is in standby mode and a Paging signal is received, the DMS will display the appropriate greeting for the time of day and then '(())'.

Automatic Brightness Adjustment: an ambient light sensor in the DMS adjusts the brightness of the display as the background lighting varies, to give a more even perceived brightness.

Engaged Indication: If a zone is engaged, the leading character of the selected source is shown in lower case.



SOURCE SELECTED



ZONE ENGAGED

Battery Low Indication: When a display is first connected the time will flash to indicate that the clock needs to be set. If the display flashes after the system has been turned off for a period of time, this indicates that the internal battery charge is low. Leave the system in standby for a few days to recharge the display backup battery.

Operation

With the zone in standby mode, the DMS will display the current time. Use the handset or keypad normally to select the required functions.

To set alarms, use the MODE, HR and MIN buttons as detailed in Section 3.

To shut down all zones and the AC power from the Controller, send a Standby signal for more than 3.5 seconds; the system will power down and the DMS will show' off!'.

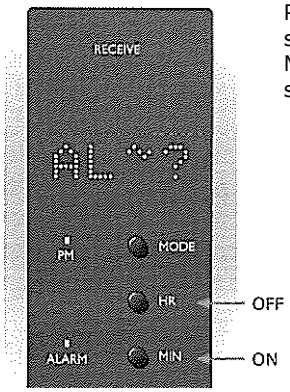
3 Setting Alarms and Time

With the DIMS zone in Standby mode, press the MODE button. The display will show the first 'Mode' function. Repeatedly pressing the MODE button will step through the remaining functions and return the DMS to Standby mode (a total of five steps).

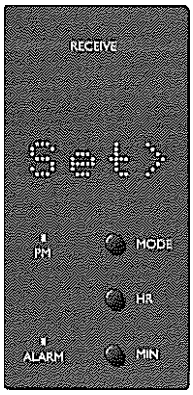
After the first function has been selected, if the MODE button is not pressed for approximately 10 seconds the DMS will return to Standby mode and retain any changes to settings that have been made.

To set the alarm and time, press the Mode button to step through the procedure as follows:

Note: The diagrams show momentary indications of the functions being set prior to their status being shown.

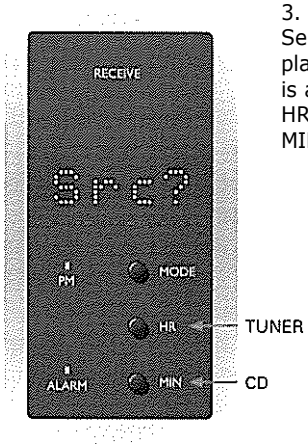


1. **Select Alarm**
Press HR button to select alarm off, MIN button to select alarm on.

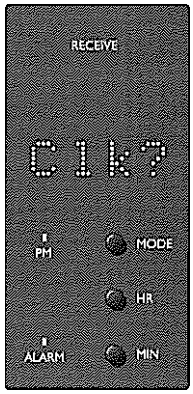


2. **Set Alarm Time**
The display will show the last alarm time set. Use HR and MIN buttons to advance to the required alarm time.

Note: Make sure that the PM indicator is also showing the correct 12hr period for the alarm.



3. **Select Source**
Select the source to play when the alarm is activated. Press HR to select Tuner, MIN to select CD.



4. **Set Clock**
Use HR and MIN buttons to advance to the required clock time.

Note: ***The clocks in different zones may be slightly out of synchronisation due to drift or inaccurate setting. They will be synchronised automatically at 12 noon each day with the master system clock in zone A.***

5. **Return to Standby mode**
Pressing Mode button exits Mode function.

Note: If a DMS is set as a slave (See Section 5.6) only the clock can be set. Only one alarm in each zone is permitted.

4 Installation Overview

WARNING:
The information given in this and subsequent sections is intended for qualified Installation and Service personnel only.

The DMS can be fitted at new installations, or retro-fitted to existing installations under the following conditions to upgrade model S4.1 systems to S4.2:

It can be fitted to current Super Controller (S4) based systems, but is not suitable for use with the C4 or the previous version SC482 Controllers.

It uses Standard Systemline data wiring.

It can directly replace the IMS module.

No change is required to the KMS Keypad or its wiring.

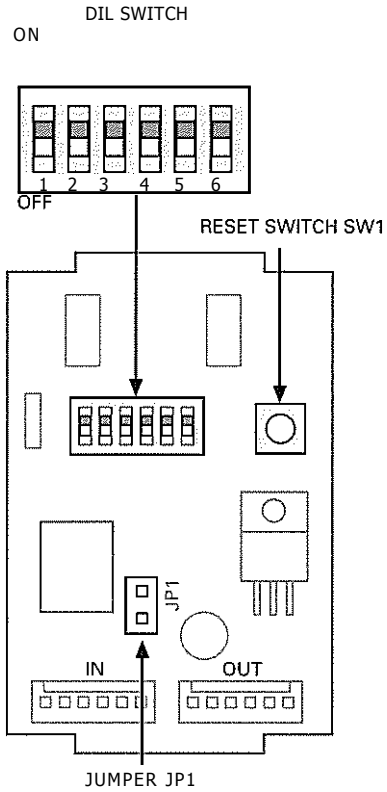
For a new installation: refer to Sections 5, 6 and 7 to set-up source components or to select alternative source brands as required.

To upgrade an S4.1 system: refer to Section 8.

For both options: refer to the S4.1 Installation Manual as indicated.

5 New Installation

Refer to Fig. 1 PCB Layout below for component locations.



1. Data Cable Preparation

Prepare and connect the data cabling as detailed in the S4.1 Installation Manual.

2. Cable Connections to the DMS

Connect the remote end of the data cable to the OUT connector on the DMS.

If a KMS keypad is being used, or a Slave DMS, it should be connected to the IN connector.

3. Battery Enable

Each DMS contains a rechargeable battery which maintains the clock and other configuration information when power to the controller is switched off. The battery must be enabled when the DMS is installed. When fully charged, the battery will then maintain the configuration information for several weeks without recharging.

To enable the battery, place the jumper JP1 to link the two pins.

Note: After installation leave the Controller on continuously for a few days to ensure that the internal battery is fully charged.

4. Zone Configuration

Select the required zone for the DMS by means of DIL switches 1 and 2 as follows:

Zone	Switch 1	Switch 2
A	OFF	OFF
B	OFF	ON
C	ON	OFF
D	ON	ON

5. Component Source Configuration

If required, configure the Source Components as shown below. In addition to the standard Tuner and CD selection on inputs 1 and 2, the settings of DIL switches 3 and 4 determine the display indications for inputs 3 and 4 as follows:

Input 3	Input 4	Switch 3	Switch 4
Tape	VCR (default)	OFF	OFF
Tape	LD	OFF	ON
Sat	VCR	ON	OFF
Sat	LD	ON	ON

Note: *Switch 5 is reserved and must be set to OFF*

6. Master/Slave Configuration

The setting of DIL switch 6 configures the DMS as a Master or Slave. Because it is possible to have more than one DMS in any zone, follow these simple rules to ensure that the required functions are available:

Zone A must have a Master DMS as it acts as the system Clock Synchroniser.

In a zone with more than one DMS, only one DMS must be set as Master and each other DMS as a Slave. The Master DMS must be the first device on the data cable from the Controller end.

* Clock and Alarm functions can only be set from a Master.

The switch settings are:

Switch 6

OFF	Master (default)
ON	Slave

7. System Reset

After changing any of the above configurations, reset the system by pressing the RESET switch (SW1). This is essential to allow the new setting to take effect.

8. Set-up Source Components

If required, refer to Section 6 and set-up the source components. These must be set-up for both new and retrofit installations.

9. System Test

IMPORTANT INFORMATION: After setting up the source components, power down the system, wait approx. 30 seconds and then power it up again. Test all functions.

6 Source Component Set-Up

The principles of Source Component SetUp are identical to those described in the S4.1 Installation Manual Section 5.1. The same Super Controller Set-Up Card (overlay) is used and the same Source Components are available. Only the most important points are given here with minor differences relating to the DMS operation being in **bold**.

Note: The Component Source configuration for the required Tape/Sat. and VCR/Laser Disc combination must be set-up, as detailed in Section 4, before carrying out this procedure.

Set-Up must be performed at zone A, and the zone must be active (not in Standby mode).

1. Place zone A in Set-Up mode; the DMS will display **Set?**

2. For each audio input to the Super Controller (1 to 4) select the Source Components following the same sequence 1 to 4. Each Source selected will cause the same character to be displayed on the DMS as is printed on the overlay card.

3. When all four Source Components have been selected, exit Set-Up mode and then switch the Controller OFF with the POWER button on the front panel. Wait for 30 seconds and then switch ON again to make the new settings take effect.

7 Selecting Alternative Source Brands

Purpose

To allow the field installation of an alternative set of Source brands by replacing the set installed.

Note: It is only possible to select one complete set of supported brands from the two sets available. It is not possible to ' mix and match' individual brands from separate sets.

The Default Brands (Chip-1) Set:

Audio	RC-5, Yamaha, Denon, Pioneer, Sony
Video	RC-5, Sony, Panasonic
Laser Disc	Pioneer
Satellite	Pace MSS range and Prima range.

The Alternative Brands (Chip-2) Set:

Audio	Technics, Rotel, Nad, Pioneer, Sony
Video	Sony, Panasonic
Laser Disc	Pioneer
Satellite	Pace MSS range and Prima range.

NOTE: The Video 'Stop' command is not sent when a System All 'OFF' command is received. This prevents the possibility of the Video being stopped during recording.

Equipment Required

Alternative (Chip-2) packaged with the S4.2 Controller or included in the KD-KIT upgrade pack.

Small cross slit (Superdrive no 1) or similar screwdriver (not supplied).

IC extractor tool or thin bladed screwdriver or similar (not supplied).

Procedure

1. If possible check that the Controller is functioning properly.

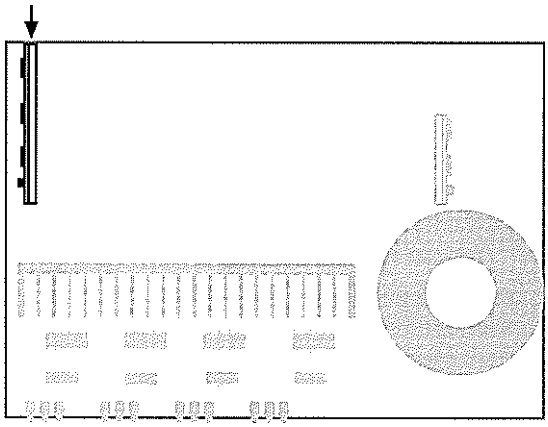
2. Disconnect the mains power and any other cables as necessary. Label all cables for correct reconnection later.

3. Place the Controller on a suitable working surface. Remove the six countersunk screws from the underside of the unit at the right and left hand edges of the chassis, and remove the two dome headed screws at the top of the back of the Controller. Slide the cover off towards the back of the unit.

4. With the Controller front panel towards you, identify the Translator Card (TL) at the left hand side of the main PCB, (see Fig. 2). Unplug the card by gently pulling it upwards while rocking it from one end to the other until it is free.

REMOVE TL CARD & REPLACE IC AS DESCRIBED. REPLACE CARD.

Fig. 2 Main PCB layout

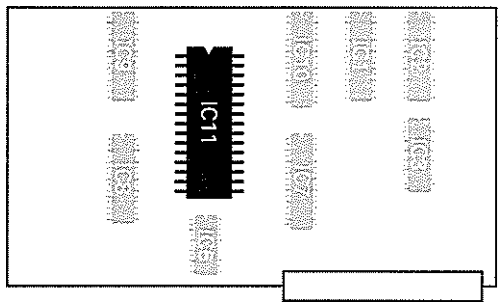


5. On the TL card identify IC11, the large chip in a socket near the centre of the card, (see Fig. 3). With the IC extractor tool or a thin blade, gently prise it out of its socket. Carefully insert the alternative chip, making sure that:

- the notch on the chip faces the same way as on the socket (towards the top of the card), and
- the pins of the IC are properly fitted into the socket and not bent under or outside the socket.

CAUTION: Incorrect insertion will destroy the IC and possibly cause further damage.

Fig. 3 Translator Card (TL) PCB layout



6. Refit the Translator card and re-assemble the Controller by reversing steps 1 to 4 above. Now re-configure the Controller for the correct brands.

Alternative Source Brand Set-up

The Alternative Source Brand (Chip-2) set-up procedure is identical to that used with the S4.2 Controller and the Standard Source Brand (Chip-1). However, the equipment selected will differ from the items listed on the Super Controller (RHS) Set-Up Card Overlay. Select the correct Source Brands from the Chip-2 set as follows:

Source	Chip-1	Chip-2	DMS Display
Tuner	RC-5	Technics	A
	Yamaha	NAD	E
	Denon	Rotel	J
	Pioneer	Pioneer	q
	Sony	Sony	u
C. D.	RC-5	Technics	b
	Yamaha	NAD	F
	Denon	Rotel	L
	Pioneer	Pioneer	r
	Sony	Sony	H
Tape	RC-5	Technics	C
	Yamaha	NAD	g
	Denon	Rotel	0
	Pioneer	Pioneer	S
	Sony	Sony	0
Satellite	Pace	Pace	c
Video	RC-5	-	d
	Panasonic	Panasonic	h
	Sony	Sony	P
L.D	Pioneer	Pioneer	t

IMPORTANT INFORMATION: It is only possible to choose source equipment brands from <u>exclusively</u> 'Chip 1' or <u>exclusively</u> 'Chip 2'. It is not possible to mix and match brands between ' Chips'.

8 S4.1 to S4.2 Upgrade

Purpose

To make available to the user of an installed S4.1 Super Controller based system, the advantages of the DMS Dot Matrix Display(s).

Note: If the DMS is being fitted to an S4.1-based system as part of an upgrade (using the KD-KIT), it is worth noting that there is scope for much improved handset operating range. This is achieved by separately purchasing a revised RHS infra-red handset. The revised RHS handset is supplied as standard with all S4.2 Super Controller Packages. Contact QED Audio Products Limited for details.

Equipment Required

Upgrade kit part no: KD-KIT containing the following:-

1 x DM TX card Iss.1 (Printed circuit board with mounted components)

4 x Cs (Integrated circuits) numbered 11C4, 21C4, 31C4 and 41C4

4 x ICs (Integrated circuits) numbered IC7, IC8, IC9 and IC10

54.2 version label

Small cross slit (Superdrive no 1) screwdriver or similar (not supplied)

IC extractor tool or thin flat bladed screwdriver or similar (not supplied).

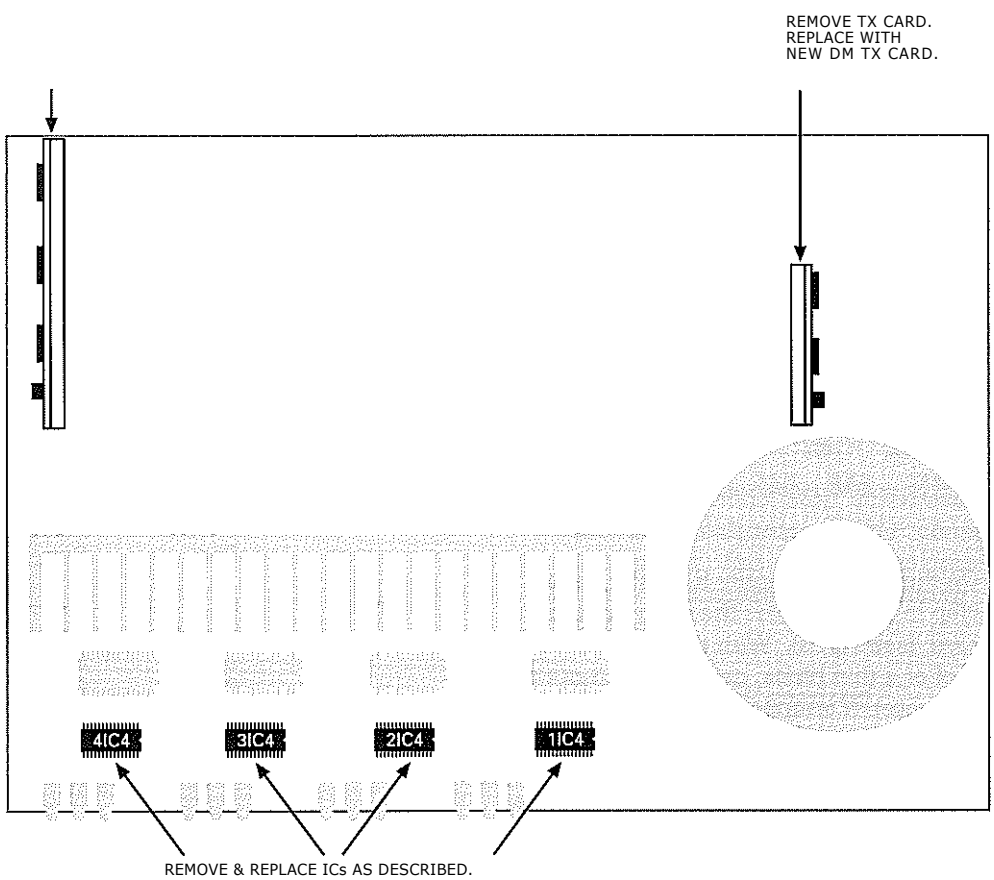


Fig. 4 Main PCB layout

Procedure

1. If possible, check that the Controller is functioning properly.

2. Disconnect the mains power and any other cables as necessary. Label all cables for correct reconnection later.

3. Place the Controller on a suitable working surface. Remove the six countersunk screws from the underside of the unit at the right and left hand edges of the chassis, and remove the two dome headed screws at the top of the back of the Controller. Slide the cover off towards the back of the unit.

4. With the Controller front panel towards you, identify the Transmitter Card (TX) at the right hand side of the main PCB, (see Fig. 4). Unplug the card by gently pulling it upwards while rocking it from one end to the other until it is free. Fit the new DM TX card supplied, with the component side facing towards the right and making sure that the connector is properly aligned as the card is pushed down on to it.

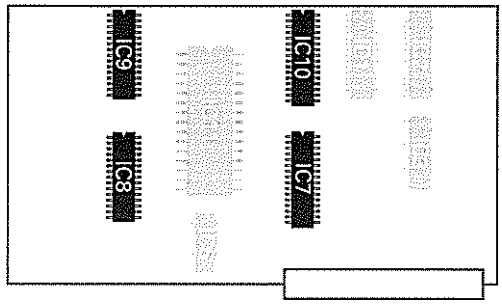
5. Identify the Translator Card (TL) at the left hand side of the main PCB and remove it in the same way as the TX card. On the TL card identify ICs 7, 8, 9 and 10 (the small ICs in sockets). Using the IC extractor tool or a thin screwdriver, remove each IC from its socket and replace it with the one from the kit, having the corresponding socket number marked on it. Make sure that:

- the notch on each chip faces the same way as on the socket (towards the top of the card), and
- the pins of the ICs are properly fitted into the sockets and not bent under or outside the sockets.

CAUTION: Incorrect insertion will destroy the IC and possibly cause further damage.

6. Refit the TL card, making sure that the component side faces towards the left of the main PCB and that it is properly located on all pins.

Fig. 5 Translator Card (TL) PCB layout.



7. Referring to Figure 4, identify ICs 11C4 to 41C4 (the small ICs in sockets towards the front of the main PCB). Using the IC extractor tool or a thin bladed screwdriver, gently prise each of them out of its socket and replace it with the one from the kit having the corresponding socket number marked on it. Make sure that:

- the notch on each chip faces the same way as on the socket (towards the right of the main PCB), and
- the pins of the ICs are properly fitted into the sockets and not bent under or outside the sockets.

8. Re-assemble the Controller by reversing steps 1 to 3 above. Perform a full Set-Up (see Sections 4, 5 and 6) including the re-s election of Source equipment. Return all removed parts to QED for safe disposal.

RIDGEWAY HOUSE, RIDGEWAY CLOSE, LIGHTWATER, SURREY, GU18 5XU, ENGLAND

TEL:(01276) 451166 - FAX:(01276)452211 - EMAIL:panic@qed.co.uk - INTERNET:http://www.qed.co.uk

SYSTEMLINE IS A DIVISION OF QED AUDIO PRODUCTS LTD