

# ER255/455 System Bundle

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# ER255/455 System bundle User Manual

## INTRODUCTION

This manual is intended to allow the user to interconnect the components provided in this bundle. It provides detailed information on how the system should be connected. Please read this manual carefully prior to beginning operation.

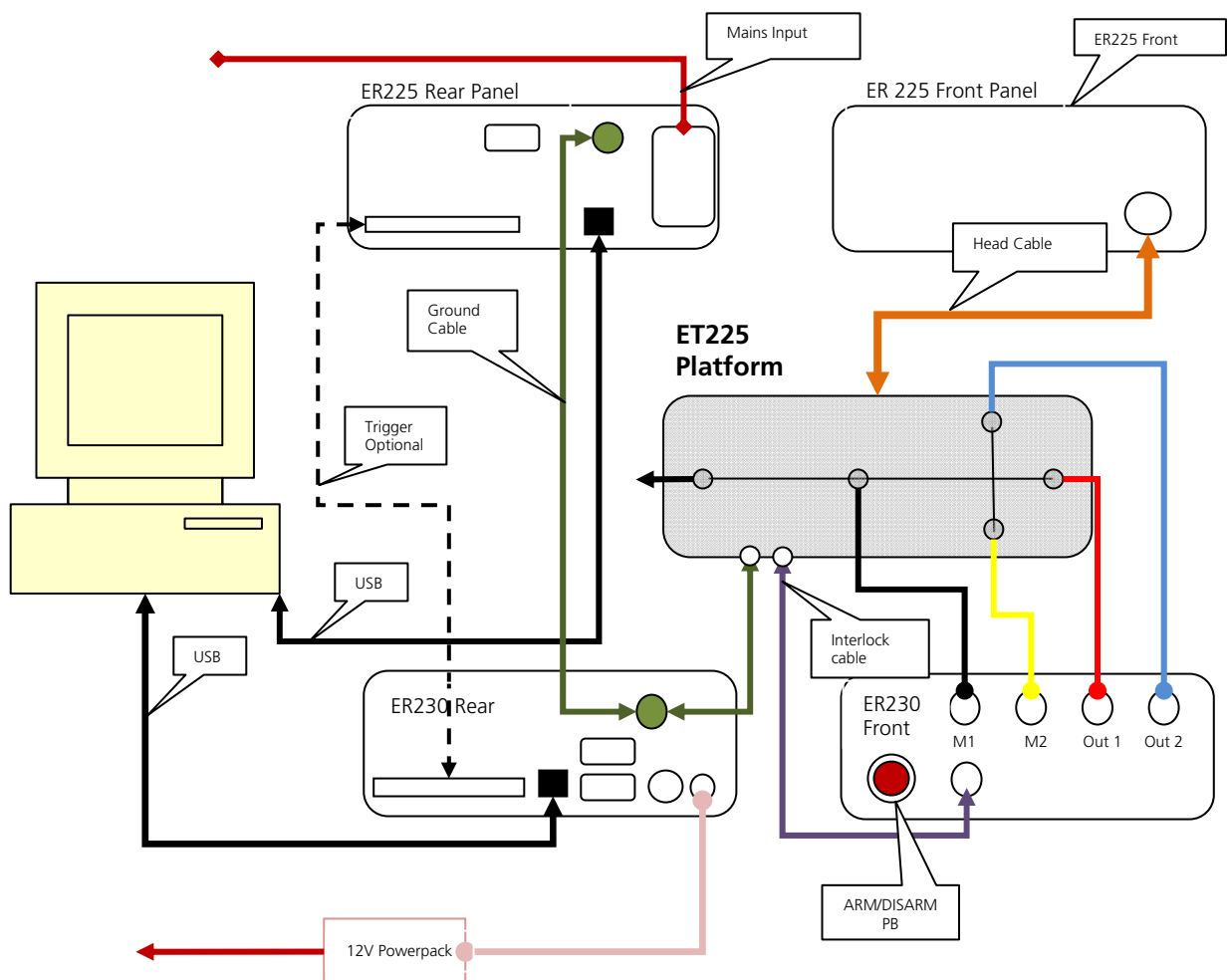
The ER255 System Bundle consists of the following components:

- 1 x ER230 HV Sequencer for ER255 or **2 x ER230 for the ER455 bundle**
- ER225 C4D data system
- ET225 Chip Platform
- Microchips, standard solutions and Cables

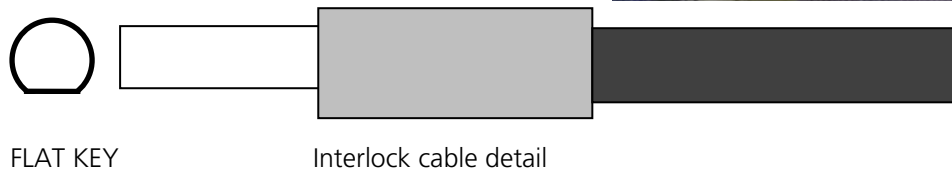
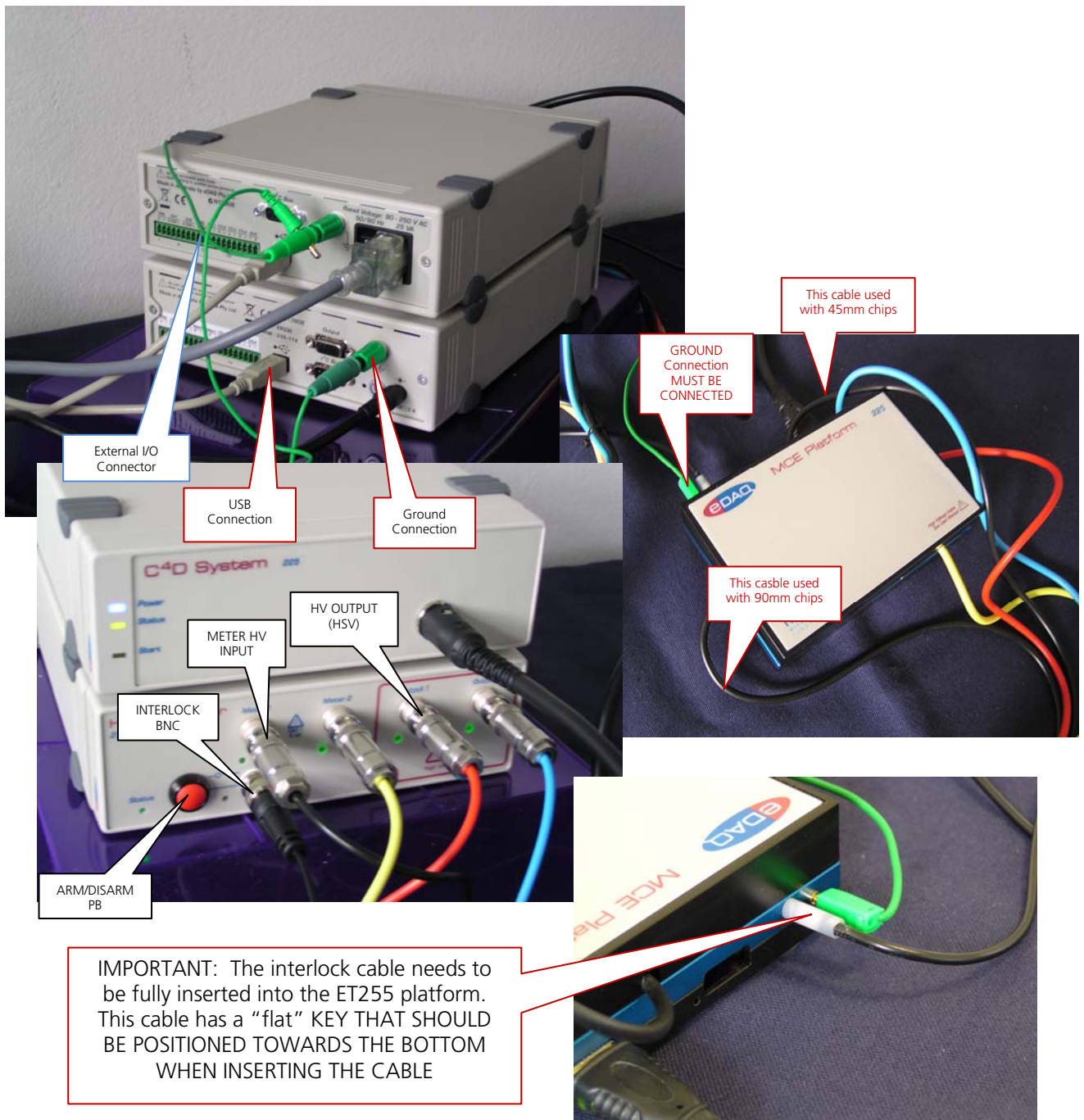
Please note: separate User manuals are provided for each component of the bundle – please read these carefully in association with this document.

**Install each element of this system and become familiar with its operation before connecting all system elements together. Always install software first and then hardware hardware.**

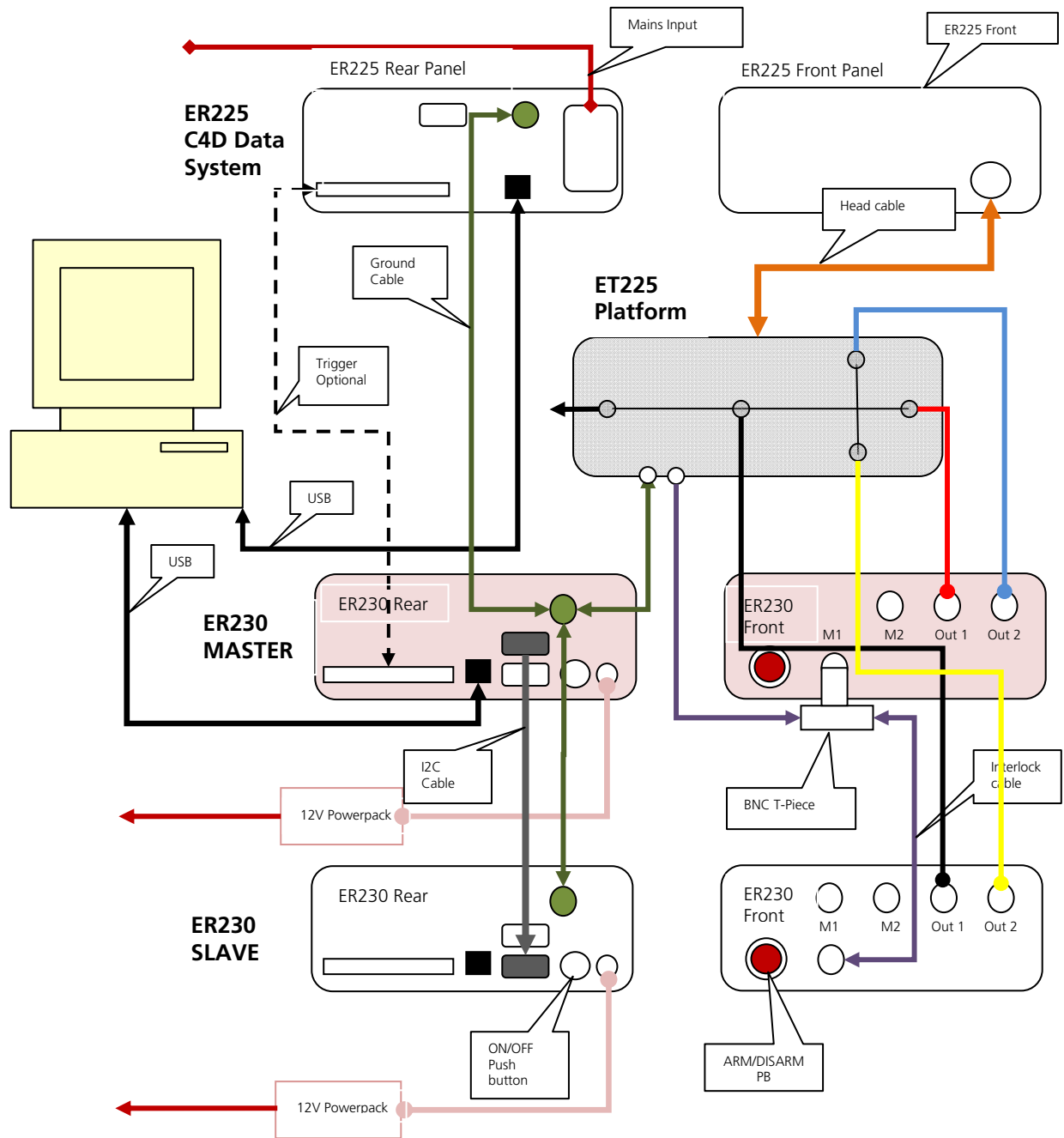
### ER255 Configuration – Schematic diagram



# ER255 Configuration - Pictorial View



# ER455 Configuration – Schematic diagram



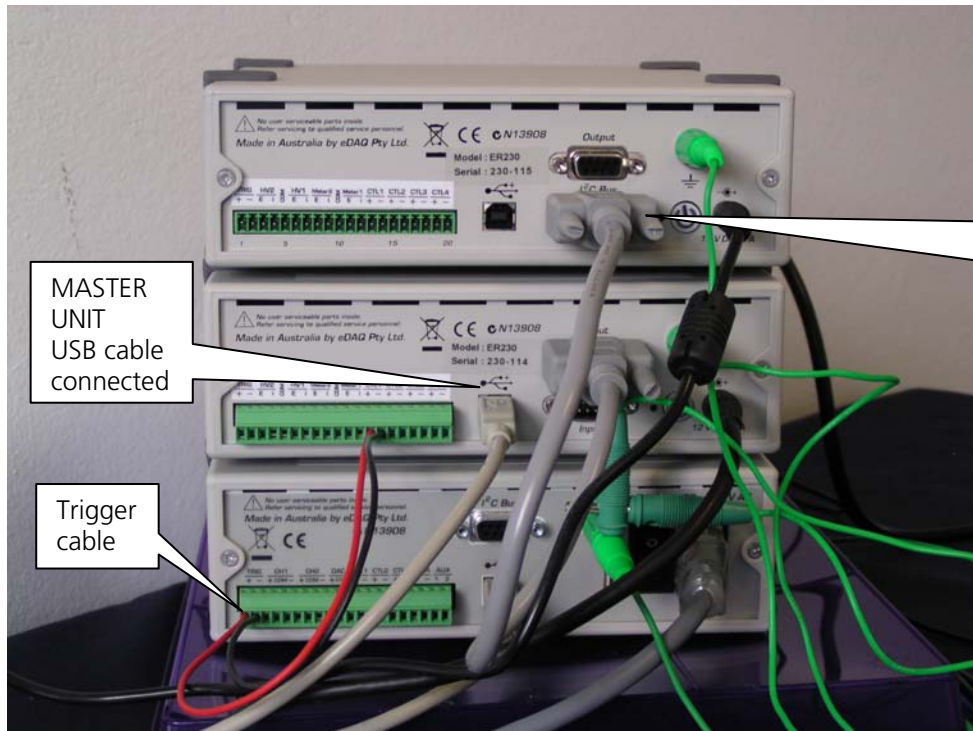
NOTE 1 : The ER230 unit which is connected to USB becomes the MASTER – the other unit becomes the SLAVE and communicates via the I2C cable.

NOTE 2: The grey I2C cable connects between the MASTER I2C Output and the SLAVE IEC INPUT

NOTE 3: A BNC T-Piece is used to connect the interlock signal between the Master and Slave.

# ER455 Configuration – Pictorial View

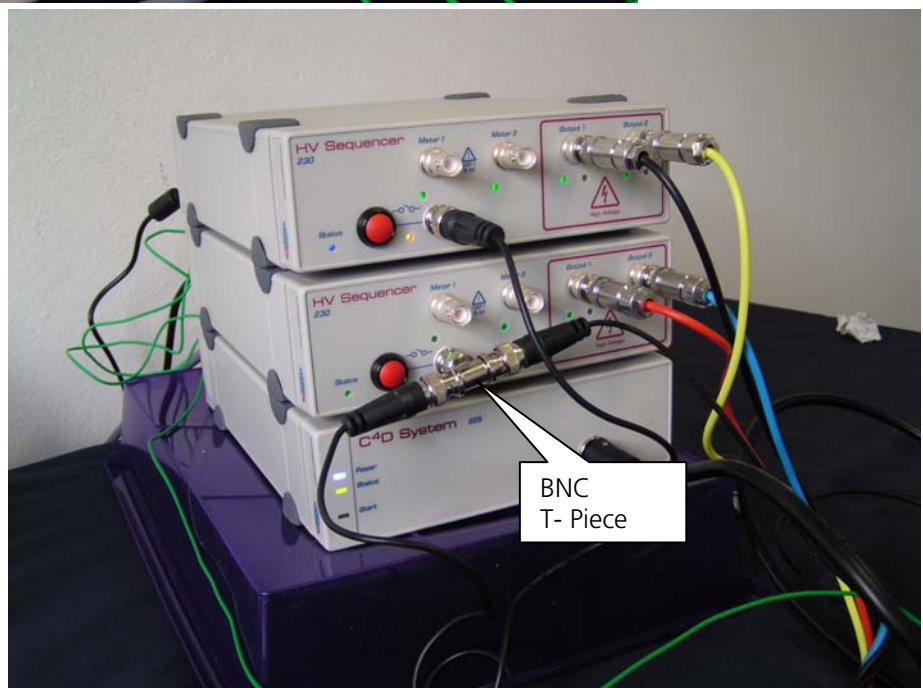
## Cable



MASTER UNIT  
USB cable  
connected

Trigger  
cable

I2C Cable connected  
between MASTER  
OUTPUT and SLAVE  
INPUT



BNC  
T- Piece

## Trigger Connection

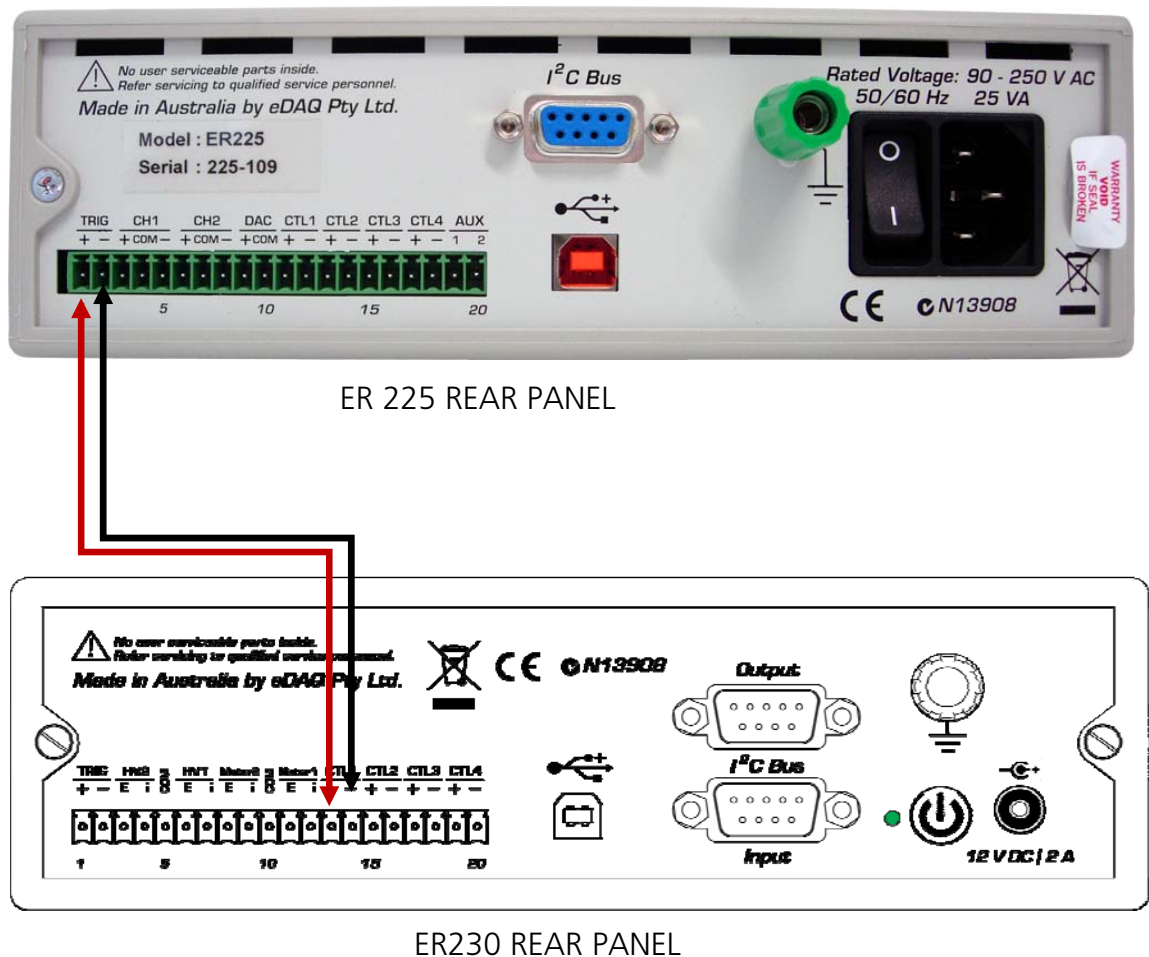
It is convenient to be able to control the data acquisition cycle of the system by ensuring that it occurs only in that period where useful data will be expected to be output.

This can be done manually by pressing "start" in the data recording software PowerChrom or Chart.

A preferred method is to let the HV sequence control this process. By connecting the CTL 1 line to the ER225 Trigger input – as shown below you will be able to initiate the start of a data recording cycle at a convenient time.

For example: a pulse could be programmed in the Sequencer table to start the data recording say 30 seconds after the separation phase has begun. This will ensure that the data recording will not contain the large transients which may occur when high voltages are being switched during the loading and separation phases. For details on how to program the sequencer table refer to the ER230 User manual.

TRIGGER Cable Detail



## System Cable Summary

This section describes the cables provided with the various components of the system together with their uses.

### ER225 C4D Data System Cables

- Power Cord: a region specific mains cable is provided to connect power to the ER225 unit
- USB Cable: USB cable provided for connection to the computer
- Instrument connector (green 20 way plug) used to connect control signals – See ER225 for details
- Trigger cable: Twin wire cable used to connect a trigger signal to or from an ER225 to an ER230 HV Sequencer. Either unit is capable of generating or accepting a trigger signal. The preferred method is to trigger the ER225 Data system some time after the ER230 has completed the load cycle and has begun its separation cycle.

In the ER455 example given above the following connections have been made to allow the ER230 Unit to start data recording:

ER225 Trigger + PIN 1 (red wire) connected to ER230 CTL1 + PIN 13

ER225 Trigger – PIN 2 (Blue or white wire) connected to ER230 CTL1 – PIN 14

### ER230 HV Sequencer

- Universal Mains adaptor – provides 12V power to the ER230 system
- Power Cord: a region specific mains cable is provided to connect power to the ER225 unit
- Ground/Earth cable 4mm stackable to 4 mm stackable cable.
- USB Cable: USB cable provided for connection to the computer
- Instrument connector (green 20 way plug) used to connect control signals – See ER225 for details
- I2C cable to connect two ER230 systems in a Master/Slave arrangement
- BNC T- Piece. Allows connection of the of INTERLOCK signal from the Master to the Slave.
- BNC to BNC cable to connect interlocks when 2 HV sequencers are used in a Master/Slave arrangement.

### ET225 Micronit Chip Electrophoresis Platform

- Ground Cable – 2mm to 4mm green cable provides ground link between the ET225 and the ER230
- Interlock Cable DIN to HTML connector provides connection between the ET225 and the ER225 data system. Please Note this is not a standard HDMI and should not be connected to your computer – only to the Chip platform.
- High voltage cables are fixed to the chip platform and are not provided separately.