Cole-Parmer®

Alpha Cycler Series PCR-300-S, PCR-300-D and PCR-300-Q

Operation Manual

GS100-001-CPB rev 2.9

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Introduction

The Alpha Cycler thermal cyclers are standalone systems with flexible block options (96 or 384 well formats being available). The range includes both a single block, the PCR-300-S, a dual block variant, the PCR-300-D and a quad block variant, the PCR-300-Q.

The Alpha Cyclers range of block options allow for use of the most commonly used consumables including 0.2ml x 96 well plates, 0.2ml tubes, 0.2ml strip tubes and 384 well plates.

All combinations of base unit and block include a gradient feature, manually adjustable heated lid and programming features such as touchdown, active sample cooling, advanced reporting and health check options as standard to allow for most applications to be performed easily.

ALPHA CYCLER CONFIGURATIONS

The Alpha Cycler systems can be configured with any combination of 96 or 384 well format blocks in the PCR-300-S, PCR-300-D and PCR-300-Q chassis, see below.

Cole-Parmer Part Code	Legacy Part Code	Configuration
PCR-300-S96	AC196	96 well
PCR-300-S384	AC1384	384 well
PCR-300-D96	AC296	2 x 96 well
PCR-300-D196	AC2196	1 x 96 / 1 x 384 well
PCR-300-D384	AC2384	2 x 384 well
PCR-300-Q96	AC496	4 x 96 well
PCR-300-Q384	AC4384	4 x 384 well
PCR-300-Q296	AC4296	2 x 96 / 2 x 384 well
PCR-300-Q396	AC4396	3 x 96 / 1 x 384 well
PCR-300-Q196	AC4196	1 x 96 / 3 x 384 well

Before use

Before using the Alpha Cycler please ensure you have read this manual carefully. If there is any doubt relating to the proper use of this equipment, please contact your local distributor or Cole-Parmer via the website: www.Cole-Parmer.com or email cpenquiries@antylia.com.

UNPACKING
When unpacking the unit please ensure that the following have been removed from the packaging:

Alpha Cycler with block(s).
Mains cables (UK, EU, China and US).
USB stick containing operator's manual and default protocols.
PCR-300-Q 2x 15A Fuse which must be changed in certain territories and power supplies, see below.
PCR-300-D 2x 12.5A Fuse which must be changed in certain territories and power supplies, see below.

The user is advised to keep the original packaging in case the instrument ever needs to be returned for service or repair. Cole-Parmer accepts no responsibility for damage incurred unless the unit is correctly packed and transported in its original packaging.

IMPORTANT NOTE:

IF USING THE PCR-300-D / PCR-300-Q AT 120V, BEFORE THE UNIT IS CONNECTED TO THE MAINS AND SWITCHED ON FOR THE FIRST TIME REPLACE THE FUSES.

FOR PCR-300-Q REPLACE 8A FUSES WITH 15A ANTI-SURGE FUSES.
FOR PCR-300-D REPLACE 5A FUSES WITH 12.5A ANTI-SURGE FUSES.

THE FUSE HOLDERS ARE LOCATED BESIDE THE POWER SWITCH OF THE UNIT.

IF THE PCR-300-Q IS INTENDED TO BE USED IN AUSTRALIA THE UNIT MUST BE A FIXED INSTALLATION AND CONNECTED DIRECTLY TO THE MAINS.

FUSE REMOVAL AND REPLACE
The anti-surge fuses are located on the right side of the system towards the rear, beside the power switch.

- Unscrew the fuse cover, using a flat head screwdriver or similar, and remove the fuse holder.
- Pop out the two fuses that the system is shipped with and replace with PCR-300-D (12.5A) or PCR-300-Q (15A).

THIS MUST BE COMPLETED BEFORE CONNECTING THE SYSTEM TO THE LIVE MAIN AND POWERING UP THE UNIT.

NOTE:
A 250mm air space should be kept free at each side of the PCR-300-D / PCR-300-Q unit (left and right). If two PCR-300-D / PCR-300-Q units have to be positioned next to one another, a total of 500mm should be free between both units. If the systems have to be wracked the shelves should be 600mm apart from each other vertically, this promotes the correct airflow and heat distribution from the units. As air flow with the PCR-300-D / PCR-300-Q is in thought the front of the unit and out the sides, caution should be taken to not block the path of air in and out of the unit.

REMARQUE IMPORTANTE :

EN CAS D'UTILISATION DES MODÈLES PCR-300-D OU PCR-300-Q SOUS UNE TENSION DE 120 V, REMPLACEZ LES FUSIBLES AVANT DE BRANCHER L'APPAREIL À L'ALIMENTATION SECTEUR ET DE LE METTRE SOUS TENSION POUR LA PREMIÈRE FOIS.

POUR LE MODÈLE PCR-300-Q, REMPLACEZ LES FUSIBLES 8 A PAR DES FUSIBLES TEMPORISÉS 15 A.
POUR LE MODÈLE PCR-300-D, REMPLACEZ LES FUSIBLES 5 A PAR DES FUSIBLES TEMPORISÉS 12,5 A.

LES PORTE-FUSIBLES SONT SITUÉS À CÔTÉ DU BOUTON MARCHE/ARRÊT DE L'APPAREIL.

En cas d'utilisation du modèle PCR-300-Q en Australie, l'appareil doit être installée de manière fixe et définitive, et directement connectée à l'alimentation secteur.

Retrait et remplacement des fusibles

Les fusibles temporisés sont situés du côté droit en partie arrière de l'appareil, à côté du bouton marche/arrêt.

- Dévissez le couvercle des fusibles à l'aide d'un tournevis plat ou d'un outil similaire, puis retirez le porte-fusibles.
- Retirez les deux fusibles déjà présents dans l'appareil et remplacez-les par des fusibles de 12,5 A (PCR-300-D)
  ou de 15 A (PCR-300-Q).

LES FUSIBLES DOIVENT ÊTRE REMPLACÉS AVANT LE BRANCHEMENT DE L'APPAREIL À L'ALIMENTATION SECTEUR ET SA MISE SOUS TENSION.

WICHTIGER HINWEIS:

WENN SIE DEN PCR-300-D / PCR-300-Q BEI 120 V VERWENDEN, TAUSCHEN SIE DIE SICHERUNGEN AUS, BEVOR DAS GERÄT AN DIE STROMVERSORGUNG ANGESCHLOSSEN UND DAS ERSTE MAL ANGESCHALTEN WIRD.

BEIM PCR-300-Q ERSETZEN SIE DIE 8-A-SICHERUNGEN MIT TRÄGEN 15-A-SICHERUNGEN.

BEIM PCR-300-D ERSETZEN SIE DIE 5-A-SICHERUNGEN MIT TRÄGEN 12,5-A-SICHERUNGEN.

DIE SICHERUNGSFASSUNGEN BEFINDEN SICH NEBEN DEM NETZSCHALTER DES GERÄTS.

Wenn der PCR-300-Q für die Verwendung in Australien vorgesehen ist, muss das Gerät fest installiert und direkt mit der Stromversorgung verbunden werden.

Entfernen und Austauschen einer Sicherung

Die trägen Sicherungen befinden sich nach hinten gerichtet auf der rechten Seite des Systems, neben dem Netzschalter.

- Schrauben Sie die Sicherungsabdeckung mit einem Flachschraubenzieher oder Ähnlichem ab und entfernen Sie die Sicherungsfassung.
- Ziehen Sie die zwei Sicherungen heraus, die im Lieferumfang des Systems enthalten sind, und ersetzen Sie sie mit PCR-300-D (12,5 A) oder PCR-300-Q (15 A).

DIESER SCHRITT MUSS ABGESCHLOSSEN SEIN, BEVOR DAS SYSTEM MIT DER SPANNUNGSVERSORGUNG VERBUNDEN UND DAS GERÄT ANGESCHALTEN WIRD.

NOTA IMPORTANTE:

SE SI UTILIZZA L'PCR-300-D / L'PCR-300-Q A 120 V, PRIMA CHE L'UNITÀ SIA COLLEGATA ALL'ALIMENTAZIONE DI RETE E ACCESA PER LA PRIMA VOLTA, SOSTITUIRE I FUSIBILI.

PER L'PCR-300-Q SOSTITUIRE I FUSIBILI DA 8 A CON I FUSIBILI RITARDATI DA 15 A.

PER L'PCR-300-D SOSTITUIRE I FUSIBILI DA 5 A CON FUSIBILI RITARDATI DA 12,5 A.

I PORTAFUSIBILI SONO SITUATI VICINO ALL'INTERRUTTORE DI ALIMENTAZIONE DELL'UNITÀ.

Se l'PCR-300-Q viene utilizzato in australia, l'unità deve essere collegata direttamente e in modo permanente all'alimentazione di rete.

Rimozione e sostituzione dei fusibili

I fusibili ritardati sono situati sul lato destro del sistema verso il retro, accanto all'interruttore di alimentazione.

• Svitare il coprifusibile, usando un giravite a testa piatta o simile, e rimuovere il portafusibile.

• Estrarre i due fusibili con cui viene fornito il sistema e sostituirli con PCR-300-D (12,5 A) o PCR-300-Q (15 A).

QUESTA OPERAZIONE DEVE ESSERE COMPLETATA PRIMA DI COLLEGARE IL SISTEMA ALLA RETE E DI ACCENDERE L'UNITÀ.

NOTA IMPORTANTE:

SI UTILIZA EL PCR-300-D / PCR-300-Q A 120 V, ANTES DE CONECTAR LA UNIDAD A LA RED Y ENCENDERLA POR PRIMERA VEZ, SUSTITUYA LOS FUSIBLES.

PARA EL PCR-300-Q SUSTITUYA LOS FUSIBLES DE 8 A POR FUSIBLES PROTECTORES DE SOBRETENSIÓN DE 15 A.

PARA EL PCR-300-Q SUSTITUYA LOS FUSIBLES DE 5A POR FUSIBLES PROTECTORES DE SOBRETENSIÓN DE 12,5A.

LOS SOPORTES DE LOS FUSIBLES SE ENCUENTRAN AL LADO DEL INTERRUPTOR DE ALIMENTACIÓN DE LA UNIDAD.

Si el PCR-300-Q se va a usar en Australia, la unidad debe ser una instalación fija y estar directamente conectada a la red.

Retirada y sustitución de los fusibles

Los fusibles protectores de sobretensión están situados en el lado derecho del sistema tocando a la parte trasera, al lado del interruptor de alimentación.

• Destornille la tapa de los fusibles con un destornillador de punta plana o similar, y retire el soporte del fusible.

• Saque los dos fusibles con los que se suministra el sistema y sustitúyalos por PCR-300-D (12,5 A) o PCR-300-Q (15 A).

ESTO DEBE REALIZARSE ANTES DE CONECTAR EL SISTEMA A LA RED ELÉCTRICA Y ENCENDER LA UNIDAD.

Safety information

Please read all the information in this manual before using the Alpha Cycler.

WARNING

HIGH TEMPERATURES ARE DANGEROUS: they can cause serious burns to operators and ignite combustible material. Users should be aware of the following potential hazards:

- USE CARE AND WEAR PROTECTIVE GLOVES TO PROTECT HANDS.
- DO NOT use combustible substances near hot objects.
- DO NOT operate the instrument in the vicinity of inflammable liquids or gases.
- DO NOT place any liquid directly into the instrument.
- DO NOT touch the heated lid when system is running or within 10 minutes of the system completing a run.
- DO NOT touch the block when the system is running or within 10 minutes of the system completing a run.

OPERATOR SAFETY

All operators of Cole-Parmer equipment must have available the relevant literature needed to ensure their safety. It is important that only suitably trained personnel operate this equipment, in accordance with the instructions contained in this manual and with general safety standards and procedures. If the equipment is used in a manner not specified by Cole-Parmer. the protection provided by the equipment to the operator may be impaired.

All Cole-Parmer instruments are designed to conform to international safety requirements and are fitted with an over-temperature cut-out. If a safety problem should be encountered, switch off the unit at the mains socket and remove the plug from the electricity supply.

INSTALLATION

The instrument should be carried using both hands. Never move or carry the instrument when in use or connected to the mains electricity supply.

The PCR-300-D / PCR-300-Q have a weight of 30kgs / 47kgs respectively; it is advised that two people lift and carry the PCR-300-D, and three people lift the PCR-300-Q.

1. All Cole-Parmer instruments are supplied with a power cable; this may be integral or plug-in.
2.  Before connecting the instrument to the mains electricity supply, check the voltage against the rating plate (located on the back of the unit). **Please note that the unit must be earthed to ensure proper electrical safety.**
3. The units are rated to operate at: for the PCR-300-S 100-230V, 50/60Hz and for the PCR-300-D / PCR-300-Q 100-230V 50/60Hz.
4. Do not allow the Alpha Cycler to overhang the bench.
5. Ensure the bench for the PCR-300-D / PCR-300-Q can withstand 30kgs / 47kg of weight.
6. Place the unit on a suitable flat and level bench or in a fume cupboard if required, ensuring that the air inlet and outlet vents on the underside and rear are free from obstruction.
7. Ensure that the feet of the instrument do not overhang the side of the bench.
8. Plug the mains cable into the socket on the back (side in PCR-300-D / PCR-300-Q) of the instrument.
9. Switch on the instrument using the switch located on the back (side in PCR-300-D / PCR-300-Q of the unit.

REPLACEMENT CABLE

Should the mains lead need replacement, a cable of 1.5 mm^2 of harmonized code H05VV-F 3G connected to an IEC320 plug should be used. **IF IN DOUBT CONSULT A QUALIFIED ELECTRICIAN.**

ENVIRONMENTAL CONDITIONS

The Alpha Cycler is designed operate under the following conditions:

- Indoor use
- Ambient temperature range +5°C to +35°C
- Altitude to 2000m
- Relative humidity not exceeding 80%
- Mains supply fluctuations not exceeding 10%
- Over voltage category II IEC 60364-4-443
- Pollution degree 2

Note: The control specifications are quoted at an ambient temperature of 20°C ±2°C.

The instrument has been tested for radio frequency interference and is certified under EN61326.

WARRANTY

Cole-Parmer Ltd warrants this instrument to be free from defects in material and workmanship, when used under normal laboratory conditions for two (2) years. In the event of a justified claim, Cole-Parmer will replace any defective component or replace the unit free of charge. This warranty does not apply if damage is caused by fire, accident, misuse, neglect, incorrect adjustment or repair, damage by incorrect installation, adaption, modification, fitting of non-approved parts or repair by unauthorised personnel. Cole-Parmer liability is limited to the cost of repair or replacement of the product and excludes in particular, indirect and consequential loss, damage, costs or expenses, including but not limited to wasted time, materials and expenditure or loss of use, profit, production, revenue, expected savings or goodwill. To make a claim please contact the supplier of the instrument. This warranty is in addition to, and does not affect any statutory rights.

This manual has been prepared for the convenience of Cole-Parmer's customers and nothing in this manual shall be taken as a warranty, condition or representation concerning the description, merchantability, fitness for purpose or otherwise of the unit or components.

Notwithstanding the description and specification(s) of the instruments contained in the operator's manual, Cole-Parmer reserves the right to make such changes as it sees fit to the instruments or to any of the components.

Consignes de sécurité

Veuillez lire toutes les informations contenues dans ce manuel avant d'utiliser l'appareil Alpha Cycler.

AVERTISSEMENT
LES TEMPÉRATURES ÉLEVÉES SONT DANGEREUSES : elles peuvent être à l'origine de graves brûlures et enflammer les matériaux combustibles. Les utilisateurs doivent tenir compte des dangers potentiels suivants :

- FAITES PREUVE DE PRUDENCE ET PORTEZ DES GANTS DE PROTECTION.
- N'UTILISEZ PAS de substances combustibles à proximité d'objets chauds.
- N'UTILISEZ PAS l'appareil à proximité de gaz ou de liquides inflammables.
- NE PLACEZ AUCUN liquide directement dans l'appareil.
- NE TOUCHEZ PAS le couvercle chauffant lorsque le système est en marche ou dans les 10 minutes qui suivent son utilisation.
- NE TOUCHEZ PAS le bloc lorsque le système est en marche ou dans les 10 minutes qui suivent son utilisation.

SÉCURITÉ DE L'UTILISATEUR
Tous les utilisateurs de matériel Cole-Parmer doivent avoir accès aux documents pertinents concernant leur sécurité. Il est important que seul le personnel ayant suivi une formation adéquate utilise ce matériel, conformément aux instructions figurant dans ce manuel, ainsi qu'aux normes et aux procédures de sécurité de base. Dans le cas d'une utilisation du matériel selon une procédure non spécifiée par Cole-Parmer, la protection intégrée à l'appareil est susceptible d'être compromise.

Tous les appareils Cole-Parmer sont conçus de manière à répondre aux exigences de sécurité internationales et sont équipés d'un coupe-circuit de surchauffe. En cas de problème de sécurité, éteignez l'appareil au niveau du connecteur d'alimentation et débranchez son cordon de l'alimentation secteur.

INSTALLATION
Transportez l'appareil à l'aide des deux mains. Ne déplacez et ne transportez jamais l'appareil en cours d'utilisation ou lorsqu'il est relié à l'alimentation électrique secteur.

Les modèles PCR-300-D et PCR-300-Q pèsent respectivement 30 kg et 47 kg. Il est recommandé de faire appel à deux personnes pour soulever et transporter l'PCR-300-D et de faire appel à trois personnes pour soulever et transporter l'PCR-300-Q.

1. Tous les appareils Cole-Parmer sont fournis avec un cordon d'alimentation. Celui-ci peut être intégré ou amovible.

2. 
Avant de relier l'appareil à l'alimentation, assurez-vous que la tension correspond à la tension indiquée sur la plaque signalétique (située à l'arrière de l'appareil).
Veuillez noter que l'appareil doit être relié à la terre pour assurer une sécurité électrique adéquate.

3. L'appareil est conçu pour fonctionner avec les alimentations suivantes : 100-230 V, 50/60 Hz pour le modèle PCR-300-S et 100-230 V, 50/60 Hz pour les modèles PCR-300-D et PCR-300-Q.

4. L'appareil Alpha Cycler ne doit pas dépasser hors des limites de la paillase.

5. Assurez-vous que la paillasse utilisée pour les modèles PCR-300-D et PCR-300-Q est capable de supporter un poids de 30 kg / 47 kg.

6. Placez l'appareil sur une paillasse plane et horizontale adaptée ou dans une hotte, le cas échéant, en veillant à ce que les entrées et sorties d'air des faces inférieure et arrière soient libres de toute obstruction.

7. Assurez-vous que les pieds de l'appareil ne dépassent pas des bords de la paillasse.

8. Branchez le cordon d'alimentation au connecteur situé à l'arrière de l'appareil. Le connecteur d'alimentation des modèles PCR-300-D / PCR-300-Q est situé sur le côté de l'appareil.

9. Allumez l'appareil à l'aide du bouton marche/arrêt situé à l'arrière. Le bouton marche/arrêt des modèles PCR-300-D / PCR-300-Q se trouve sur le côté de l'appareil.

CÂBLE DE REMPLACEMENT

Lorsque le cordon d'alimentation doit être remplacé, utilisez un câble constitué de conducteurs d'1,5 mm2 de type H05VV-F 3G harmonisé, connecté à une fiche IEC320. **EN CAS DE DOUTE, CONSULTEZ UN ÉLECTRICIEN QUALIFIÉ.**

CONDITIONS D'UTILISATION

L'appareil Alpha Cycler est conçu pour fonctionner dans les conditions suivantes :

- Utilisation en intérieur
- Température ambiante comprise entre +5 °C et +35°C
- Altitude jusqu'à 2 000 m
- Humidité relative ne dépassant pas 80 %
- Variations d'intensité de l'alimentation secteur ne dépassant pas 10 %
- Catégorie de surtension II CEI 60364-4-443
- Degré de pollution 2

REMARQUE : les caractéristiques de contrôle sont indiquées pour une température ambiante de 20 °C ± 2 °C.

L'appareil a fait l'objet de tests d'interférences radioélectriques et a reçu une certification EN61326.

GARANTIE

Cole-Parmer France garantit cet appareil contre tout défaut de pièces et de fabrication, dans des conditions d'utilisation normale en laboratoire, pour une période de deux (2) ans. En cas de réclamation dûment justifiée, Cole-Parmer s'engage à remplacer gratuitement la pièce défectueuse ou l'appareil. Cette garantie ne s'applique pas en cas de dommages provoqués par un incendie, un accident, une utilisation inappropriée, une négligence, un réglage incorrect, une réparation inadéquate, une installation, une adaptation ou une modification inappropriée, l'installation de pièces non approuvées ou la réalisation de réparations par un personnel non autorisé. La responsabilité de Cole-Parmer se limite au coût de réparation ou de remplacement de l'appareil et exclut en particulier les pertes indirectes ou consécutives, les coûts ou dépenses et dommages, incluant, sans s'y limiter, les pertes de temps, de matériaux et de dépenses, les pertes de jouissance, de profit, de production, de revenus, d'économies prévues ou de clientèle. Pour toute réclamation, veuillez contacter le fournisseur de l'appareil. Cette garantie s'ajoute à vos droits prévus par la lois, sans les modifier.

Ce manuel est fourni aux clients de Cole-Parmer pour des raisons de commodité et rien dans ce document ne doit être considéré comme une garantie, une condition ou une déclaration quant à la description, la qualité marchande, l'adéquation ou autre de l'appareil ou de ses composants.

Nonobstant la description et les caractéristiques des appareils figurant dans le manuel d'utilisation, Cole-Parmer se réserve le droit d'apporter toutes les modifications jugées nécessaires à l'appareil ou à ses composants.

Sicherheitsinformationen

Bitte lesen Sie vor der Verwendung dieses Alpha Cycler alle Informationen in diesem Handbuch.

WARNUNG
HOHE TEMPERATUREN SIND GEFÄHRLICH: Sie können zu schweren Verbrennungen des Bedieners führen und brennbare Materialien entzünden. Die Benutzer sollten die folgenden möglichen Gefahren kennen:

- SEIEN SIE AUFMERKSAM UND TRAGEN SIE SCHUTZHANDSCHUHE, UM IHRE HÄNDE ZU SCHÜTZEN.
- Verwenden Sie KEINE brennbaren Stoffe in der Nähe heißer Objekte.
- Bedienen Sie das Gerät NICHT in der Nähe brennbarer Flüssigkeiten oder Gase.
- Füllen Sie KEINE Flüssigkeiten direkt in das Gerät.
- Berühren Sie den beheizten Deckel NICHT während des Betriebs des Systems oder innerhalb von 10 Minuten nach Betrieb des Geräts.
- Berühren Sie den Block NICHT während des Betriebs des Systems oder innerhalb von 10 Minuten nach Betrieb des Geräts.

BEDIENERSICHERHEIT
Alle Bediener von Cole-Parmer müssen Zugang zu den Dokumenten haben, die für die Gewährleistung der Sicherheit relevant sind. Es ist wichtig, dass nur entsprechend geschultes Personal diese Ausrüstung gemäß den Anweisungen in dieser Gebrauchsanweisung und den allgemeinen Sicherheitsstandards und -verfahren bedient. Wenn die Ausrüstung auf eine nicht von Cole-Parmer spezifizierte Weise verwendet wird, kann der Schutz des Bedieners beeinträchtigt werden.

Alle Cole-Parmer erfüllen internationale Sicherheitsanforderungen und sind mit einem Übertemperatur-Ausschalter ausgestattet. Sollte ein Sicherheitsproblem auftreten, schalten Sie das Gerät an der Netzsteckdose aus und entfernen Sie den Stecker aus der Stromversorgung.

INSTALLATION
Das Gerät sollte mit beiden Händen getragen werden. Transportieren Sie das Gerät unter keinen Umständen, wenn es in Betrieb ist, oder während das Gerät noch am Netz angeschlossen ist.

Die Geräte PCR-300-D / PCR-300-Q haben ein Gewicht von 30 kg bzw. 47 kg. Es wird empfohlen, dass der PCR-300-D von zwei Personen und der PCR-300-Q von drei Personen getragen wird.

1. Im Lieferumfang aller Cole-Parmer ist ein Stromkabel enthalten. Dies ist entweder integriert oder eine steckbare Kabelverbindung.

2.  Bevor Sie das Gerät mit der Stromversorgung verbinden, überprüfen Sie die Spannung mit dem Typenschild (auf der Rückseite des Geräts). **Bitte beachten Sie, dass das Gerät geerdet sein muss, um eine einwandfreie elektrische Sicherheit zu gewährleisten**.

3. Die Geräte werden bei 100-230 V und 50/60 Hz (PCR-300-S) bzw. 100-230 V und 50/60 Hz (PCR-300-D / PCR-300-Q) betrieben.

4. Der Alpha Cycler darf nicht über die Tischkante hinausragen.

5. Stellen Sie sicher, dass der Tisch für den PCR-300-D / PCR-300-Q einem Gewicht von 30 kg bzw. 47 kg standhalten kann.

6. Positionieren Sie das Gerät auf einem geeigneten flachen und ebenen Tisch oder ggf. in einen Abzugsschrank, sodass gewährleistet wird, dass die Öffnungen für den Lufteinlass und -auslass auf der Unterseite und auf der Rückseite frei sind.

7. Stellen Sie sicher, dass der Fuß des Geräts nicht über die Tischkante hinausragt.
8. Stecken Sie das Stromkabel in die Anschlussdose auf der Rückseite des Geräts. An den Geräten PCR-300-D und PCR-300-Q befindet sich die Dose an der Seite des Geräts.
9. Schalten Sie das Gerät mit dem Schalter auf der Rückseite des Geräts an. An den Geräten PCR-300-D und PCR-300-Q befindet sich der Schalter an der Seite des Geräts.

ERSATZKABEL
Bei einem eventuellen Austausch des Netzkabels wird ein Kabel vom Typ H05VV-F 3G mit 1,5 mm^2 Adernquerschnitt und Europastecker (IEC 320) benötigt. **IM ZWEIFEL EINEN QUALIFIZIERTEN ELEKTRIKER ZU RATE ZIEHEN.**

UMGEBUNGSBEDINGUNGEN
Der Alpha Cycler kann unter den folgenden Bedingungen arbeiten:
- Verwendung in Innenräumen
- Umgebungstemperatur zwischen +5°C und +35°C
- Höhenlage bis zu 2000 m
- Relative Luftfeuchtigkeit maximal 80 %
- Netzspannungsschwankungen maximal 10 %
- Überspannungskategorie II IEC 60364-4-443
- Verschmutzungsgrad 2

Hinweis: Die Steuerspezifikationen sind mit einer Umgebungstemperatur von 20°C ±2°C angegeben.

Das Gerät wurde auf Funkfrequenzstörungen getestet und gemäß EN61326 zertifiziert.

Garantie
Cole-Parmer Ltd. garantiert, dass dieses Gerät frei von Material- und Herstellungsfehlern ist. Bei Einsatz unter normalen Laborbedingungen wird eine Garantie von zwei (2) Jahren gewährt. Im Falle eines berechtigten Anspruchs wird Cole-Parmer das fehlerhafte Teil oder das gesamte Gerät kostenlos austauschen. Diese Garantie gilt jedoch nicht, wenn der Schaden durch Feuer, Unfall, unsachgemäße Verwendung, Nachlässigkeit, falsche Einstellung oder Reparatur, falsche Installation, Anpassung oder Modifikation sowie durch das Anbringen von nicht genehmigten Teilen oder durch eine Reparatur von dazu nicht autorisiertem Personal verursacht wurde. Die Haftung von Cole-Parmer ist auf die Reparatur- oder Austauschkosten des Produkts begrenzt und schließt insbesondere direkte und indirekte Verluste, Schäden, Kosten oder Aufwände aus, einschließlich unter anderem verschwendete Zeit, Materialien und Aufwendungen oder der Ausfall der Nutzung, Gewinne, Produktion, des Umsatzes, erwarteter Einsparungen oder Firmenwerte. Um Ansprüche geltend zu machen, wenden Sie sich bitte an den Lieferanten dieses Geräts. Diese Garantie gilt als Ergänzung und beeinflusst keinerlei gesetzliche Ansprüche.

Diese Gebrauchsanweisung soll die Verwendung durch die Kunden von Cole-Parmer erleichtern und kein Abschnitt in dieser Gebrauchsanweisung gilt als Garantie, Bedingung oder Erklärung hinsichtlich der Beschreibung, Marktgängigkeit, Gebrauchstauglichkeit oder in anderer Weise des Geräts der Komponenten.

Unbeschadet der in der Bedienungsanleitung enthaltenen Beschreibung und Spezifikation(en) der Geräte behält sich Cole-Parmer das Recht vor, solche Änderungen an den Geräten oder den Komponenten nach eigenem Ermessen vorzunehmen.

Informazioni sulla sicurezza

Si prega di leggere tutte le informazioni contenute in questo manuale prima di utilizzare l'Alpha Cycler.

AVVERTENZA

LE TEMPERATURE ELEVATE SONO PERICOLOSE: possono provocare bruciature gravi agli operatori e causare l'accensione di materiale combustibile. Gli utenti devono essere a conoscenza dei seguenti pericoli potenziali:

- PRESTARE ATTENZIONE E INDOSSARE GUANTI PER PROTEGGERE LE MANI.
- NON usare sostanze combustibili in prossimità di oggetti caldi.
- NON mettere in funzione lo strumento in prossimità di liquidi o gas infiammabili.
- NON collocare alcun tipo di liquido direttamente nello strumento.
- NON toccare il coperchio riscaldato quando il sistema è in funzione o nei 10 minuti successivi al completamento di un ciclo.
- NON toccare il blocco quando il sistema è in funzione o nei 10 minuti successivi al completamento di un ciclo.

SICUREZZA DELL'OPERATORE

Gli operatori di attrezzature Cole-Parmer devono avere a disposizione la documentazione necessaria a garantire la loro incolumità. È importante che solo personale adeguatamente addestrato utilizzi questo apparecchio, in conformità con le istruzioni contenute in questo manuale e con le normative e procedure generali di sicurezza. Se l'apparecchio è utilizzato in modo non conforme a quanto specificato da Cole-Parmer la protezione offerta all'operatore potrebbe risultare compromessa.

Tutti gli strumenti Cole-Parmer sono progettati in conformità con i requisiti internazionali di sicurezza e sono equipaggiati con un dispositivo di interruzione anti surriscaldamento. Se si dovesse verificare qualche problema di sicurezza, disconnettere la presa di corrente e rimuovere la spina.

INSTALLAZIONE

Questo strumento deve essere trasportato usando entrambe le mani. Non spostare né trasportare lo strumento quando è in funzione o collegato all'alimentazione di rete.

L'PCR-300-D e l'PCR-300-Q hanno un peso rispettivamente di 30 kg e 47 kg; si consiglia di far sollevare e trasportare l'PCR-300-D da due persone e di far sollevare e trasportare l'PCR-300-Q da tre persone

1. Tutti gli strumenti Cole-Parmer sono forniti con un cavo di alimentazione; questo può essere incorporato o da collegare.

2.  Prima di collegare lo strumento all'alimentazione elettrica di rete, controllare la tensione confrontandola con la targhetta riportante i valori nominali (situata sul retro dell'unità). **Notare che occorre che l'unità sia messa a terra al fine di garantire la corretta sicurezza elettrica.**

3. Le unità sono stimate per funzionare a: per l'PCR-300-S 100-230 V, 50/60 Hz e per l'PCR-300-D / PCR-300-Q 100-230 V 50/60 Hz.

4. Evitare che l'Alpha Cycler sporga dal banco.

5. Assicurarsi che il banco per l'PCR-300-D e l'PCR-300-Q possa sostenere rispettivamente 30 kg e 47 kg di peso.

6. Collocare l'unità su un banco sufficientemente piano o in una cappa aspirante se necessario, assicurando che le bocchette di ingresso e di uscita sul lato inferiore e posteriore siano libere da ostruzioni.

7. Assicurarsi che i piedini dello strumento non sporgano dal lato del banco.

8. Inserire il cavo di alimentazione nella presa sul retro dello strumento. Per l'PCR-300-D e l'PCR-300-Q la presa di ingresso è sul lato dello strumento.

9. Accendere lo strumento usando l'interruttore situato sul retro dello strumento. Per l'PCR-300-D e l'PCR-300-Q l'interruttore è sul lato dello strumento.

Cavo di ricambio
Qualora occorra sostituire il cavo di rete, si dovrà utilizzare un cavo di 1,5 mm2 armonizzato H05VV-F 3G, collegato ad una spina IEC320. **IN CASO DI DUBBI, RIVOLGERSI A UN ELETTRICISTA QUALIFICATO.**

Condizioni ambientali
L'Alpha Cycler è progettato per operare nelle seguenti condizioni:
- uso interno
- temperatura ambiente compresa tra +5°C e +35°C
- altitudine massima 2000 m
- umidità relativa non superiore all'80%
- oscillazioni dell'alimentazione di rete non superiori al 10%
- categoria di sovratensione II IEC 60364-4-443
- grado di inquinamento 2

Nota: le specifiche di controllo sono indicate per una temperatura ambiente di 20°C ± 2°C.

Lo strumento è stato collaudato per interferenze da radiofrequenze ed è certificato secondo la norma EN61326.

Garanzia
Cole-Parmer Ltd garantisce questo strumento da difetti di materiali e fabbricazione per un periodo di due (2) anni, se utilizzato in normali condizioni di laboratorio. In caso di reclamo giustificato, Cole-Parmer sostituirà gratuitamente qualsiasi componente difettoso o l'intera unità. Questa garanzia non copre i danni provocati da incendi, incidenti, uso non conforme, negligenza, errori di regolazione o di riparazione, danni dovuti a installazioni, adattamenti e modifiche non corretti, montaggio di componenti non approvati o riparazioni effettuate da personale non autorizzato. La responsabilità di Cole-Parmer è limitata al costo della riparazione o della sostituzione del prodotto ed esclude in particolare qualsiasi perdita indiretta o secondaria, danno, costo o spesa, ivi inclusi, a titolo di esempio e in modo non esaustivo, perdite di tempo, materiali e spese oppure perdite di utilizzo, profitto, produzione, ricavo, risparmio atteso o avviamento. Per usufruire della garanzia, contattare il fornitore dello strumento. Questa garanzia è in aggiunta ai diritti di legge e non ha alcun effetto su di essi.

Il presente manuale è stato preparato ad uso dei clienti di Cole-Parmer e niente di quanto in esso contenuto costituisce garanzia, condizione o rappresentanza riguardo la descrizione, la commerciabilità, l'idoneità allo scopo o altro dell'unità o dei componenti.

Nonostante la descrizione e le specifiche dello strumento contenute nel manuale dell'operatore,
Cole-Parmer si riserva il diritto di apportare le modifiche ritenute opportune agli strumenti o a qualsiasi loro componente.

Información de seguridad

Lea toda la información incluida en este manual antes de usar el Alpha Cycler.

ADVERTENCIA
LAS TEMPERATURAS ELEVADAS SON PELIGROSAS: pueden causar quemaduras graves a los operarios y prender fuego aL material combustible. Los usuarios deberían ser conscientes de los posibles peligros indicados a continuación:

- TENGA CUIDADO Y USE GUANTES PROTECTORES PARA PROTEGER LAS MANOS.
- NO utilice sustancias combustibles cerca de objetos calientes.
- NO utilice el instrumento cerca de líquidos o gases inflamables.
- NO coloque ningún líquido directamente en el instrumento.
- NO toque el bloque cuando el sistema esté funcionando o durante los 10 minutos siguientes a la finalización de la serie por parte del sistema.
- NO toque el bloque cuando el sistema esté funcionando o durante los 10 minutos siguientes a la finalización de la serie por parte del sistema.

SEGURIDAD DEL OPERARIO
Todos los operarios del equipo Cole-Parmer deben tener a su disposición la bibliografía pertinente necesaria para garantizar su seguridad. Es importante que este equipo solo sea usado por personal debidamente formado, de acuerdo con las instrucciones contenidas en este manual y con las normas y procedimientos de seguridad generales. Si se usa el equipo de una manera no especificada por Cole-Parmer la protección que el equipo proporciona al operario puede resultar alterada.

Todos los instrumentos de Cole-Parmer han sido diseñados para ajustarse a los requisitos de seguridad internacionales y están equipados con un cortacircuitos por sobretemperatura. Si se produce un problema de seguridad, desconecte la unidad de la toma de red y desenchúfela del suministro eléctrico.

INSTALACIÓN
El instrumento debería transportarse con las dos manos. No mueva ni transporte nunca el instrumento cuando esté en funcionamiento o conectado al suministro eléctrico.

Los PCR-300-D / PCR-300-Q tienen un peso de 30 kg / 47 kg respectivamente; se recomienda emplear a dos personas para levantar y transportar el PCR-300-D, y tres personas para el PCR-300-Q.

1. Todos los instrumentos de Cole-Parmer son suministrados con un cable de alimentación; puede estar integrado o ser enchufable.

2. 
Antes de conectar el instrumento a la red de suministro eléctrico, compruebe la tensión que figura en la placa de especificaciones (situada en la parte trasera de la unidad). **No olvide que para garantizar la seguridad eléctrica apropiada, es imprescindible que la unidad esté conectada a tierra.**

3. Las unidades están clasificadas para funcionar a: para el PCR-300-S 100-230 V, 50/60 Hz, y para el PCR-300-D y PCR-300-Q 100-230 V, 50/60 Hz

4. No permita que el Alpha Cycler sobresalga de la mesa de trabajo.

5. Asegúrese de que la mesa de trabajo para el PCR-300-D / PCR-300-Q pueda soportar 30 kg / 47 kg de peso.

6. Coloque la unidad sobre una mesa de trabajo plana y nivelada adecuada o en una campana extractora si es necesario, y compruebe que la entrada de aire y los respiraderos de salida situados en la parte inferior y la parte posterior no estén obstruidos.

7. Asegúrese de que las patas del instrumento no sobresalen por los lados de la mesa de trabajo.

8. Conecte el cable de red en la toma de la parte trasera del instrumento. Para el PCR-300-D / AC- 4 la toma de entrada se encuentra en un lado del instrumento.
9. Encienda el instrumento usando el interruptor ubicado en la parte trasera del instrumento. Para el PCR-300-D / AC- 4 el interruptor está un lado del instrumento.

CABLE DE SUSTITUCIÓN
En caso de que sea necesario sustituir el cable de alimentación, utilice un cable de 1,5 mm2 de código armonizado H05VV-F 3G conectado a un enchufe IEC320. **EN CASO DE DUDA, PÓNGASE EN CONTACTO CON UN ELECTRICISTA CUALIFICADO.**

CONDICIONES AMBIENTALES
El Alpha Cycler ha sido diseñado para funcionar en las siguientes condiciones:
- Uso interior
- Intervalo de temperatura ambiente +5 °C a +35°C
- Altitud máxima de 2 000 m
- Humedad relativa no superior al 80%
- Fluctuaciones de corriente no superiores al 10%
- Categoría de sobrevoltaje II IEC 60364-4-443
- Grado de contaminación 2

Nota: Las especificaciones de control se indican a una temperatura ambiente de 20°C ±2°C.

El instrumento ha sido sometido a las pruebas de interferencia por radiofrecuencia y está certificado según la norma EN61326.

GARANTÍA
Cole-Parmer Ltd. garantiza que este equipo se encuentra libre de defectos de material o de fábrica, siempre que se utilice en condiciones normales de laboratorio, durante un plazo de dos (2) años. Si la reclamación es justificada, Cole-Parmer sustituirá cualquier componente defectuoso o cambiará la unidad gratuitamente. Esta garantía no se aplicará si el daño ha sido causado por un incendio, accidente, mal uso, negligencia, ajuste o reparación incorrecta, daños por una instalación incorrecta, adaptación, modificación, montaje de piezas no aprobadas o reparación por personal no autorizado. La responsabilidad de Cole-Parmer se limita al coste de reparación o sustitución del producto y excluye en particular, pérdidas, daños, costes o gastos indirectos y emergentes, incluidos aunque no limitados a tiempo perdido, materiales y desembolso o pérdida de uso, beneficios, producción, ingresos, ahorros o crédito mercantil esperados. Para realizar una reclamación, póngase en contacto con el proveedor del instrumento. Esta garantía es además de los derechos legales y no les afecta en absoluto.

Este manual se ha elaborado para comodidad de los clientes de Cole-Parmer y nada de lo que figura en este manual debe interpretarse como garantía, condición o declaración relacionadas con la descripción, comerciabilidad, adecuación al propósito u otro de la unidad o los componentes.

No obstante, la descripción y las especificaciones de los instrumentos contenidas en el manual del operador, Cole-Parmer se reserva el derecho a realizar los cambios que considere apropiados para los instrumentos o para cualquiera de los componentes.

Contact Information

For technical, sales or servicing information, contact your local Cole-Parmer distributor or Antylia Scientific directly at:

Antylia Scientific Ltd.
Beacon Road
Stone
Staffordshire
ST15 0SA
UK

Tel: +44 (0)1785 812121

E-mail: cpenquiries@antylia.com
Help: cptechsupport@antylia.com
Web: www.Cole-Parmer.com

Alpha Cycler Specification

Temperature

Block temperature range	4°C (10°C during cycling) to 100°C
Block uniformity (at 55°C)	≤±0.3°C
Temperature accuracy (at 55°C)	≤±0.25°C
Gradient availability	Between 10°C and 100°C
Maximum gradient	29°C on a 96 well block and 19°C on a 384 well block
Minimum gradient	1°C
Column uniformity with a 10°C gradient	≤±0.3°C
Final store	4°C to 100°C
Temperature set point adjustment	0.1°C

Heating/Cooling Rate

Maximum heating rate	3.4°C/s
Minimum heating rate	0.1°C/s
Maximum cooling rate	1.0°C/s
Minimum cooling rate	0.1°C/s

Heated lid

Selectable heated lid temperature	35 to 115°C or off
Lid uniformity	±5°C
Pre-heat lid	Yes
Warm up time from ambient	<2 min
Over-temperature cut-out	Yes
Regulated heated lid pressure	Manually adjustable

The heated lid is only operational if the block temperature is set above 35°C. Above figures are quoted at an ambient temperature of 20°C ±2°C

Programming

Program interface	10" and 7" HD touch screen
Operation system	Android
Maximum number of programs stored	1000
Maximum number of stages per program	25
Maximum number of steps	10
Maximum number of cycles per stage	99
Programmable ramp rate	Yes, 0.1°C/s steps
Maximum hold time	4h 59m 59s
Minimum hold time	1s
Program Wizard	Yes
Active sample cooling	Yes, 4°C
Advanced reporting options	Yes
Touchdown	Yes

Incremented/decremented temperature	Yes
Incremented/decremented time	Yes
Pause facility	Yes
Program naming	Alpha numeric plus symbols
Password protection	Yes
Keyword selection	Yes
Run completion time	Yes
Auto resume on power failure	Yes, always, never or user-defined
Oligonucleotide Tm calculator	Yes, based on the Nearest-Neighbour method[1]
Software updates	Free of charge from www.Cole-Parmer.com

Communication ports

USB port on the front of the PCR-300-S	Connection for USB memory stick
USB port on side of the PCR-300-D / PCR-300-Q Connection for USB memory stick	
Type B USB port on rear of unit	For Internal use only.

Dimensions

	PCR-300-S	PCR-300-D	PCR-300-Q
Height (mm)	330	330	330
Width (mm)	260	535	535
Length (mm)	430	470	700
Weight (kg)	10	30	47

Power

	PCR-300-S	PCR-300-D	PCR-300-Q
Voltage	100-230V, 50/60Hz	100-230V, 50/60Hz	100-230V, 50/60Hz
Power	425W	900W	1,600W
Fuse ratings		220V: 5 Amp x 2 120V: 12.5 Amp x 2	220V: 8 Amp x 2 120V: 15 Amp x 2

[1]Breslauer, K.J.; Frank, R.; Blocker, H. and Marky, L.A. (1986) Proc. Natl. Acad. Sci. USA 83, pp 3746-3750.

See also the Safety Information sections on pages 5 to 15.

Front view

1. Heated lid pressure knob
2. Lid release.
3. Android HD touchscreen interface
4. USB port for memory stick.

Rear view

1. Mains cable inlet.
2. On/Off rocker switch

Note: On the PCR-300-D / PCR-300-Q the mains cable inlet, On/Off rocker switch and USB port are situated on the side of the instrument for easier access.

INSTALLATION

1. Place the unit on a suitable flat and level bench, ensuring that the air inlet vents on the sides are free from obstruction, as per the guidelines in the Safety Information sections.

   Note: Ensure a 250mm gap to the side of the PCR-300-D / PCR-300-Q power lead to allow disconnect of the electrical supply from the chassis if required, 100mm is sufficient for PCR-300-S.
2. Note that block removal can only be performed by a qualified service engineer.
3. Plug the mains cable into the mains cable inlet of the unit.
4. Connect to the mains electricity supply with the plug provided or one wired correctly for the supply. Switch the power ON using the switch located on the rear (PCR-300-S) or side (PCR-300-D / PCR-300-Q) of the unit. The front display will then light up.

NOTE:

A 250mm air space should be kept free at each side of the PCR-300-D / PCR-300-Q unit (left and right). If two PCR-300-D / PCR-300-Q units have to be positioned next to one another, a total of 500mm should be free between both units. If the systems have to be wracked the shelves should be 600mm apart from each other vertically, this promotes the correct airflow and heat distribution from the units. As air flow with the PCR-300-D / PCR-300-Q is in thought the front of the unit and out the sides, caution should be taken to not block the path of air in and out of the unit.

OPERATION

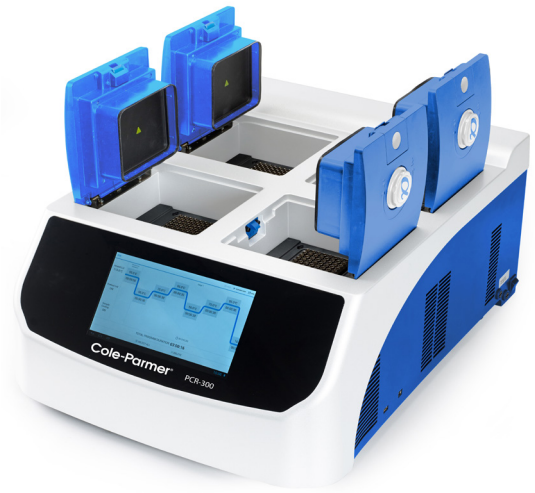
1. Release the heated lid by pressing the blue circular button located towards the front edge of the lid. The lid is sprung and should open to around 45 degrees with little assistance. To close the lid, lower the lid onto the block and press until you hear a click.
2. Place the samples in the block. If individual tubes or strip tubes are being used, space these out evenly across the block to equalise the pressure from the heated lid.
3. The heated lid has a rotating knob to adjust the lid pressure on the samples, allowing for a variety of consumables to be used. To adjust the pressure:

a. Rotate the knob anti-clockwise to raise the lid to the highest position.

b. Place the samples in the block and close the lid.

c. Rotate the knob clockwise until resistance is felt then give a further quarter of a turn; this will give the correct pressure. Do not over-tighten.

4. Once the pressure has been set it should not need to be adjusted unless a different consumable is used. Good standard practice is to check the pressure of the heated lid is adjusted correctly every time the system is run.
5. Keep fingers clear of rear hinged part of the lid while opening or closing.



INTRODUCTION

The Alpha Cycler software is aimed at being consistent with all the instruments in the Cole-Parmer range. The common themes of simplicity and performance are echoed in all Cole-Parmer thermal cyclers. The software will boot automatically when the system is switched on.

The Alpha Cycler software allows the user to quickly and easily create thermal cycling programs using a simple and clear touch screen format. The software is structured into six modules which are accessed from the Home Screen. The Home Screen has the following buttons and associated features.

- **Run a program** allows the user to run an existing program, selecting from templates or programs saved on the unit.
- **New program** allows the user to manually build a custom thermal cycling program.
- **Program wizard** allows the user to automatically generate a protocol based on primer sequences, Tm's and template size.
- **Edit program** gives access to the **File Manager** and allows the user to search for programs and reports stored on the unit and to edit existing programs.
- **Block status** allows the user to monitor the progress of the program running on one or more of the blocks.
- **Settings** allows the user to define default states of the system e.g. temperatures for cycling steps, language and response to power outages etc.

The **Recent Programs** panel displays the most recent protocols which have been run on the system.

Note: The Recent Programs panel will allow users to quickly access and run common programs without the need to navigate the File Manager.

BASIC ANDROID COMMANDS AND DATA/TEXT INPUT

The Alpha Cycler system interface is Android based and as such responds and operates similarly to other Android devices.

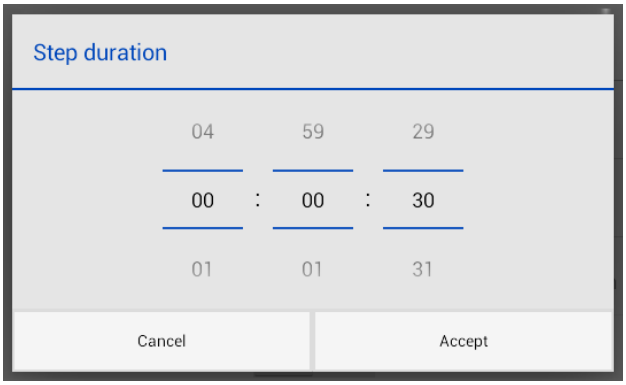
The standard Android navigation bar is located at the bottom of all Alpha Cycler screens:

- **Back:** This will take you back to the previous page. Repeatedly press this button to go back multiple screens.
- **Home:** This will take you back to the Home Screen for the Alpha Cycler.
- **Recent:** This will allow you to toggle between recent pages you have open. End users can also close open pages by swiping the windows left or right, as you would normally with Android interfaces.

Note: If you have opened multiple pages, for example you been in settings, started writing a protocol and had a protocol running, selecting the recent button allows you to easily toggle between these open pages.

When users are required to input data, either an Android keyboard will open in the screen or a scrolling wheel may appear (the scrolling wheel is used more for defining values such as number of cycles and time).

Example keyboard



Example time wheel during step duration input

TEMPLATE PROGRAMS

To help with programming, a number of program templates are provided on the USB memory stick supplied with the system. These are available to copy and edit or can be run directly without changes. Details of the installed program templates are given below.

Instrument and program defaults

Parameter	Gradient 50 to 60 deg.	3 Step Template	RT PCR Template
Heated Lid	110°C	110°C	110°C
Heated lid before program	On	On	On
Sample cooling	On	On	On
Polymerase activation	95°C, 05m00s	95°C, 05m00s	95°C, 05m00s
Final extension	72°C, 05m00s	72°C, 05m00s	72°C, 07m00s
Final store	10°C for infinite time	10°C for infinite time	10°C for infinite time

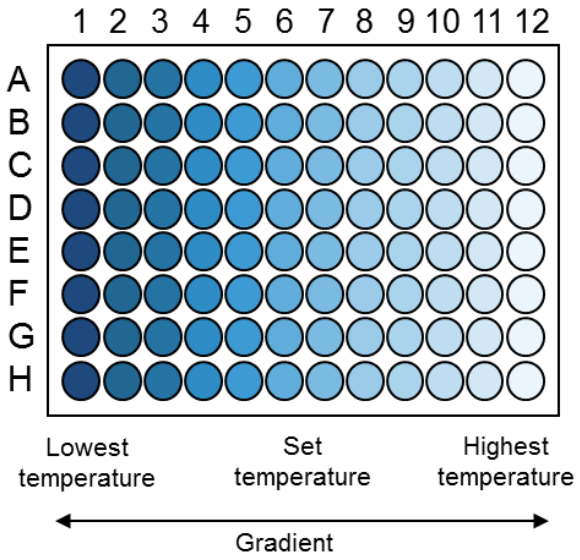
Thermal cycling conditions

Parameter	Gradient 50 to 60 deg.	3 Step Template	RT PCR Template
Stage 1			
Number of cycles	35	35	1
Step 1	95°C, 00m30s	95°C, 00m30s	45°C, 40m00s
Step 2	50 to 60°C, 00m30s	56°C, 00m30s	95°C, 05m00s
Step 3	72°C, 00m30s	72°C, 00m30s	
Stage 2			
Number of cycles			40
Step 1			95°C, 01m00s
Step 2			55°C, 00m50s
Step 3			72°C, 01m00s

Note: There is also an Ice Bucket program which is a simple temperature hold at 4°C: the heated lid is switched off and the polymerase activation and final extension functions are disabled.

GRADIENT

The gradient feature of the Alpha Cycler can be useful in optimising the annealing conditions for reactions. A gradient can be set around a temperature in any step of a program. The set temperature is the temperature in the middle columns and the range around the set point defines the gradient's minimum and maximum temperatures, see diagram below.

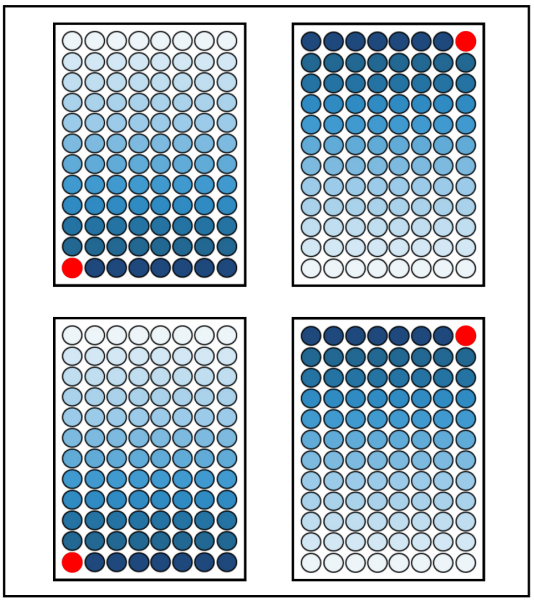


The maximum temperature gradient range which can be set is 29°C (depending on block type) and the minimum is 1°C; within the temperature range of 10°C and 100°C. Examples are given in the table below:

Gradient (°C)	Set temperature (°C)	Lowest temperature Column 1 (°C)	Highest temperature Column 12 (°C)
10	55	50	60
15	55	47.5	62.5
29	55	40.5	69.5

To program a gradient step see section **Manual program entry.**

The red circles in the below diagram illustrate the A1 well position of each block in an PCR-300-Q.



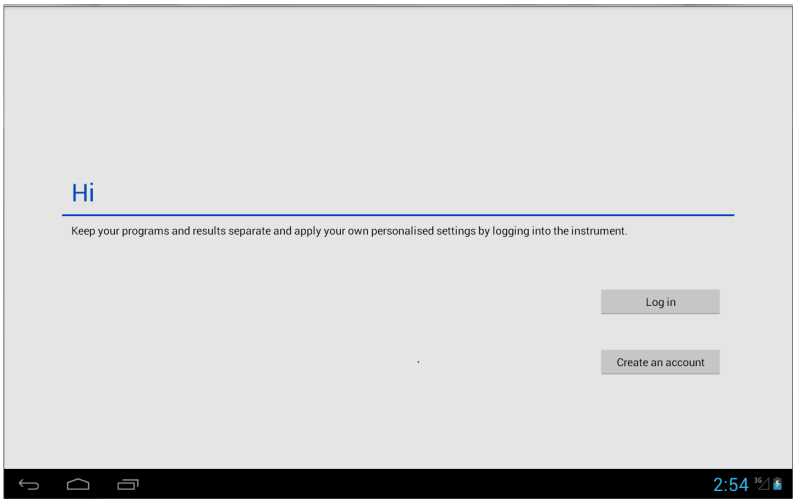
FRONT

Creating user profiles

The Alpha Cycler system allows for individual user profiles to be created, simplifying file management and controlling access to certain programs.

CREATING A NEW USER ACCOUNT

- To create a new user account tap the **LOGIN** button located at the top of the Home Screen.
- Select **Create an account**.
- Complete the details: User name, Password and Re-enter password.
- Tap on **Create Account** to save the profile.



Note: Programs written by a logged in user will only be available to that user unless the user chooses to share these programs with everyone; see the programming section.

TO LOG IN AS AN EXISTING USER

- Select **LOGIN** from the top of the Home Screen.
- Select **Log in** from the login screen.
- Log in with your user-specific name and password.
- Tap on **Log in**.

Note: Each Alpha Cycler has a administration level user accessed by logging in with the following:
Username: admin - **Password:** admin

LOGGING OUT

To log out simply tap the user name on the Home Screen and select **Log out**.

CHANGING A USER PASSWORD

To change a password, while logged in, tap the user name button on the Home Screen and select **Change Password** from the login screen.

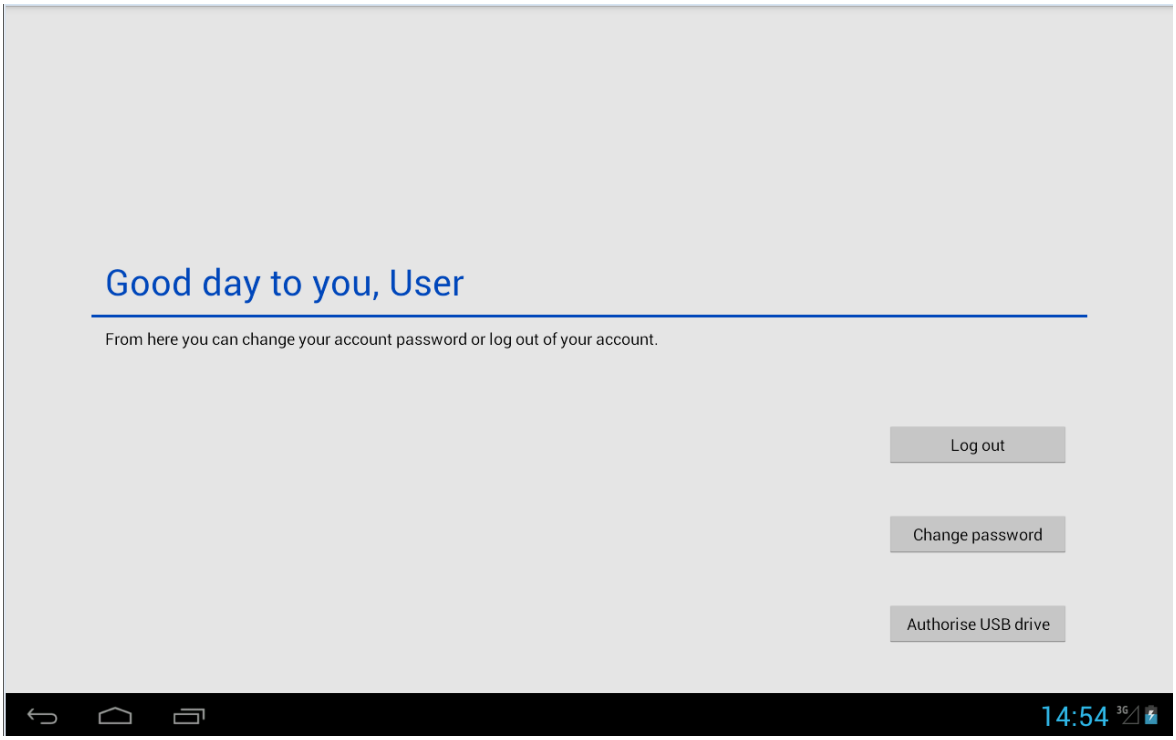
- Type in your current password.
- Type in a new password.
- Re-enter the new password.
- Tap on **Change Password** to confirm.

Creating USB Login

The Alpha Cycler system allows for individual user profiles to be created, simplifying file management and controlling access to certain programs.

CREATING A USB LOGIN

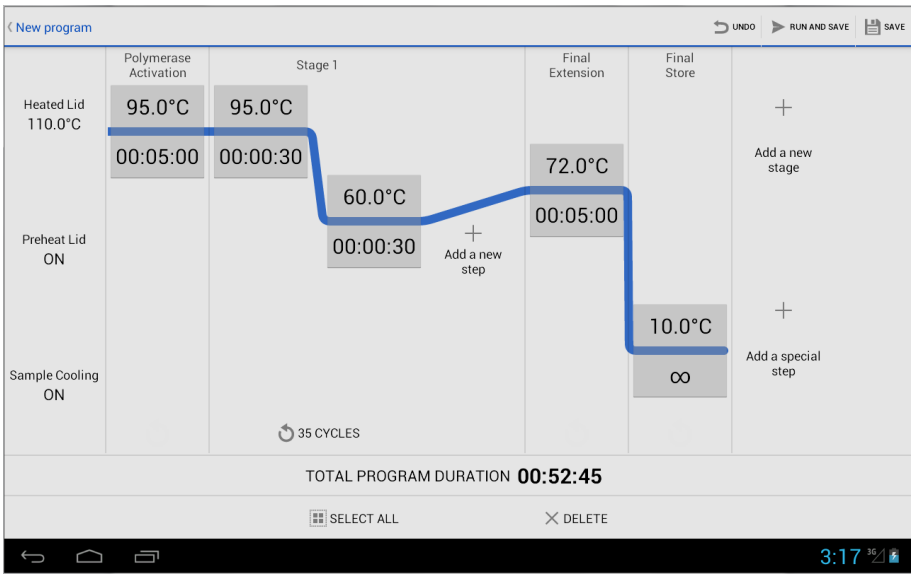
- To create a **USB LOGIN** device click on the login button located at the top of the home screen.
- **LOGIN** with existing account.
- Return to the login screen
- Insert a USB drive and click **Authorize USB drive**.



Note: Any USB drive can be authorised as the users login device. When logging in via USB all specified user defaults will be carried forward and applied. Removing the USB drive will logout the user.

- To **log in with the authorised USB drive**, simply insert the authorised / USB into the Alpha Cycler
- When a program is started from a logged in user and the user then logs out the running program can only be interrupted or stopped by inputting the specific users login details.
- **Removing the USB drive will automatically log the user out.**

This section gives instructions for the two methods of programming the Alpha Cycler systems. The first method uses the **Program Wizard** to automatically generate a program based on a few user defined parameters. The second method is accessed through the **New program** button from the Home Screen and allows the user to control every element of the program.



Note: When programming an Alpha Cycler protocols are built with a **steps and stages** structure. Individual steps can be created and a collection of those steps make up a stage. Stages have a number of cycles applied to them and all steps in a stage will cycle the specified number of times before progressing to the next stage. Protocols can have multiple stages comprising multiple temperature steps.

USING THE PROGRAM WIZARD

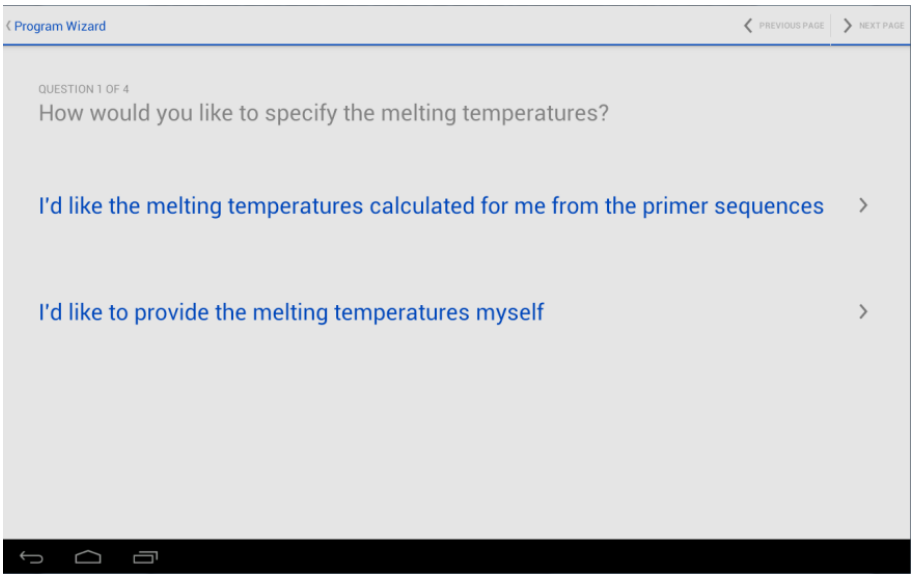
The Program wizard allows users to automatically generate a protocol based upon the following criteria:

- Primer Sequence or Tm's
- Length of amplicon
- Template source (bacterial, eukaryote or plasmid)
- Special considerations

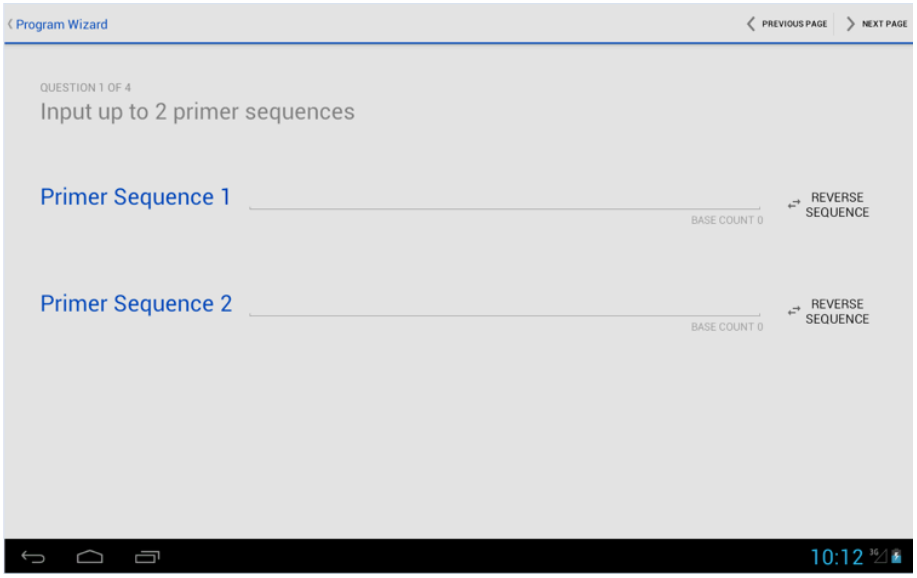
Special considerations has a series of options which accommodate for the use of hot start *Taq* polymerases, adjusts the temperatures based upon the amplicons A/T and G/C bias and will allow for the user to add a touchdown PCR stage as a means of improving specificity.

- From the Home Screen select **Program wizard**.

The Program wizard consists of four steps which require user input in order to generate a suitable protocol. The first step is to specify the melting temperature either from the primer sequences of from the Tm values.



- If selecting the primer sequences, tap "**I'd like the melting temperatures calculated for me from the primer sequences**" to input the sequence of each primer.

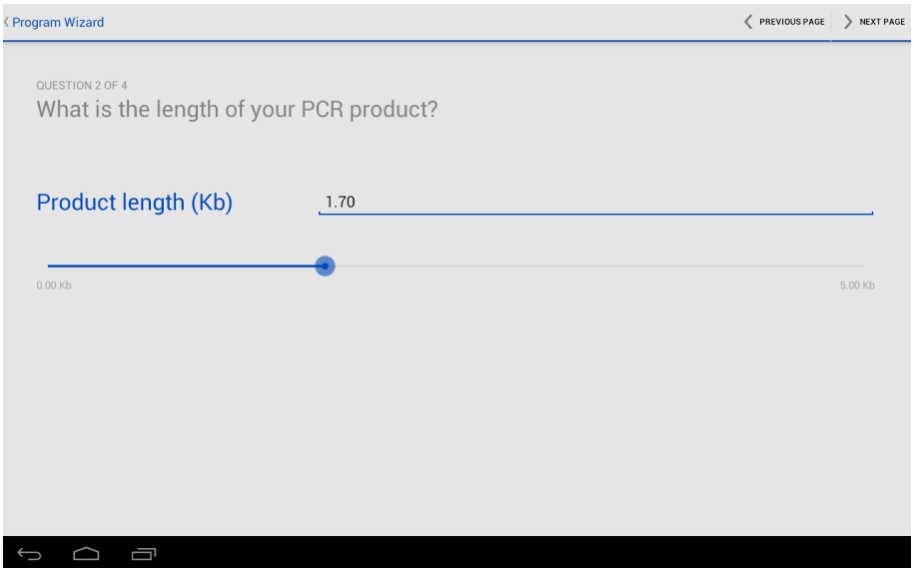


- Tap on the line **Primer Sequence 1**; a keyboard will appear on the screen. Type in the sequence of the first primer then tap on **Next**.
- Type in the sequence of the second primer then tap on **Done**. Primer sequences can be uploaded direct from the root of a USB drive.
- To input your own primer Tm values, tap **"I'd like to provide the melting temperatures myself"**.
- Tap on the line **Primer 1 (°C)**; a keyboard will appear on the screen. Type in the melting temperature of the first primer then tap on **Done**.
- Type in the melting temperature of the second primer then tap on **Done**.
- After completing either step, tap **NEXT PAGE** at the top right of the screen to progress to the next step. To go back, tap on **PREVIOUS PAGE.**

The next step is to input the length of the PCR product in kb.

- Either tap the line next to **Product length (Kb)** to enter the size of the PCR product (in kb) or drag the slider to the right or left to select the size.

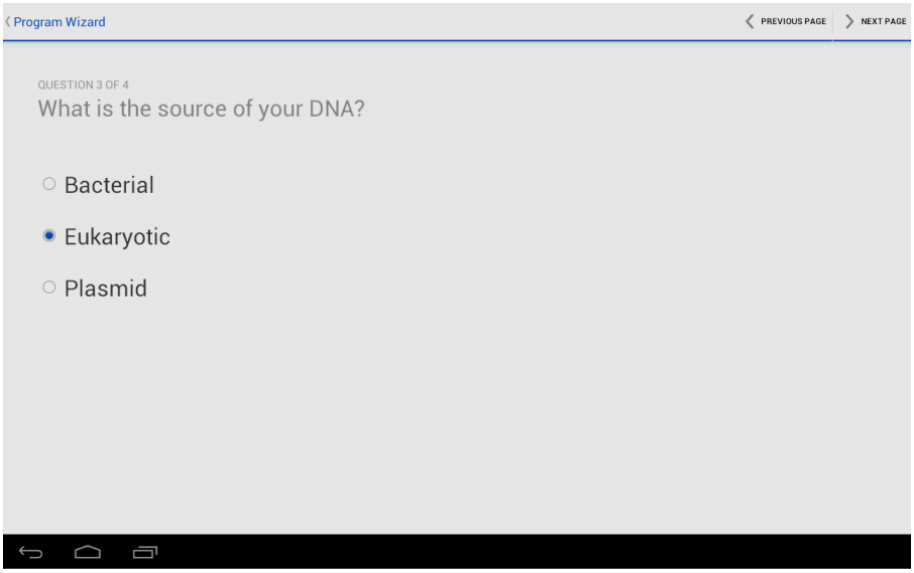
Note: values of between 0-5kb are valid: all values below 0.5kb will be given an extension time of 30 seconds.



- Tap **NEXT PAGE** at the top right of the screen to progress to the next step. To go back, tap on **PREVIOUS PAGE**.

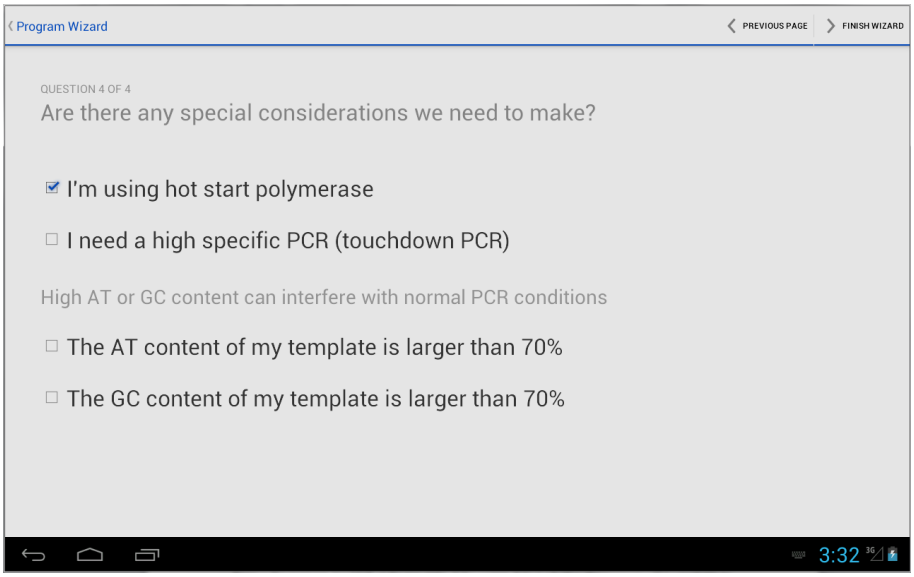
The next step is to select the source of the DNA.

- Select one of the three options.



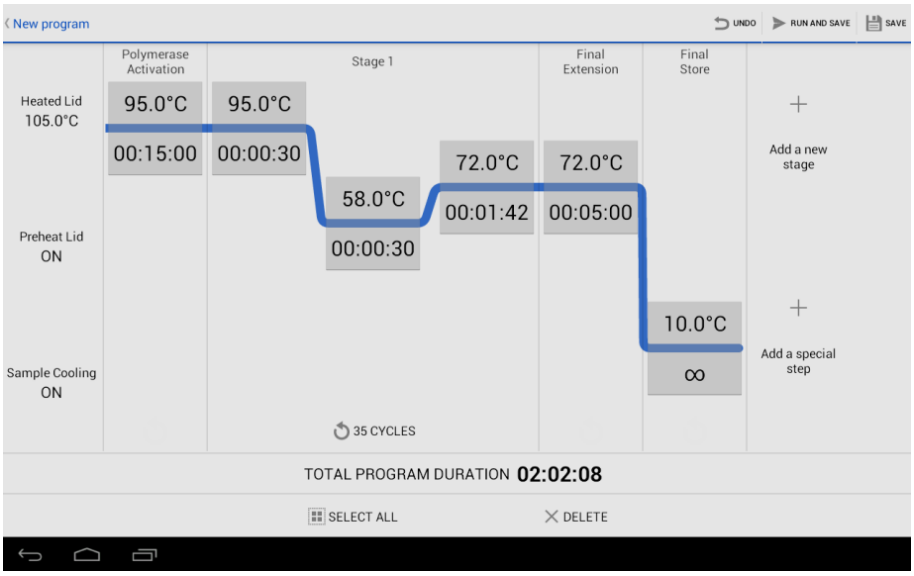
- Tap **NEXT PAGE** at the top right of the screen to progress to the next step. To go back, tap on **PREVIOUS PAGE.**

Finally, use the check boxes to take into account any special considerations as listed on the final screen.



- When finished, tap **FINISH WIZARD** at the top right of the screen.

Once you have completed the Program wizard, the final program will be displayed based upon the answers/data given in the previous steps.



Note: all parameters of a Program wizard-generated program can be adjusted either before or after it is saved. Ensure that heated lid is set how you wish it to be and add any special stages such as a final extension or a store step at this point.

- To save the program, tap **SAVE** at the top right of the screen.
- Select whether the program will be available to **Everyone** or **Just me** (current logged-in user) and assign a name.
- Tap **Save**.

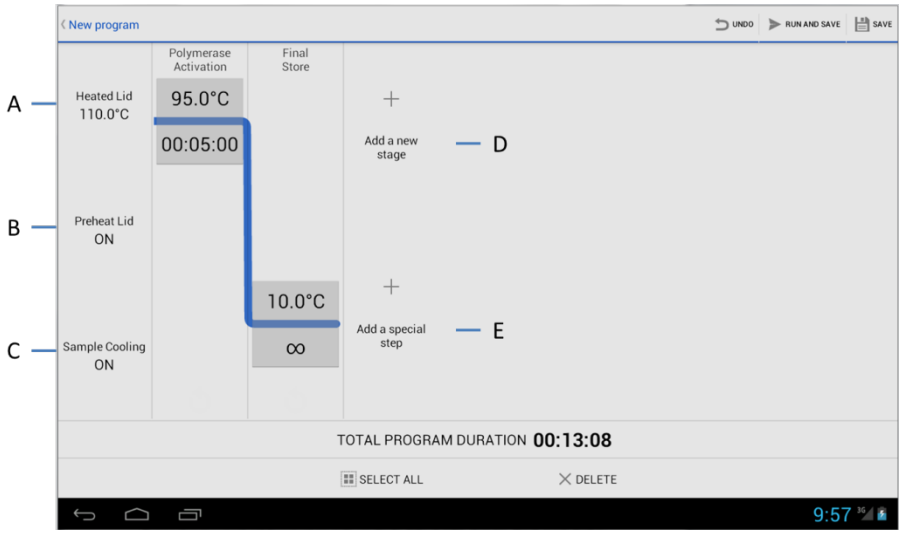
MANUAL PROGRAM ENTRY

The Alpha Cycler will also allow users to manually create a protocol by inputting the individual temperatures and hold durations for each step. Where a temperature or hold time is visible/required the user will be able to tap to select that step and either edit or input a time/temperature.

- From the Home Screen select **New program**.

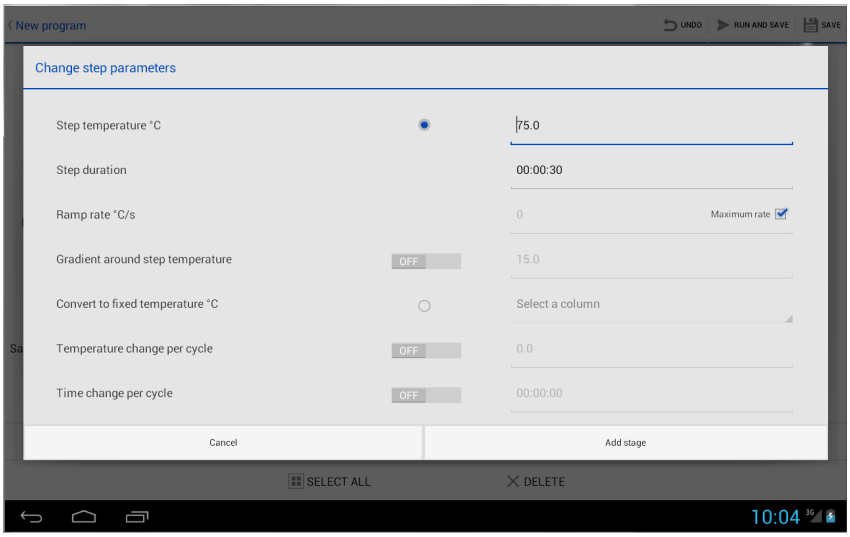
The basic program will contain the defaults as set by the user in the Settings (see section on Settings).

A. Toggle on and off the **Heated Lid**.
B. Toggle on/off **Preheat Lid**.
C. Toggle on/off **Sample Cooling** before the run begins.
D. **Add a new stage** - adds a stage with one temperature step plus the option to add further temperature steps within the same stage. The stage can be cycled up to 99 times.
E. **Add a special step** - including Touchdown, Final Extension and Final Store steps.



ADDING A STAGE

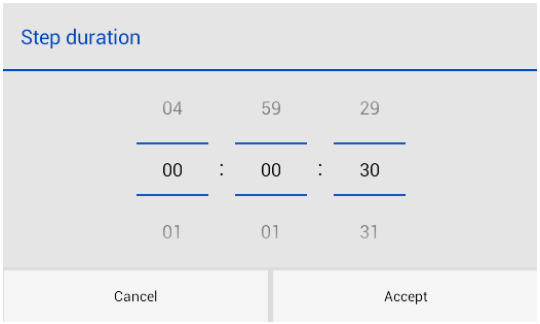
Tap on **Add a new stage** to create the first stage and step in the program. You will initially need to define the parameters for the first temperature step:



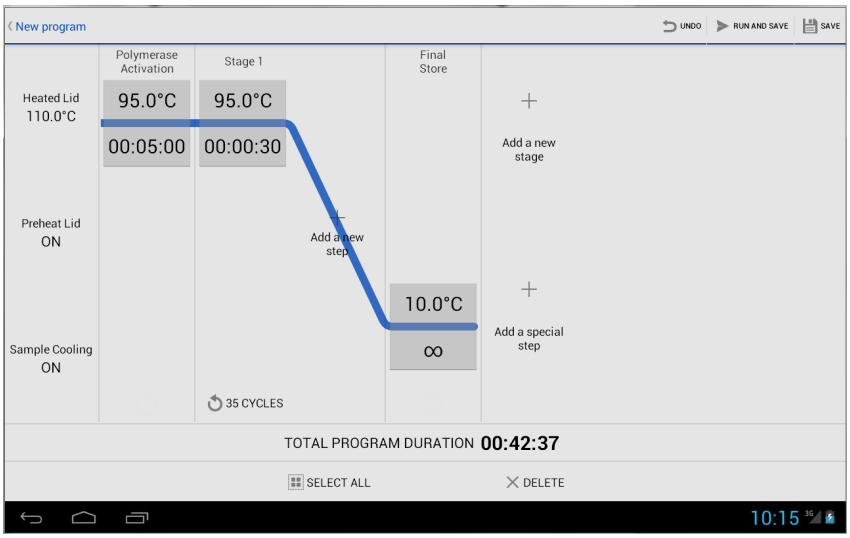
To change the step temperature, tap on the default temperature value and enter the desired value followed by **Done**.

To change the steps hold temperature, click on the hold temperature and a window will open, scroll the temperature in that window and select Change to update to the new hold temperature. To change step hold time, the same applies but to the duration not temperature.

Note: Alpha Cycler Temperature steps carry an inherent hold time of 30 sec and temperature of 95˚C, 56˚C and 72˚C for a three step stage.



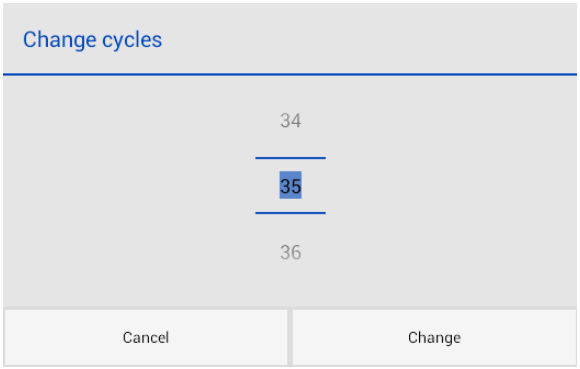
Tap **Add stage** to complete adding the first stage and step.



Continue by adding further steps and stages as required in the same way.

Note: If a protocol has several stages it may appear to extend beyond the screen; simply swipe the screen to the left or the right to view the whole protocol.

To adjust the number of cycles of a stage, tap on the cycle button at the bottom of each stage area; a scrolling selector will appear. Select the desired number of cycles followed by **Change**.



As the program is written, the total duration of the protocol is displayed at the bottom of the programming screen.

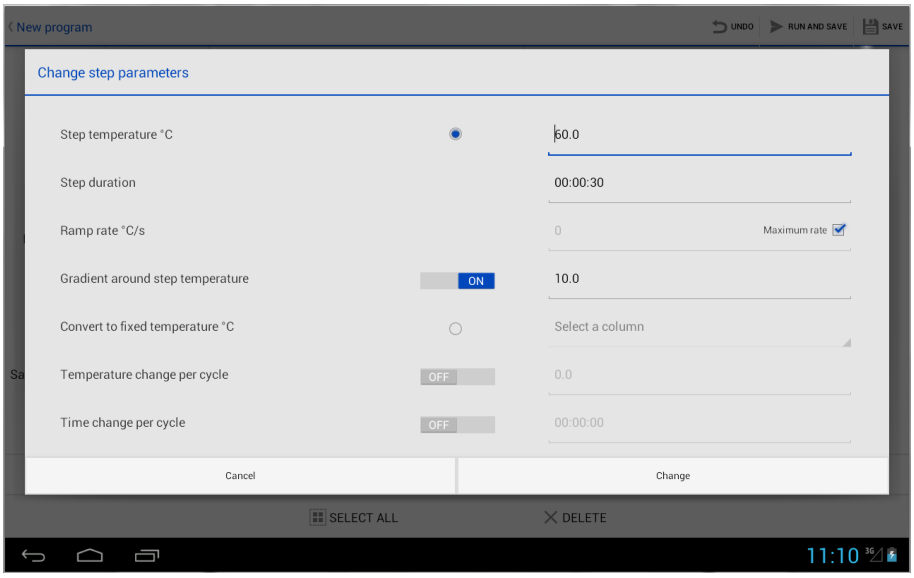
EDITING STEP PARAMETERS

To edit the parameters of a step e.g. the temperature, hold time, ramp rate etc. tap on the grey shaded area of the step. The **Change step parameters** window (see below) will open. Make any changes to the parameters then tap on **Change** to accept.

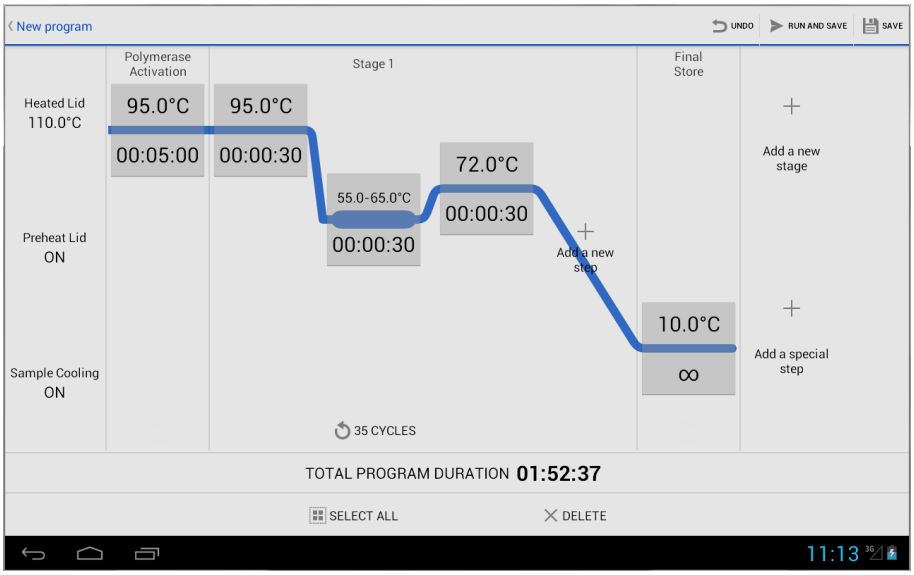
Note: The ramp rate (heating/cooling rate from the previous step to the current step) can be defined between 0.1 °C/sec up to 3 °C/sec or MAX.

ADDING A GRADIENT STEP

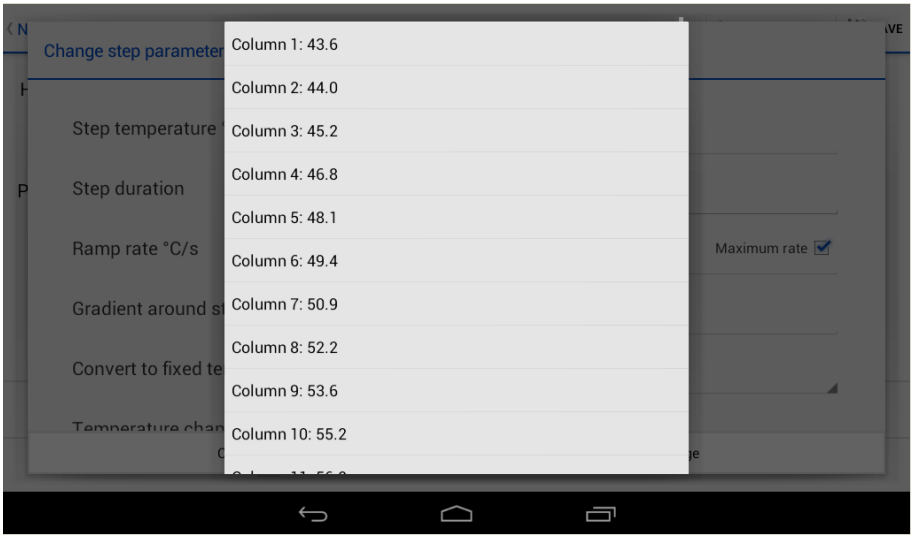
Select the step on which you wish to add a gradient and tap on the grey shaded area. The **Change step parameters** window will open. Toggle **ON** the parameter **Gradient around step temperature**. Next, define the range of temperature you wish to run the gradient over. Tap on **Change** to accept the changes.



The gradient and range will then be displayed within the program.



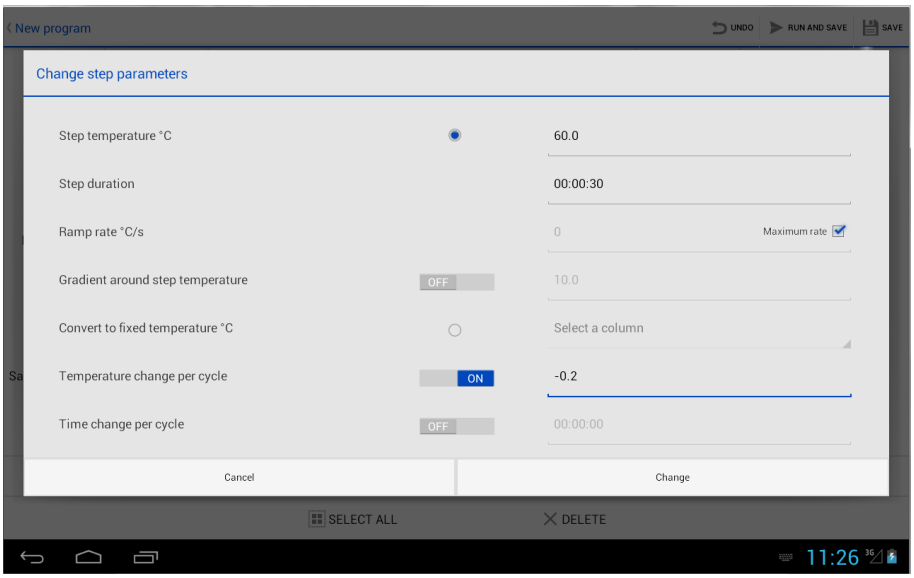
Note: After running a gradient protocol to optimise a reaction, the program can be easily modified to set the annealing temperature to that of the column in which the optimal reaction occurred. Simply tap on the gradient step to edit it then select **Convert to fixed temperature °C**. A window showing the actual temperature in each column of the block is displayed. Select the column which gave the optimal reaction conditions to re-set the annealing temperature.



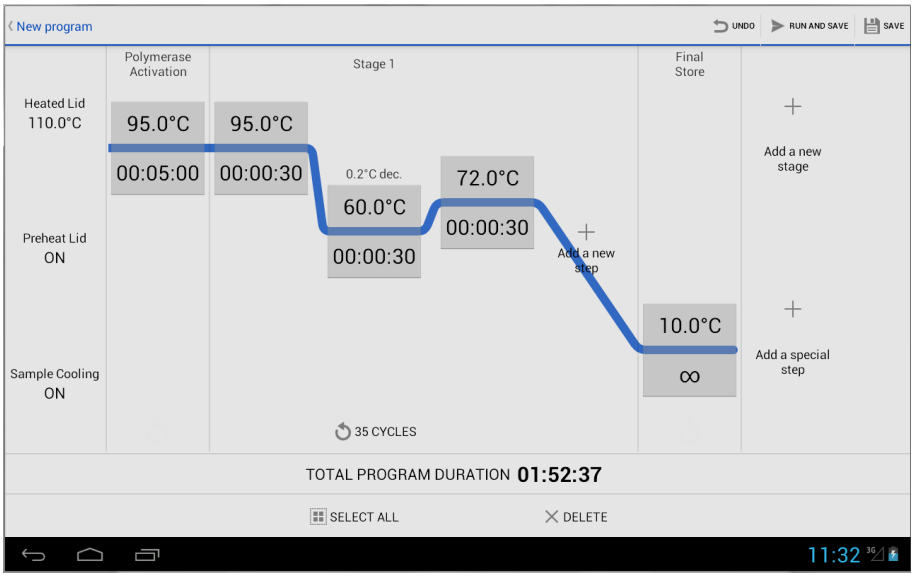
ADDING A TEMPERATURE OR TIME INCREMENT OR DECREMENT

Select the step on which you wish to add the increment or decrement and tap on the grey shaded area. The **Change step parameters** window will open. Toggle **ON** the parameter **Temperature change per cycle** or **Time change per cycle** as desired. Next, define the increment or decrement temperature or time. Tap on **Change** to accept the changes.

Note: The maximum allowed temperature increment/decrement is between -10 °C and + 10°C/cycle and the maximum time increment/decrement -30 seconds and +30 seconds/cycle. This will also be dependent on the number of cycles in the stage and the limits of the thermal block.



The temperature/time changes will be displayed with the program.



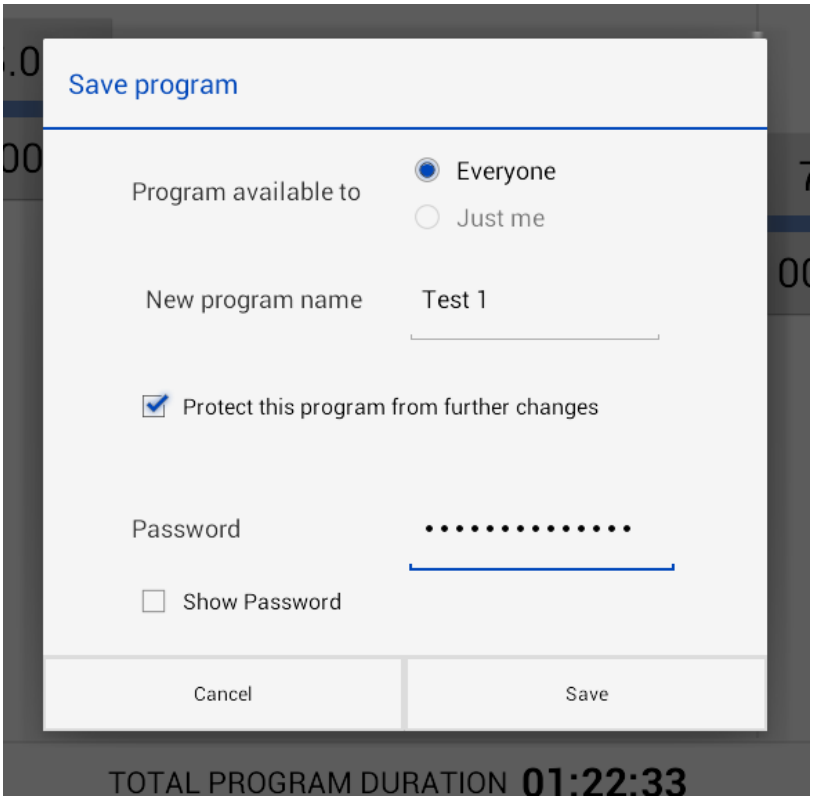
DELETING A STEP OR STAGE

To delete a step, tap in the area just below or above the step (not in the grey boxed area) so that the step is highlighted. Multiple steps may be selected. Next, tap on **DELETE** at the bottom of the screen. The step(s) will be deleted. To delete a complete stage, all steps within the stage must be deleted, this can be done by highlighting the temperature steps, press the screen underneath the temperature step box to highlight and then press **DELETE**.

Note: At the top of the screen there is an **UNDO** button to undo the last series of commands if a mistake such as unintentionally deleting a step/stage is made.

SAVING THE PROGRAM

To complete writing a program and to store it to the cycler memory, tap **SAVE** on the top right corner of the program window. The **Save program** window will appear.



Define who will have access to the program:

- **Everyone**, meaning all users of the system will have access to this protocol, or
- **Just me**, meaning only the current logged-in user will have access.

Add a name for the program for future identification then tap on **Save**.

Programs can also be password protected. Click on the box marked "Protect the program from further changes' and assign a password. To alter the program the password must be known. Programs with password protection can not be interrupted/stopped mid cycle without applying the password.

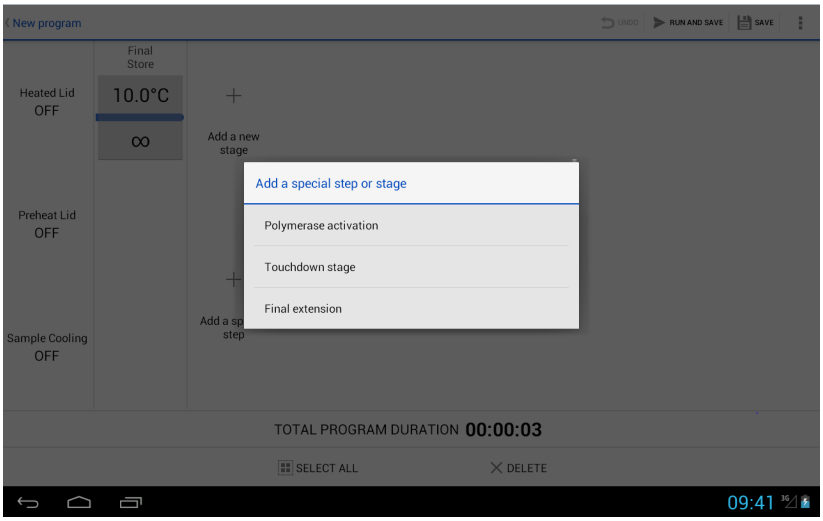
Note: The **RUN AND SAVE** button allows you to start the protocol from the programing screen without the need to first save and then go into the File Manager to run the protocol. Run and save can be useful for when you are modifying an existing protocol.

Special steps

When writing a protocol there is an option to add a special step, these include:

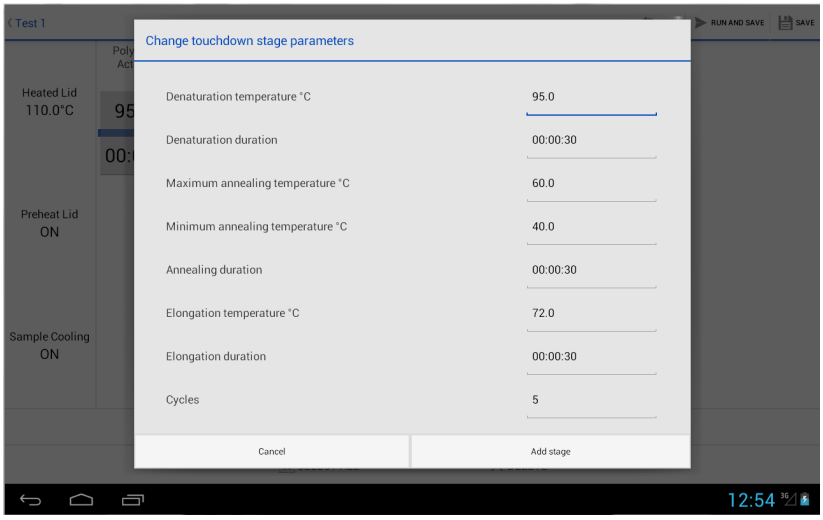
- Polymerase Activation
- Touchdown
- Final Extension
- Final Store

Tap on **Add a special step** and the **Add a special step or stage** window will open.



Polymerase Activation allows for a one off temperature/time step to activate the polymerase, this step will not cycle.

Touchdown stage allows users to generate a touchdown protocol which will change the temperature uniformly across the entire block each cycle between two set temperatures (high to low) over a defined number of cycles.



Define the starting (maximum) annealing temperature and the end (minimum) annealing temperature. The temperature change per cycle will be equal to the difference in temperature between the maximum and minimum divided by the number of cycles -1.

Note: The software allows the user to either increment or decrement the time and/or temperature of a step within a cycling stage. These features are used with applications such as touchdown PCR where the annealing temperature is gradually decreased during the cycling process and long range PCR amplification, where due to the size of the product, long annealing/extension times are required and the extension time is increased by, for example, 15 to 20s per cycle during the final stages of the reaction.

Final extension allows users to add a final temperature step at the end of normal cycling.

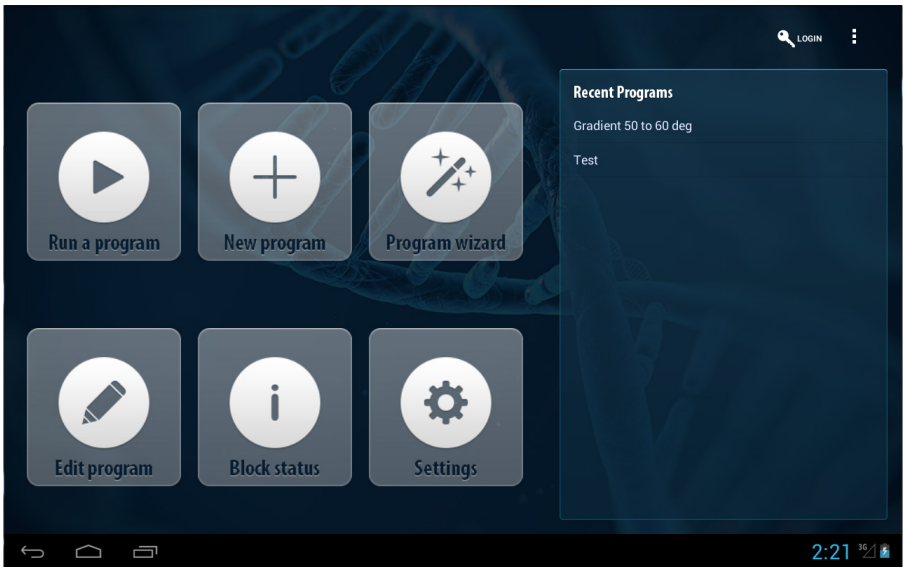
Final store allows users to store the PCR reactions in the system at a set temperature until they are ready to be taken out for further analysis. The default temperature is 10°C as this is suitable for storing DNA for prolonged periods of time.

Note: Colder temperatures can be set, down to 4°C, but this is not essential for DNA work. It is advised to never store RNA for prolonged periods in a thermal cycler, at 4°C or any temperature.

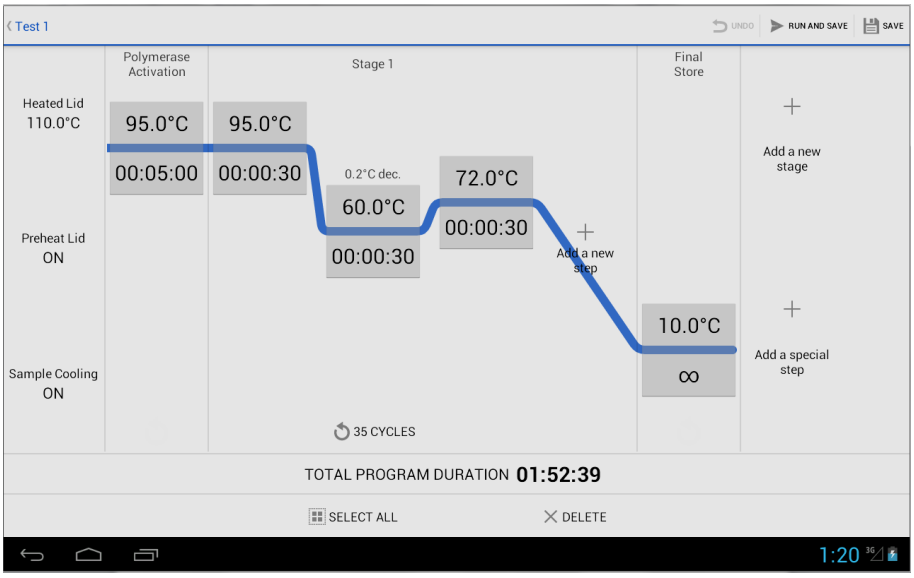
There are two main options for running a program; either selecting the program from the Home Screen **Recent Programs** shortcut list or by searching through the system's **File Manager** accessed through either Run a program or Edit program.

RUNNING A PROGRAM FROM THE SHORTCUT LIST

When a program has been run on the Alpha Cycler it will appear in the **Recent Programs** list.



To re-run the same program, tap to select one of the programs from this list. The Pre-run screen will be displayed.

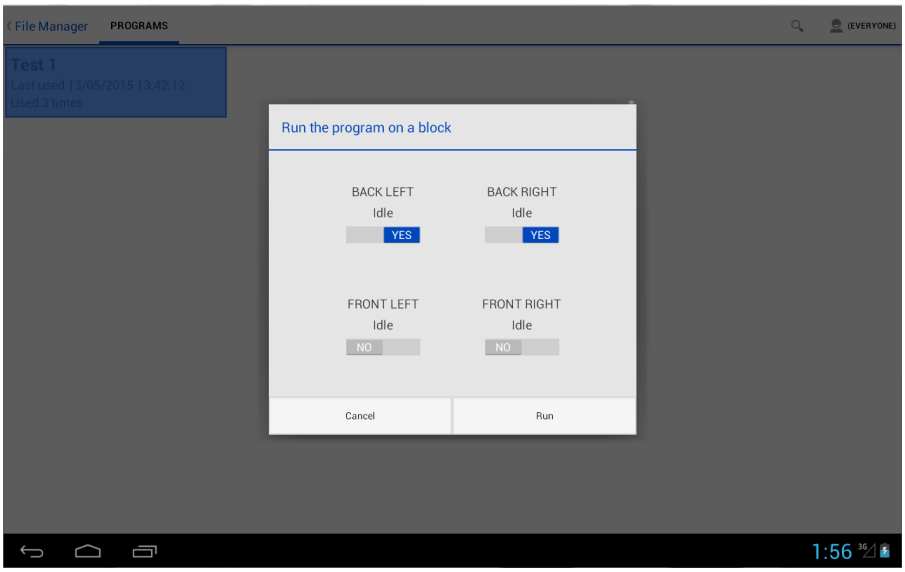


The Pre-run Screen shows a graphical representation of the program allowing for a rapid check of the temperature parameters. Any of the parameters can be edited at this point.

- Touch any stage or step to edit the program.
- Touch **RUN AND SAVE** to start the program. Note that this will over-write the existing program if any edits have been made.
- Touch **Back** to return to the previous screen.

Note: With the PCR-300-D / PCR-300-Q you will be asked at this point on which block(s) the program is to be run. Any number of the available blocks can be selected. Select the required block(s) by tapping to display **YES**.

Tapping on **Run** will send the program to the thermal cycler and it will begin automatically.



Note: PCR-300-D only has left/right block option.

RUNNING A PROGRAM FROM THE INSTRUMENT MEMORY

If the program required is not present in the Recent programs list it must be located using the File Manager.

From the Home Screen, tap on **Run a program** to open the File Manager. Select the required program by tapping to highlight it.

Note: With the PCR-300-D / PCR-300-Q you will be asked on which block(s) the program is to be run. Any number of the available blocks can be selected. Select the required block(s) by tapping to display **YES**.

Tapping on **Run** will send the program to the thermal cycler and it will begin automatically.

Note: This route of selecting a program does not allow you to view the thermal profile before it is run.

An alternative way of accessing the File Manager is to go through Edit program. Using this route you will be able to view the program in the Pre-run screen and make any changes before sending it to the thermal cycler. Once you are satisfied the program is correct, tap **RUN AND SAVE** to start the program as described above.

Note: With the PCR-300-D / PCR-300-Q you can run any number of blocks simultaneously with the same program or select different programs to run on each individual block.

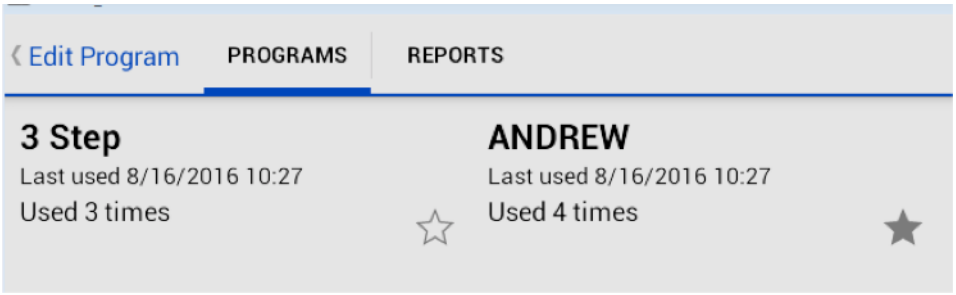
VIEWING A RUNNING PROGRAM

Once the program has been started, the Home Screen will display information about which program is running and how long it has left to run.

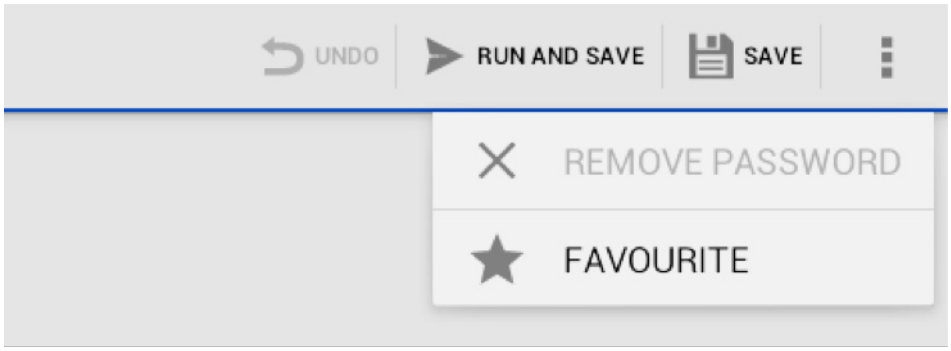
With the PCR-300-S this display is across the top of the screen. It shows the program name and end time.

CREATING A FAVOURITE PROGRAM.

A program can become a favourite by pressing on the start icon in the Edit Programs menu or by pressing the three stacked boxes icon while writing a program and selecting favourite as images below.

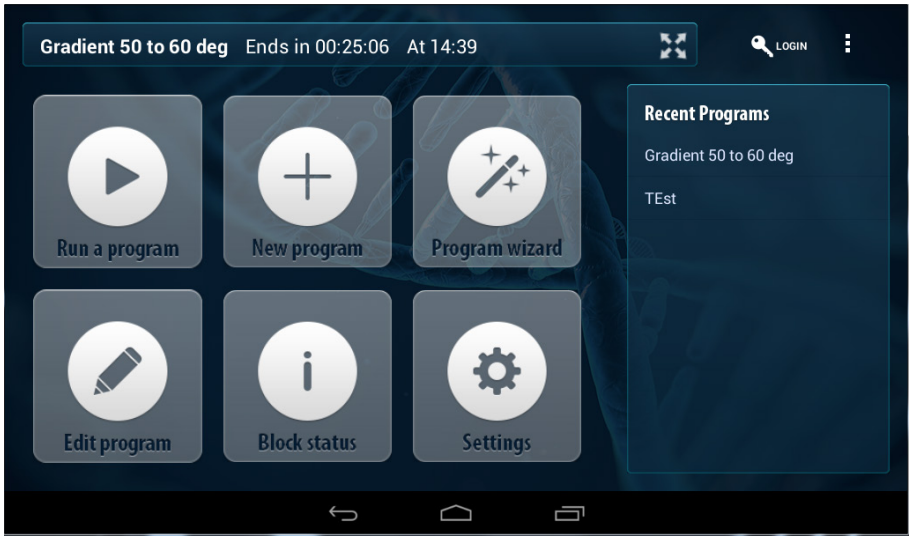


In Edit programs check the Star icon to Favourite a Program.

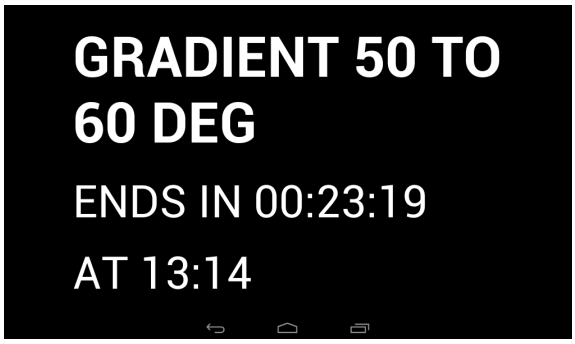


In New Program press the three stacked boxes icon and check Favourite to assign it as such.

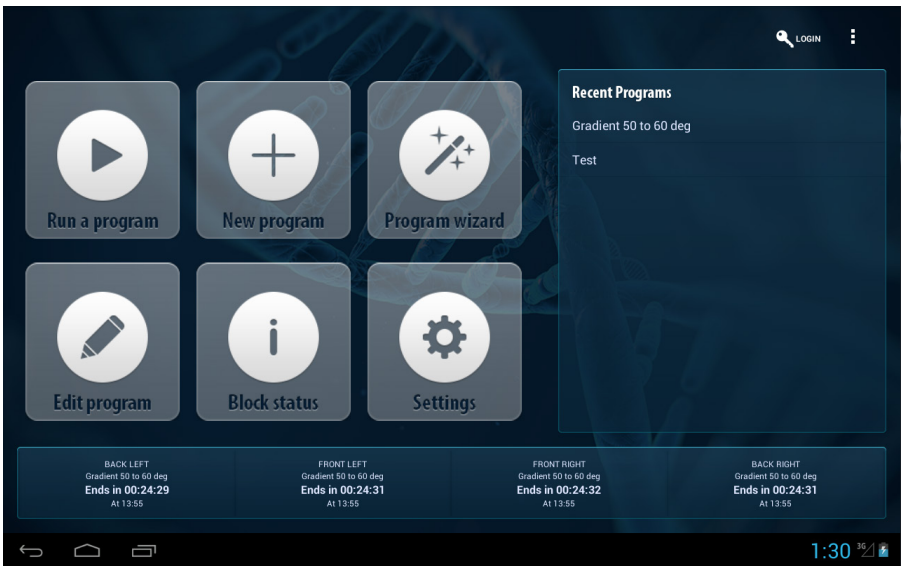
NOTE: Favourite programs can then be visualised together on the home screen, see instrument setting section for how to display Favourites on the home screen.



There is also an option to display the countdown clock in full screen while the system is running. This feature is only available in the PCR-300-S and is accessed by clicking on the four arrow icon in the status bar.



With the PCR-300-D / PCR-300-Q, status of each block is shown separately across the bottom of the screen.



To view the running program in more detail, from the Home Screen tap on **Block status**.

Note: With the PCR-300-D / PCR-300-Q, the status of all blocks will be displayed.

To view an individual block, tap on the full screen icon close to program name. This will expand the run screen of the selected block to fit the entire screen.

Note: If a protocol has several stages which extend beyond the screen; simply slide the screen to the left or the right to view the protocol.

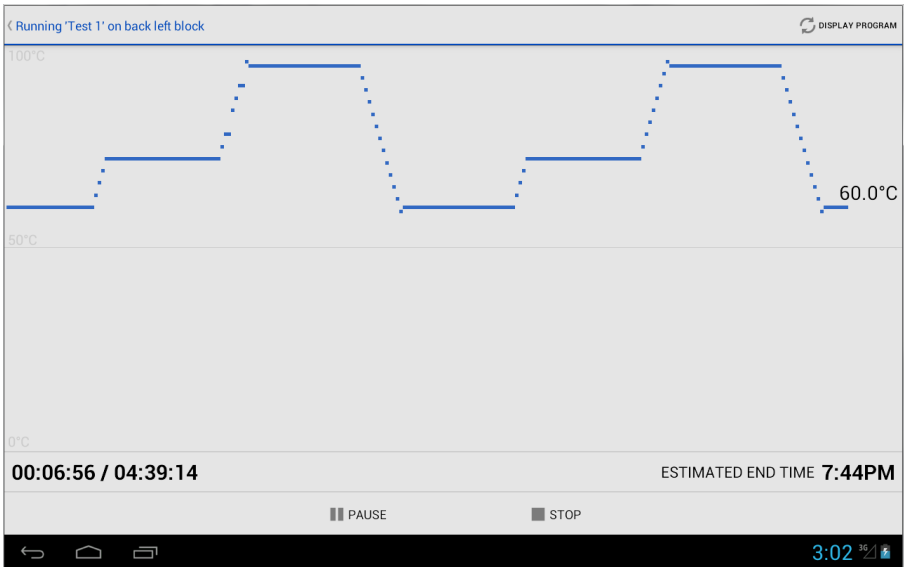
When viewing an individual program there is the option to toggle between viewing the real time temperature of the block and the program display.

To view the block temperature, tap on **DISPLAY REAL-TIME TEMPERATURE** at the top right of the screen.

Note: see settings too toggle between displaying the average temperature across the block or the actual temperature recorded at the four temperature sensors.

When Real Time Temperature is selected the user is shown the current temperature of the block as it progresses though the program. Approximately 5 minutes of temperature profile is shown on the display.

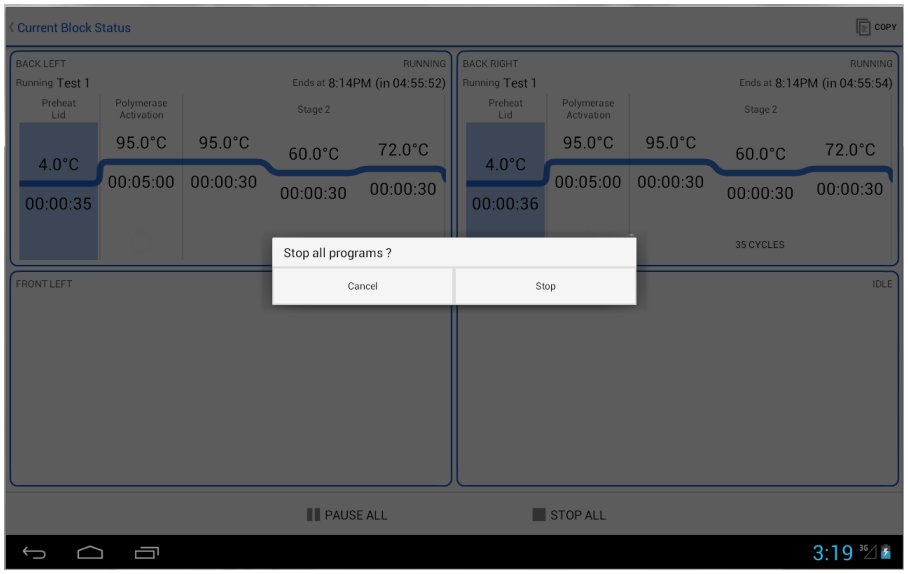
To return to the program, tap on **DISPLAY PROGRAM**.



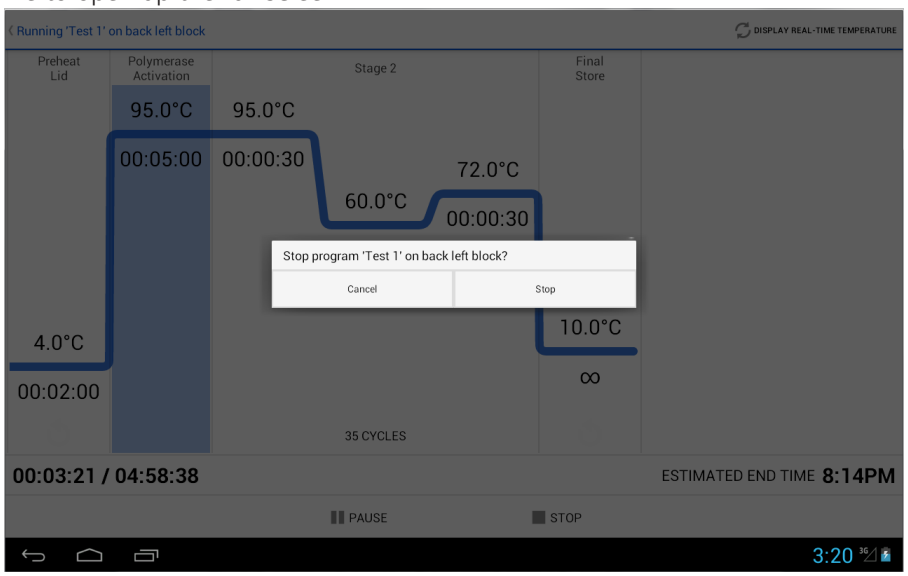
STOPPING A PROGRAM

When in the full screen display, tap **STOP** to stop the program. A prompt will ask you to confirm the stop.

Note: For the PCR-300-D / PCR-300-Q all active blocks can be stopped together from the block status screen.



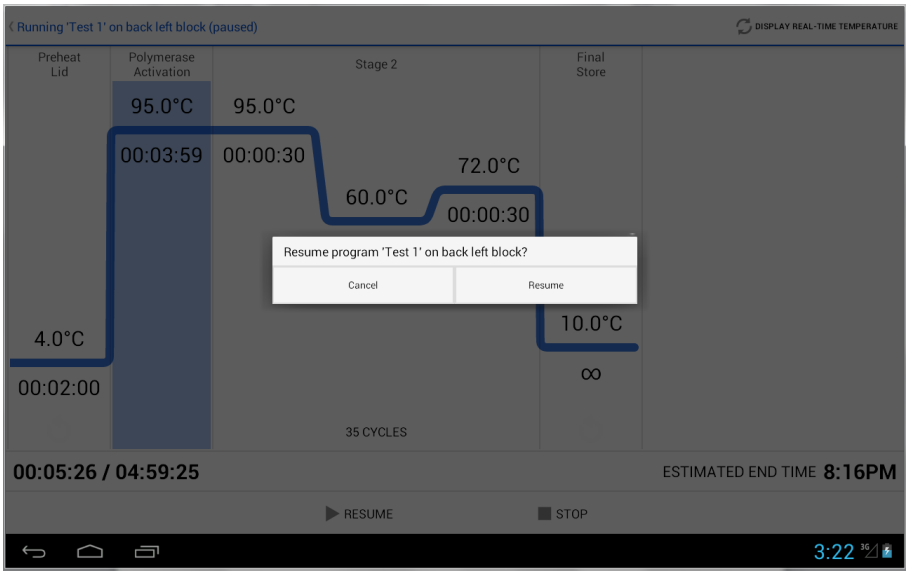
To stop an individual program, first select the full screen display by tapping on the block area close to program name to open up the full screen.



Alternatively, programs can be stopped from the Home Screen by tapping on the status bar. This will open up the run screen.

PAUSING A PROGRAM

A program can be paused in the same way as stopping a program. After a program has been paused, it can be resumed by tapping on **RESUME**.



Note: It is possible to access all modules of the software while the unit is running a program. Simply use the **Return** button or **Home** button at the bottom of the screen to access other areas of the software.

Program finished

When a program has completed, a **Summary Report** will be displayed on the screen.

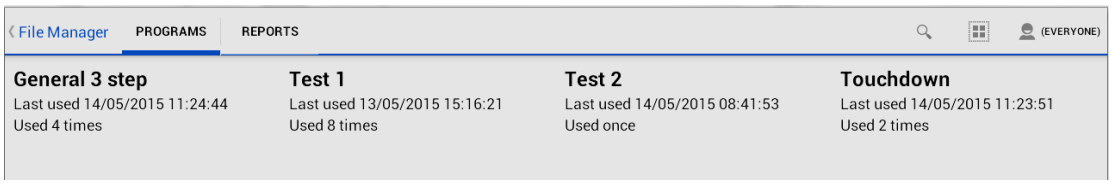
- Click on **OK** to close the report.

Note: With the PCR-300-D / PCR-300-Q a report will be presented for each individual block as each program finishes.

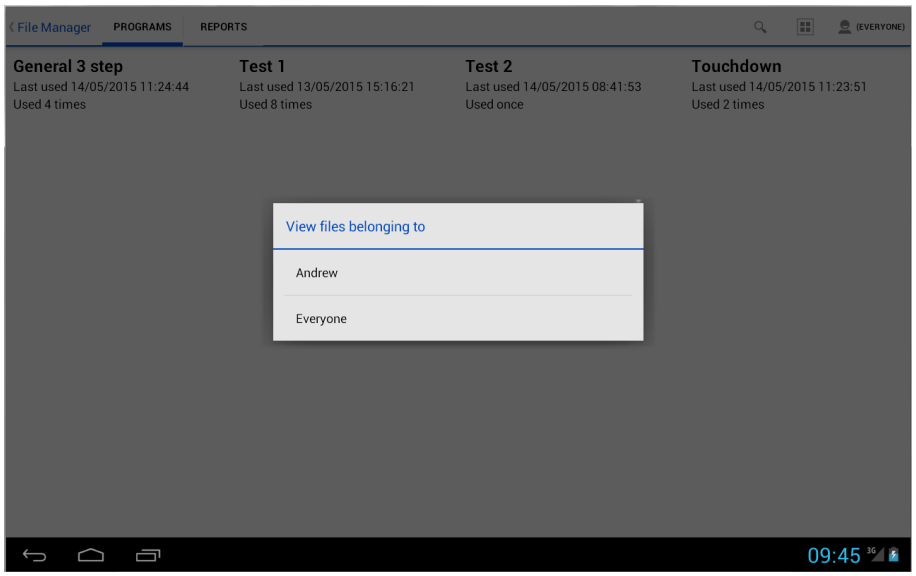
Using the File Manager

The File Manager is used to find and view programs and reports stored in the system memory or on an external device such as a USB memory stick.

- To access the File Manager, tap on **Edit program** from the Home Screen.
- Touch **PROGRAMS** or **REPORTS** to view all those saved under the current profile (shown in the top right of the screen).



- To view the files belonging to different profiles, tap the **Profiles** icon (head and shoulders of a person) at the top right of the screen.
- Select whether to view the files available to **Everyone** or just the currently logged-in user.



Note: If a USB memory stick has been inserted into the USB port, A USB icon will also be visible at the top right of the screen.

- To view files stored on the USB memory stick, tap on the USB icon.

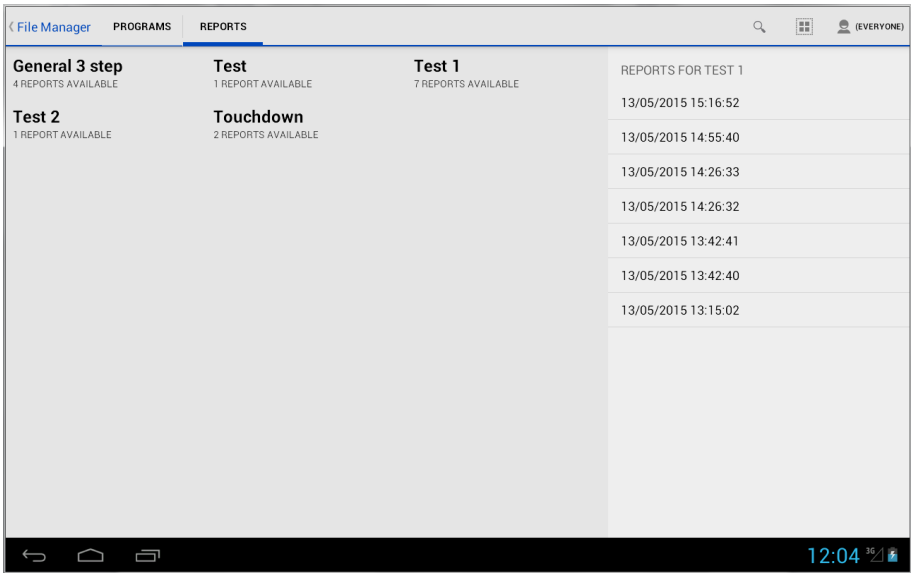
SEARCH FOR A FILE

- Tap on the magnifying glass icon to enable a search for a particular program or report.
- Use the keypad to type in a keyword on which to search and then tap the magnifying glass symbol on the keypad. Only programs or reports containing the search term will be shown.
- To cancel the search tap on the **X** symbol.

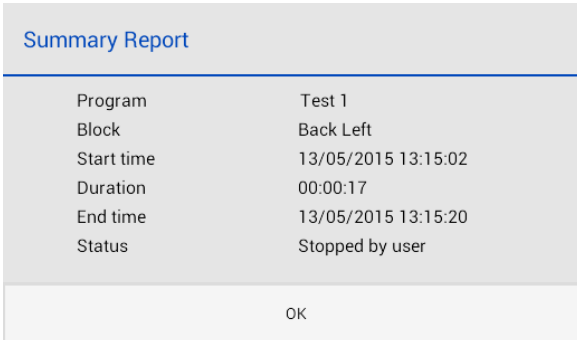
REPORTS

Reports of runs performed on the Alpha Cycler are stored in the unit memory and can be accessed any time.

- To view the report lists, from the File Manager select **REPORTS**.
- Select a program name. All reports for that program will be displayed in chronological order.



- Tap on a report from the list and the individual Summary Report will be displayed. Tap **OK** to exit.

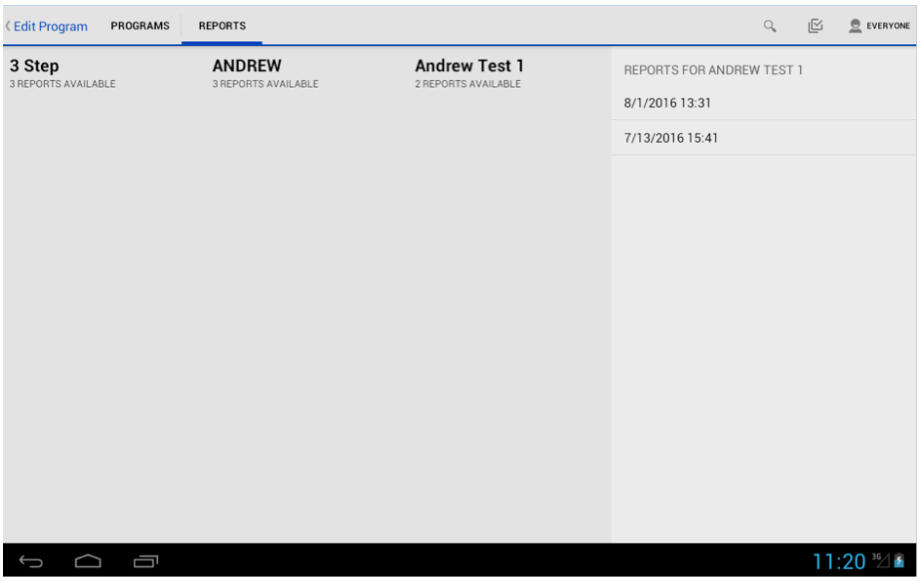


Note: It is not possible to view the temperature log contained within the report on the Alpha Cycler itself, it must first be copied to a USB memory stick then viewed on a PC using Excel®. The file will be saved as a .csv file. See the directions given in the next section for copying files to a USB memory stick.

DELETING A PROGRAM OR REPORT FROM THE FILE MANAGER

Programs and reports can be deleted from the File Manager.

- Tap the command button ( ) at the top right of the screen.
- Select the file(s) you wish to delete; selected files will be highlighted blue. Tap again to deselect.
- Touch the delete icon (large **X**) at the top right of the screen.
- A prompt will appear to confirm the delete; once confirmed the selected files will be deleted from the system's memory.

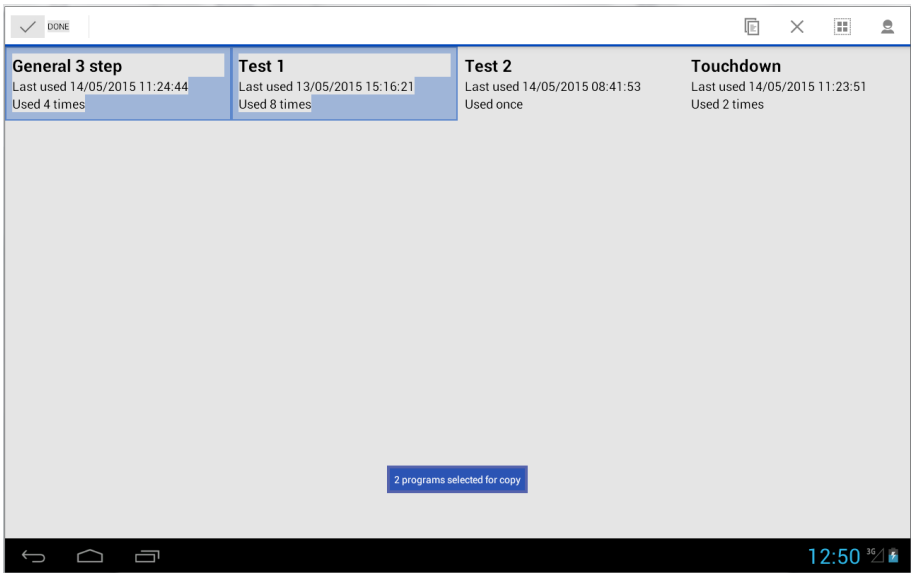


- If you choose not to delete a file, touch **Cancel**.
- Touch the tick icon next to **Done** to return to the File Manager.

COPYING A PROGRAM TO A USB MEMORY STICK

To copy a program from the system's memory to an external memory device such as a USB drive, first search for the desired program using the File Manager accessed through Edit program on the Home Screen.

- Insert a USB memory stick into the port on the Alpha Cycler. A USB icon will appear at the top right of the screen.
- Tap the **Command** button (☑) at the top right of the screen.
- Select the file(s) you wish to copy; selected files will be highlighted blue. Tap again to deselect.
- Touch the **Copy** icon at the top right of the screen.
- A prompt will appear indicating that the selected files are ready for copy.



- To copy the files to the USB memory stick, tap on the **USB** icon to select the destination then tap the **Paste** icon (clip board).

TRANSFERRING A PROGRAM FROM A USB MEMORY STICK TO THE ALPHA CYCLER

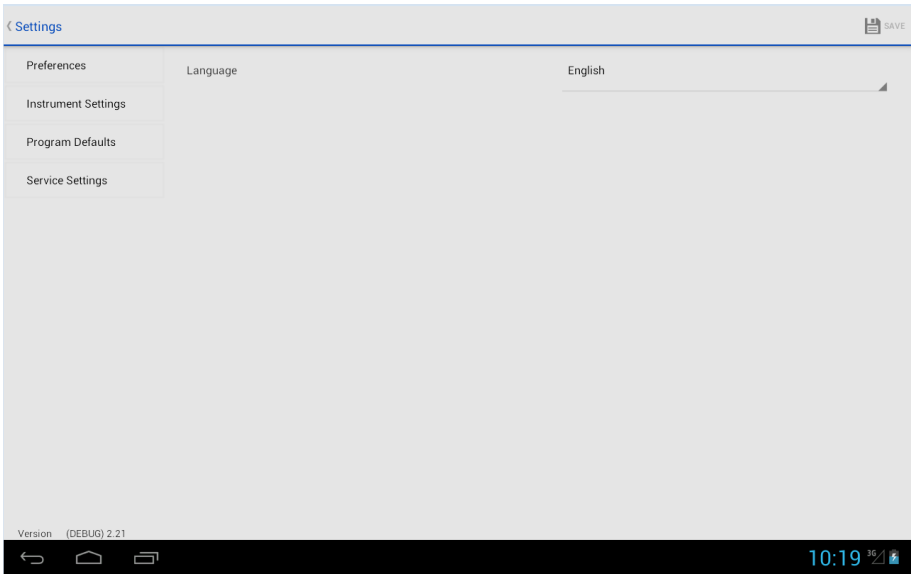
Transferring programs from one Alpha Cycler to another avoids the user having to re-write new programs for each additional instrument and is an easy way to share optimised protocols with other Alpha Cycler users.

- From the Home Screen select **Edit program**.
- Insert a USB memory stick into the port on the Alpha Cycler. A USB icon will appear at the top right of the screen.
- Select the **USB** icon to view any files saved on the device.
- Tap the **command** button (☑) at the top right of the screen.
- Select the files you wish to copy to the system memory (highlighted items will go blue)
- Define the destination of the files by clicking on the **Profiles** icon (head and shoulders of a person)
- Select the users you wish to make the copied programs available too and then tap the **Paste** icon (clip board).

Instrument settings and defaults

The **Settings** button on the Home Screen gives access to the instrument settings and allows you to set up your own preferences and defaults for writing programs. Tap the **Settings** button on the Home Screen to access the instrument **Settings** menu.

Note: The system must be restarted for the system settings and defaults to be applied. If the settings are changed, always restart the system.

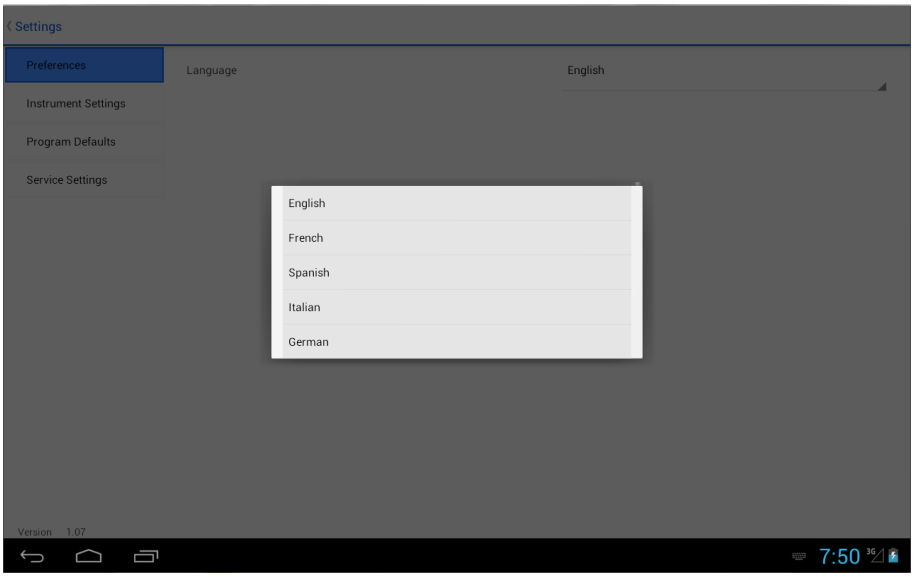


Touch any of the headings on the left hand side to view and edit those settings. Once all the settings and defaults have been set as required, touch the **Back** button at the bottom of the screen to return to the Home Screen.

PREFERENCES

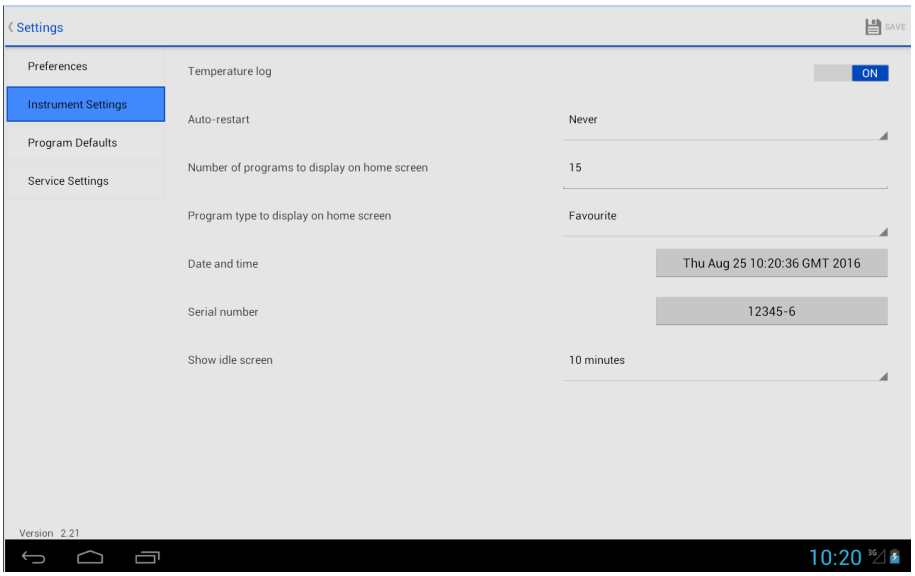
This allows you to select the preferred operation language. The options are:

- English
- French
- Spanish
- Italian
- German



INSTRUMENT SETTINGS

These allow setting of temperature logs, auto restart and date and time.



TEMPERATURE LOG

When set to **ON** the temperature log will record the block temperatures for every run and save them as a Report. If temperature logs are not required, set to **OFF**.

AUTO-RESTART

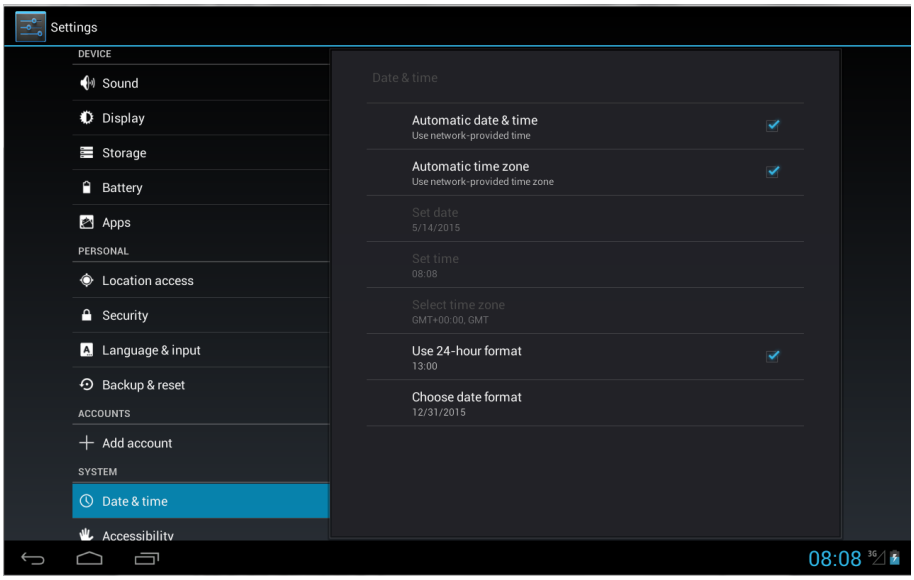
This determines whether the unit will restart after a power failure. Setting Auto-restart to **Always** will allow the unit to re-start irrespective of the length of the power failure. Selecting **Never** will mean the system will not auto-restart after a power outage. In addition, the user can select a time in which, if the power comes back on in that window, then the system will resume. The options are shown below.

Never
If power out for less than 10 mins
If power out for less than 30 mins
If power out for less than 1 hour
Always

Note: the time periods in the auto-restart allow the end user to select windows of power loss which they deem acceptable for the power to be disrupted during their protocols. Example: if the system is set to 10 minutes and the power is out for 8 minutes the system will resume, if the power is out for 12 minutes the system will not auto-restart.

DATE AND TIME

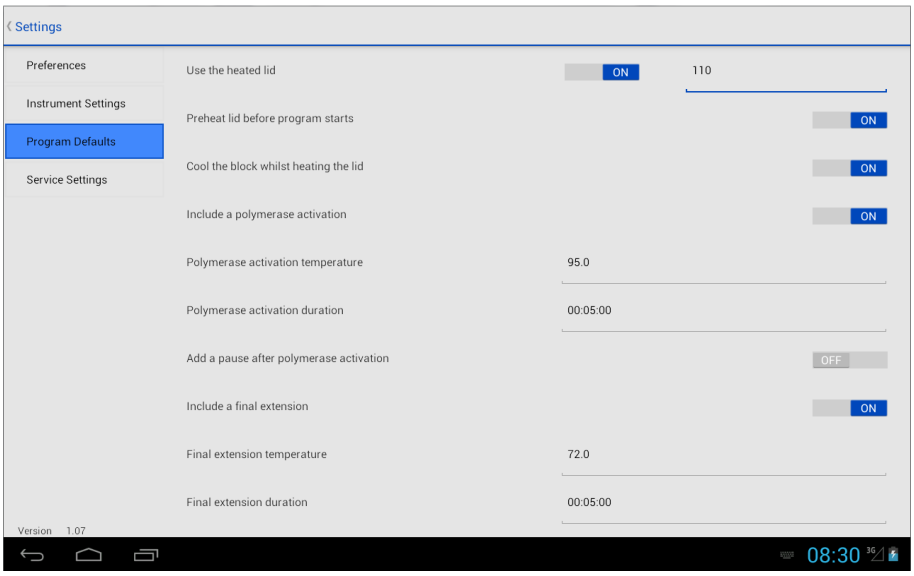
This allows you to set the current date, time and format. Check the required boxes then tap the back button to return.



PROGRAM DEFAULTS

This section allows you to define a number of parameters as defaults which will be applied to all protocols created on the system.

Note: Defaults are merely a starting point and are not fixed, if the default value is not appropriate for your reaction simply edit that value here or during programing.



Use the heated lid

Use this to set the heated lid temperature to approximately 10°C higher than the hottest block temperature in the program.

- Touch **ON/OFF** to toggle between settings.
- Touch the temperature button to set the required lid temperature (35°C to 115°C).

Preheat lid before program starts

Set to **ON** to pre-heat the lid to the set temperature before the thermal cycling program begins (recommended, especially if the first step involves a high block temperature).

- Touch **ON/OFF** to toggle between settings.

Cool the block whilst heating the lid

Set to **ON** to cool the block to 4°C while the lid preheats.

- Touch **ON/OFF** to toggle between settings.

Include a polymerase activation

This will automatically program an initial denaturation/polymerase activation step at the beginning of a program.

- Touch **ON/OFF** to toggle between settings.
- Set the required activation temperature.
- Set the required activation time.

Note: The temperature and activation time may need to be altered for different reagents. This can be changed by editing an individual program.

Add a pause after polymerase activation

This will cause the unit to pause at the same temperature as the polymerase activation step. The program will only continue when the user manually touches the resume button. This step can be useful when additions need to be made to the samples prior to the run i.e. hot start.

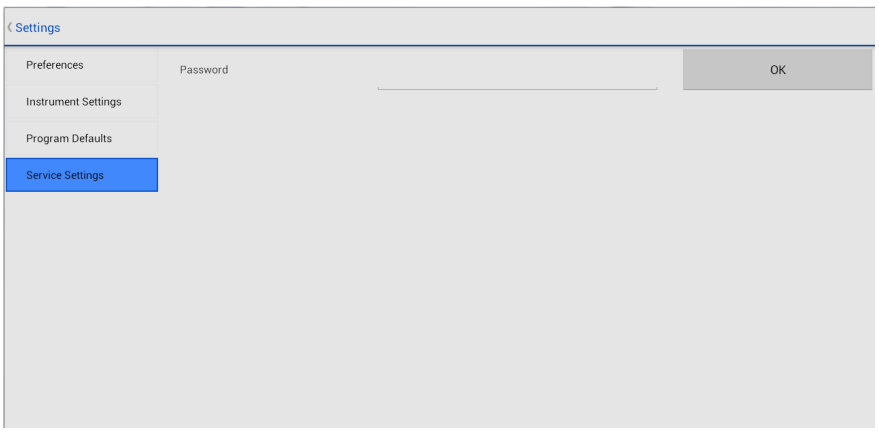
Include a final extension

This will automatically add a final extension step to the program to ensure complete amplification of the products.

- Touch **ON/OFF** to toggle between settings.
- Set the required extension temperature.
- Set the required extension time.

SERVICE SETTINGS

The service settings are for the use of authorised service engineers only. A service engineer's password is required to access these settings.



Note: Password 2401

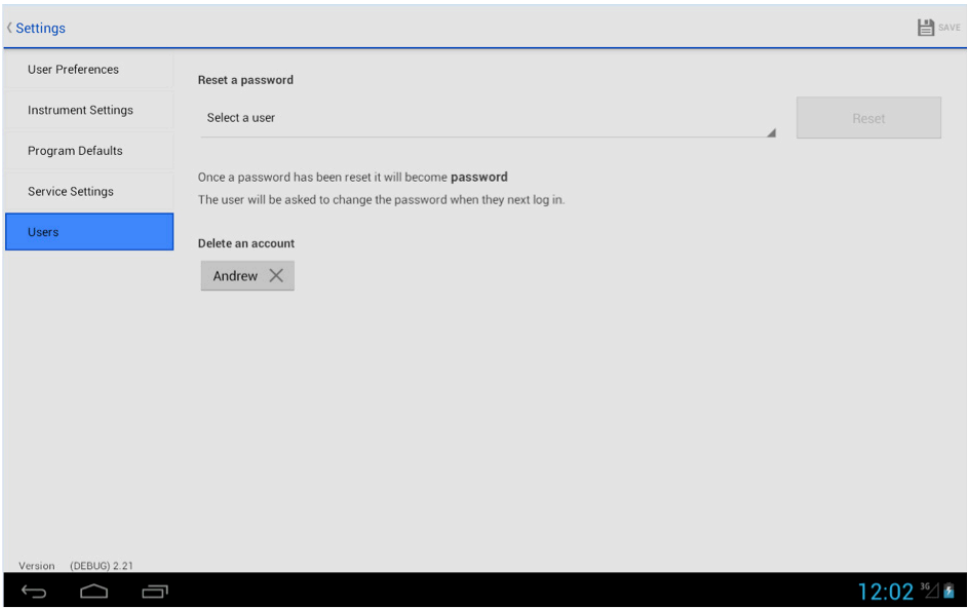
Administrator Level

The Alpha Cycler software has an administrator level which allows the administrator to reset passwords for users and delete accounts which are no longer required.

Default Admin Login Details

User: admin

Password: admin



Updating the Alpha Cycler software

The Alpha Cycler software can be updated by downloading the latest version from the Cole-Parmer website www.Cole-Parmer.com or by contacting your local distributor. You will need a USB memory stick on which to save the update.

PROCEDURE

- Save the update file to the root folder on the USB device.
- Insert the USB device into the USB port on the Alpha Cycler.
- On the Home Screen select the **Update** icon on the top right of the page, (icon of three stacked vertical dots).
- Select **Check for updates**.
- A dialogue box will open in which information about the upgrade will be provided and the user will be given the option to carry out the update or not.
- If **Yes** is selected the installer will describe the process on screen.
- The user will be asked to confirm the installation of the new Alpha Cycler App and a confirmation note will assure end users that existing files and data will not be over written.
- Android will ask the user to confirm the install and show the access the Alpha Cycler App has. Select **Install** to begin the installation of the new software.
- A progress screen will appear showing the installation, when complete the user may be prompted to open the new updated software. Select **Open** at this point.
- The installation will open and the user will be taken to the Home Screen.
- To confirm the installation of the new software check the version listing, this can be found in the lower left corner of the **Settings** page.

Technical support and servicing

If you require further technical or application assistance please contact your **local distributor** (details can be found at http://www.Cole-Parmer.com/distributors) or Cole-Parmer at:

E-mail: cptechsupport@antylia.com
Phone: +44 (0)1785 810433

For servicing information please contact your **local distributor** (details can be found at http://www.Cole-Parmer.com/distributors) or:

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ST15 0SA
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We are continually striving to improve our products and software. If you have any comments or suggestions on how we can do things better please send them to us at:
cpenquiries@antylia.com

REPLACING BLOCKS

Please note that thermal blocks in Alpha Cycler thermal cyclers are not interchangeable.

Thermal blocks can be replaced under warranty in case of product breakdown and mechanical or electrical failure, but this must be performed by a qualified Cole-Parmer trained service engineer and may in some instances require the unit to be returned to the factory.

USER MAINTENANCE

Before cleaning your unit, disconnect it from the power supply. The outer case of the Alpha Cycler may be cleaned with a cloth dipped in water or ethanol: hexane or 50% methanol can also be used. No part of the case or cover should be immersed in the solvents. Do not use aggressive solvents such as acetone or abrasive cleaners. The block may be wiped with water, ethanol or propan-2-ol and may be decontaminated by wiping with 2% Neutracon® or 1% bleach solution.
Before using any cleaning or decontamination method except those recommended here, the responsible person should check with Cole-Parmer that the proposed method will not damage the equipment.

Max Strength
70% IPA
2% neutracon detergent

FAULT FINDING

Note that this equipment should only be dismantled by properly trained personnel. Removing the outer cover exposes potentially lethal mains voltages. **There are no user serviceable parts within this equipment.**

Should you have any problems with your Alpha Cycler which cannot be easily remedied, you should contact your supplier and return the unit if necessary. Please include details of the fault observed and remember to return the unit in its original packing. Cole-Parmer Ltd. accepts no responsibility for damage to units which are not properly packed for shipping. If in doubt, contact your supplier, providing the serial number of the unit.

FUSES

If the display on the front panel is not lit, one of the two fuses may have blown. Check that there is no external cause, such as a faulty plug or lead. Check both fuses and replace the faulty fuse with a new one of the correct value. Note that fuses should only be replaced by a qualified electrician.

The holder for the two fuses is built into the mains input socket. With the PCR-300-Q the fuse holder is next to the mains On/Off rocker switch. First remove the power cable and then gently prise the fuse drawer open with a flat-bladed screwdriver or similar tool. Each fuse can be removed by using the screwdriver as a lever.

Exchange the faulty fuse in the fuse holder for a working fuse of the correct value. Finally, replace the fuse drawer in the fuse compartment and push the drawer shut. Fuses which blow repeatedly indicate a serious fault and you should contact your supplier for repair.

INSULATION TESTING

This equipment is fitted with RFI suppression circuitry. Any check of the electrical insulation by means of high voltage dielectric testing (for example as in BS EN 61010-1) must be carried out using only a DC voltage.

This unit contains semiconductor components which may be damaged by electric field effects.

Declaration of Conformity

This product meets the applicable CE Directives and UKCA Legislation for radio frequency interference and may be expected not to interfere with, or be affected by, other equipment with similar qualifications. We cannot be sure that other equipment used in its vicinity will meet these standards and so we cannot guarantee that interference will not occur in practise. Where there is a possibility that injury, damage or loss might occur if equipment malfunctions due to radio frequency interference, or for general advise before use, contact the manufacturer.

Declaration of Conformity is available to view online at www.coleparmer.com

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UK Representative address
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United Kingdom

Ordering Information

Order No.	Series	Model	Legacy SKU
93945-00	PCR-300	PCR-300-S384	AC1384
93945-02	PCR-300	PCR-300-S96	AC196
93945-20	PCR-300	PCR-300-D196	AC2196
93945-22	PCR-300	PCR-300-D96	AC296
93945-28	PCR-300	PCR-300-D384	AC2384
93945-04	PCR-300	PCR-300-Q196	AC4196
93945-06	PCR-300	PCR-300-Q296	AC4296
93945-08	PCR-300	PCR-300-Q384	AC4384
93945-10	PCR-300	PCR-300-Q396	AC4396
93945-12	PCR-300	PCR-300-Q96	AC496

Warranty Registration

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