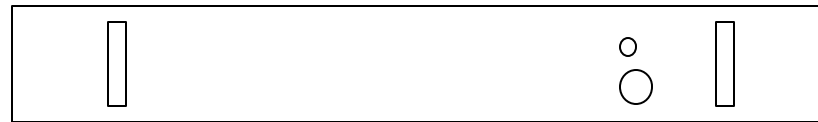


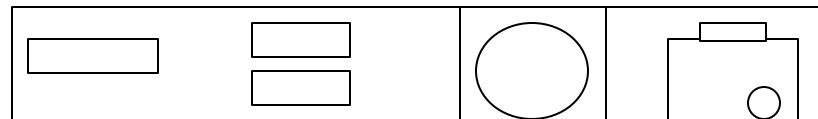
# 8221/V2 Machine Controller

## Configuration Guide

Front



Back





# Introduction

- This manual will help setup and configure a controller



# Components

- Power Supply
- Power Sequencer
- CPU
- Memory
- Communication and Machine I/O
- ROMBoot

# Configuration 32k System

## 8221/V2 32 K Controller 30009800

### Bottom side of CPU Interface

J1	J2	J3
30131900	30131900	27555xxx
16 K mem	16 K mem	or
Intersil	Intersil	41228701 (EMO)
Or	Or	
Motorola	Motorola	M8186
White handles	White handles	Purple handle

# Configuration 128k System (EMO)

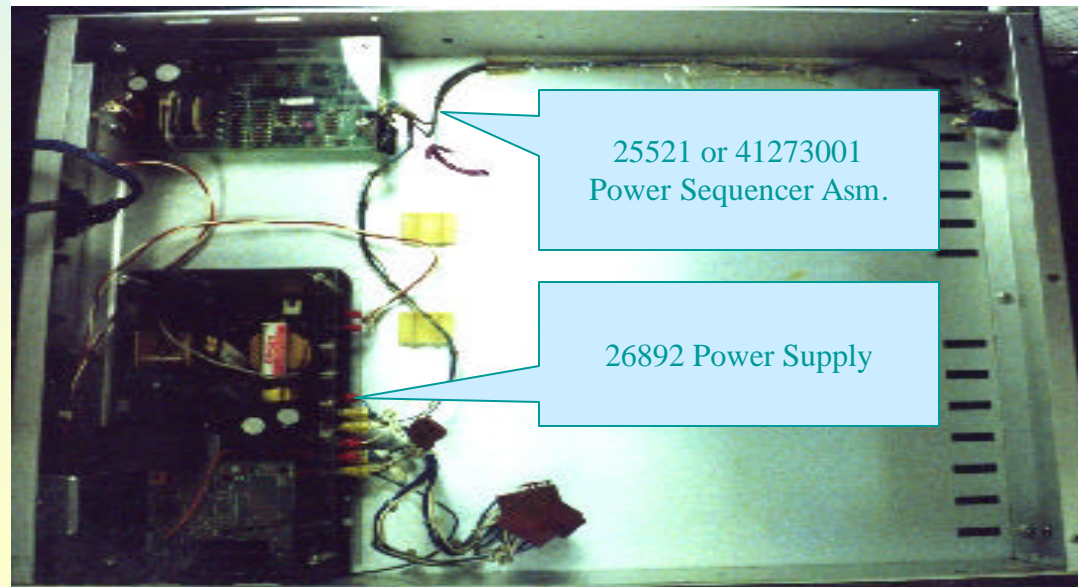
8221/V2 Controller 128 K memory 30009802

Bottom side of CPU Interface

J1	J2	J3
Blank panel	40558701	41228701 (EMO)
Buss Grant	128K mem	
	Micro Mem	M8186
	MM4500 MM4550	
	White handle	Purple handle

# Power Supply

- UIC 26892
- LH TTM22-12Y 5V 12A, 12V 2A
- Connects to back plane via power harness.



# Power Sequencer



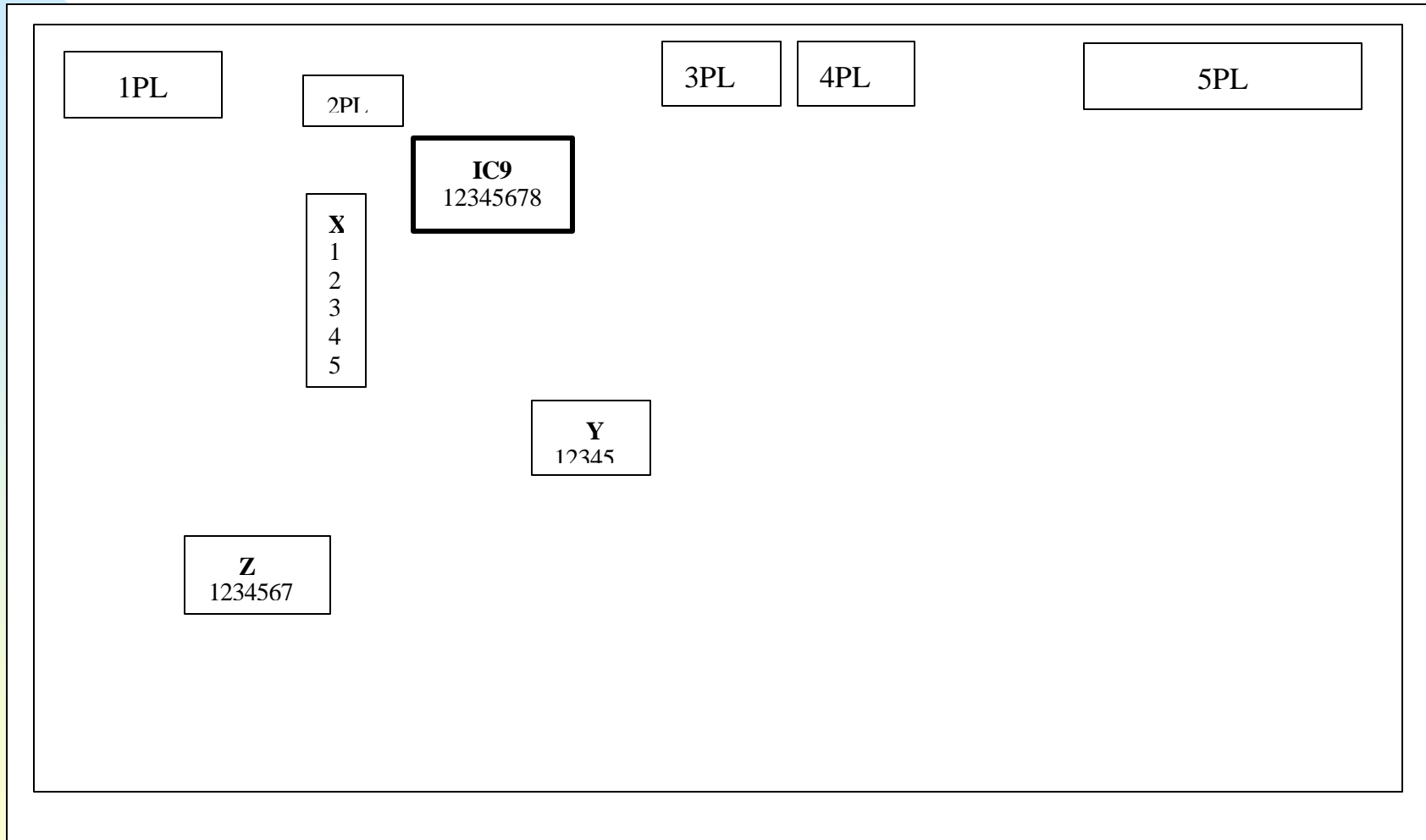
- UIC
- Monitors 5VDC, 12VDC and AC Power. DC ok LED
- Provides signal to processor on power fail.
- Run/Halt Switch, Run LED
- Has LTC 60 ms generator (disabled)

# Communication

- UIC 21928
- CPU Interface
- Provides RS232 for Console communication, 1 aux port
- Machine Interface for CIT Cable
- Backplane for processor and memory



# 21928 CPU Interface



# 21928 CPU Interface Settings

## IC9 Baud Rate Setting

Baud	S1	S2	S3	S4	S5	S6	S7	S8
2400	c	c	o	o	c	c	o	o
4800	o	c	c	o	o	c	c	o
9600	c	c	c	o	c	c	c	o

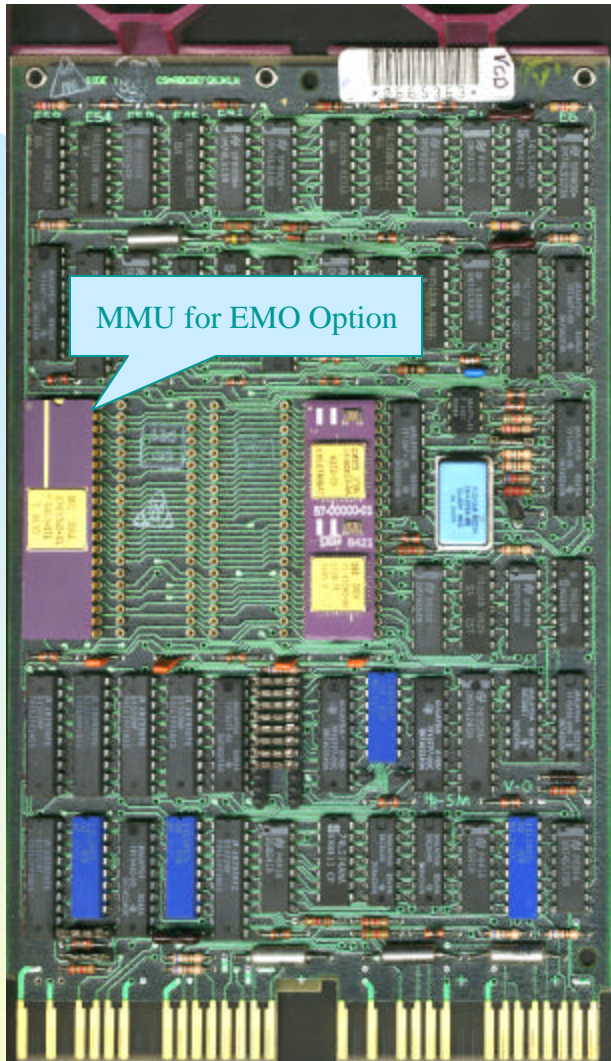
c = closed (down near top number), o = open (down on bottom edge)

Unidec recommends setting the controller and the PC for 2400 baud if using PPU/UCT II.

Other communications packages like Insercom, B-Talk etc. have adequate pacing to use a higher baud rate such as 9600 baud during executive loading.

After loading the executive successfully, 9600 baud rate may be selected for the controller and the PC for pattern loading and general communications.

All other bit switches are set and do not need adjustment. X=4; Y=2 or Y=1,2,5; Z=5 (1ms) are recommended settings for the line settings. Call Unidec for further details about these settings if a non-standard configuration is needed.



# Processor

- UIC 27555000 Non EMO
- UIC 41228701 EMO (Extra 40 Pin IC)
- CPU 16 bit Data
- 18 bit Addressing
- 13MHZ
- PDP11 QBUS
- DEC M8186

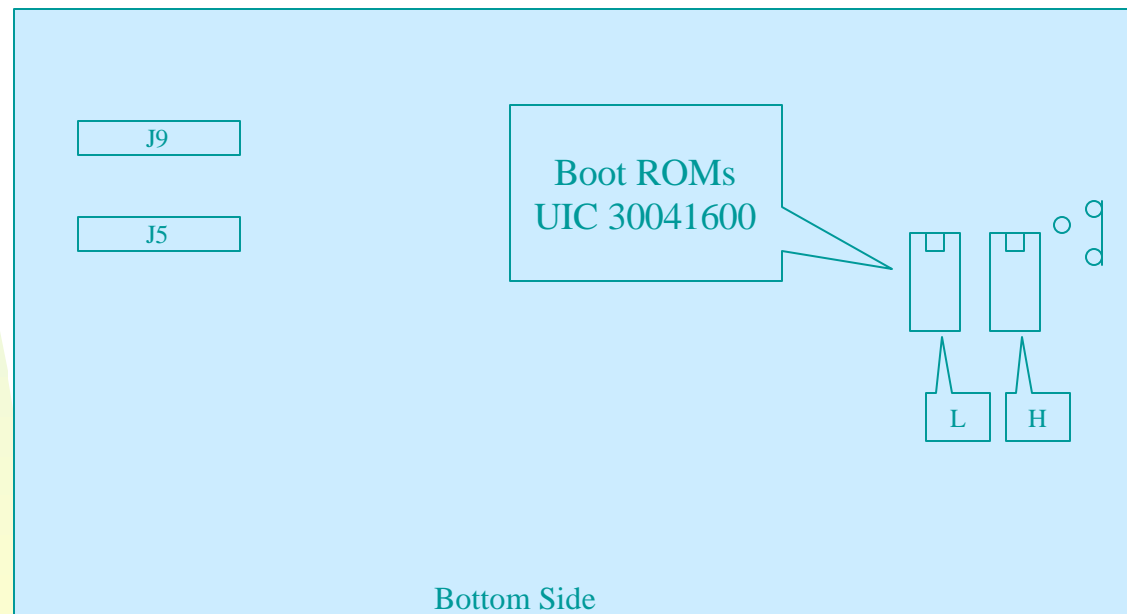


# Memory

- CMOS Static RAM w/Battery Backup on backplane
- UIC 30131900  
Use two (2) 16k each for 32k by Intersil or Motorola  
or
- UIC 40558701  
Use one (1) 128k for EMO by Micro Memory (Shown)

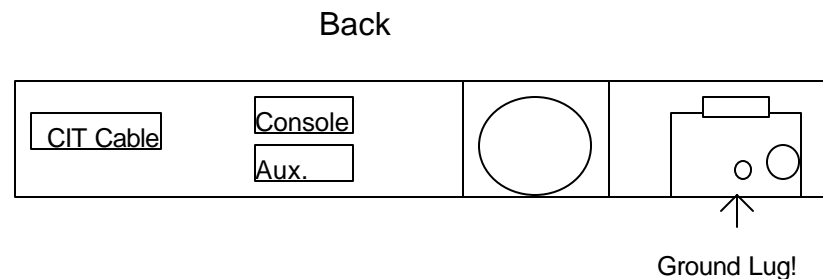
# ROM Boot

- UIC 25870
- Rom Boot Assembly, bottom board
- Contains UIC 30041600 rev F or H. boot ROMs for Console Exec loading and diagnostics



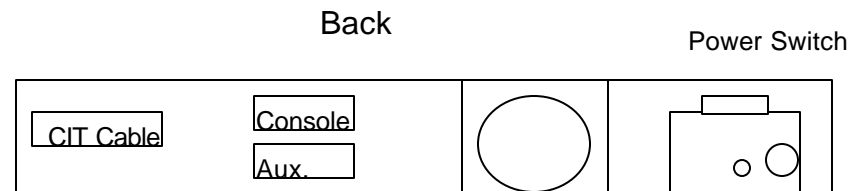
# Connecting the Controller

- open controller and remove padding!
- reconnect battery harness inside controller.
- connect console and aux (optional) port cables to rearconnect the CIT cable, pass through rear of cabinet, plug into CPU interface, Connect ground lug.



# Power up Sequence

- Turn key switch to halt.
- Plug in power cord. Power up controller (power switch on rear)
- xxxxxx @ should be displayed
- place keyswitch on front to run.



# Diagnostics

- type 771000G at the @ prompt, a memory map should print to the screen
  - ◆ 000000-157776 32 k memory detected
  - ◆ 000000-377776 128k memory detected
- type 771004G at the @ prompt, 60 “P”s should print and then controller halts
  - ◆ enter R2/ at the @ prompt, R2/1700 should display for 1 MS LTC clock.



# Loading The Exec

- Using a terminal emulation program on a PC to load the executive program.
- UCT II use ALT F3 to select the exec name, enter the correct executive name.
- Once the program load begins a byte count should be displayed.
- The protocol uses no error checking or acknowledge -load was good when UICS prompt appears.

# Executive Boot

RESTART UICS1

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SYSTEM IS NOT CONFIGURED; ENTER ONLY "SYSTEM,RETURN>" OR HELP<RETURN>"

\*> **SYS**

\*>SYSTEM>

PERIOD OF SYSTEM CLOCK ?

(USUSALLY 1, 16, OR 20 (FOR 1.04 ms, 16.66ms, OR 20ms)) **1**

\*>SYSTEM>

METRIC AXES ? (Y FOR YES, N FOR NO) **Y**

\*>SYSTEM>

SYSTEM IDENTIFICATION ? (ONE TO THREE CHARACTERS) **SEQ**

SEQ>SYSTEM>

ENTER THE NUMBER OF PATTERN NAMES DESIRED

THE RANGE IS FROM 24 TO 100 NAMES **50**

SEQ> SYSTEM>

LINE MACHINE TYPE

0001 > SEQ

USING THIS TABLE DEFINE THE MACHINES ON THE SATELLITE SYSTEM

SATELLITE MACHINE NUMBERS ARE FROM "1" TO "4"

ENTER AS <MACHINE -NUMBER>=<LINE -NUMBER-of-MACHINE -TYPE>

EXAMPLE: "1=1 , 2=2<RETURN >"

(NOTE: ENTER "1=0<RETURN>" IF NO MACHINES ARE ON SYSTEM)

SEQ> SYSTEM> **1=1**