

THIS IS A HISTORY FILE FOR RELEASE OF THE KBD300 KEYBOARD FIRMWARE THAT
INTERFACES WITH THE CM6700-MXB2, CM6700-MXB4, AND CM6800-MXB MATRIX MODELS

*** THE SEVENTH AND CURRENT RELEASE OF THIS FIRMWARE FOR THE KBD300A IS
REVISION 4.30

THIS RELEASE IS CALLED: PGKBD300_R430
FILENAME : PK300430.HEX
DATED : 03-18-02

Compiled using MPLAB for Windows version 5.20.00
Disassembler version 2.00
Original parts programmed using MicroChip Promate II
Device programmer running version 5.30.00 firmware

*** TO ACCOMODATE THE NEW JOYSTICKS BEING PLACED IN THE KBD300A
THE DEADZONE WAS WIDENED FROM 23 ADC READINGS TO 33 ADC
READINGS. THIS ISN'T A MAJOR CHANGE BECAUSE THE CM9760-KBD
HAS APPROXIMATELY THE SAME DEADZONE SIZE.

*** DEVICE CHECKSUM WHEN PROGRAMMED IS: E456

*** THE SIXTH AND CURRENT RELEASE OF THIS FIRMWARE IS REVISION 4.20

THIS RELEASE IS CALLED: PGKBD300_R420
FILENAME : Pk300420.hex
DATED : 08-15-01

Compiled using MPLAB for Windows version 5.20.00
Disassembler version 2.00
Original parts programmed using MicroChip Promate II
Device programmer running version 5.30.00 firmware

*** MODIFIED THE SPDCONV ROUTINE TO AVOID USING A JUMP TABLE
FOR SPEED CONVERSION. THE JUMP TABLE IDEA DID NOT WORK
WELL WITH THE POWER-UP JOYSTICK CENTERING BEING DONE IN
THE SOFTWARE.

*** CORRECTED THE TRANSMISSION OF THE DIRECT MODE BYTES SUCH
THAT THERE IS NO DELAY BETWEEN THE BYTES BEING TRANSMITTED.
THIS CHANGE WAS MADE IN RESPONSE TO A CUSTOMER REQUEST.

*** THE KEYBOARD WILL SEND MULTIPLE VERSION REQUESTS (UP TO
FOUR) UNTIL A RESPONSE IS RECEIVED. THE EXPECTED RESPONSE
FROM THE CM6800-MXB IS 2.68va.

*** THE RECEIVE BUFFER IS NOW 16 BYTES LONG.

*** PLEASE, READ THE PROGRAMMING NOTES AND COMMENTS FOR
DETAILS ON OTHER CHANGES IN THIS RELEASE

*** NO KNOWN BUGS

*** DEVICE CHECKSUM WHEN PROGRAMMED IS: 1653

THIS IS A HISTORY FILE FOR RELEASE OF THE KBD300 KEYBOARD FIRMWARE THAT
INTERFACES WITH THE CM6700-MXB2, CM6700-MXB4, AND CM6800-MXB MATRIX MODELS

*** THE SIXTH AND CURRENT RELEASE OF THIS FIRMWARE IS REVISION 4.10

THIS RELEASE IS CALLED: PGKBD300_R410
FILENAME : Pk300410.hex
DATED : 03-16-01

Compiled using MPLAB for Windows version 5.20.00

Disassembler version 2.00

Original parts programmed using MicroChip Promate II

Device programmer running version 5.30.00 firmware

*** REPAIRED A PROBLEM WITH THE MONITOR LED UPDATE FUNCTION
WHICH WAS NOT DISPLAYING THE MONITOR NUMBER SELECTED ON
BOTH LEDs WHEN ACKNOWLEDGED BY THE MATRIX

*** REPAIRED A PROBLEM WITH THE COMMAND BUFFER USED TO TRANSMIT
THE AUXILIARY NUMBER PREFIX FOR THE AUXILIARY COMMANDS F1 - F5.

*** CHANGED THE ASCII COMMAND TRANSMISSION OF THE F1, F2, & F3
KEYS TO: "x" & "~x". THIS WAS DONE TO ACCOMMODATE THE
ADDED CAPABILITY OF THE CM6800 MATRIX FOR CONTROL OF AN
EXTERNAL RELAY BOX.

*** IN ORDER TO ALLOW BACKWARDS COMPATIBILITY WITH THE CM6700, THE
F1, F2, & F3 KEYS HAVE A DUAL FUNCTIONALITY DEPENDING ON WHICH
MATRIX THE KEYBOARD IS COMMUNICATING WITH. THIS DUAL FUNCTIONALITY
IS ACCOMPLISHED BY THE KEYBOARD REQUESTING A "VERSION STRING" FROM
THE MATRIX THAT IS POLLING IT DURING INITIALIZATION. THE VERSION
STRINGS FOR THE CM6700 AND CM6800 ARE IN DIFFERENT FORMATS SO THAT
THE KEYBOARD MAY CONFIGURE ITSELF FOR THE APPROPRIATE COMMAND
TRANSMISSION OF THE F1 - F3 KEYS.

*** ADDED THE FUNCTIONALITY OF THE IRIS OPEN & CLOSE KEYS TO
WORK UNDER PROGRAMMING MODE.

*** PLEASE, READ THE PROGRAMMING NOTES AND COMMENTS FOR
DETAILS ON OTHER CHANGES IN THIS RELEASE

*** NO KNOWN BUGS

*** DEVICE CHECKSUM WHEN PROGRAMMED IS: C271

*** THE FIFTH RELEASE OF THIS FIRMWARE IS REVISION 4.00

THIS RELEASE IS CALLED: PGKBD300_R400
FILENAME : Pk300400.hex
DATED : 02-16-00

Compiled using MPLAB for Windows version 4.12.00
Disassembler version 2.00
Original parts programmed using MicroChip Promate II
Device programmer running version 4.10.00 firmware

*** READ PROGRAMMING NOTES FOR DETAILS ON CHANGES IN THIS RELEASE

*** NO KNOWN BUGS

*** DEVICE CHECKSUM WHEN PROGRAMMED IS: BD2F

*** THE FOURTH RELEASE OF THIS FIRMWARE IS REVISION 3.20

THIS RELEASE IS CALLED : PGKBD300_R320
FILENAME : Pk300320.hex
DATED : 11-17-99

Compiled using MPLAB for Windows version 4.12.00
Disassembler version 2.00
Original parts programmed using MicroChip Promate II
Device programmer running version 4.10.00 firmware

*** This Release of firmware corrects the KBD300's zoom lock problem. Before this correction the telephoto zoom would sometimes continue to function long after a zoom stop command had been sent. The updates made fix this problem.

*** NO KNOWN BUGS ***

*** DEVICE CHECKSUM WHEN PROGRAMMED IS: 7301

*** THE THIRD RELEASE OF THIS FIRMWARE IS REVISION 3.10

THIS RELEASE IS CALLED : PGKBD300_R310
FILENAME : Pk300310.hex
DATED : 07-28-99

Compiled using MPLAB for Windows version 3.30
Disassembler version 2.00
Original parts programmed using MicroChip Promate II
Device Programmer running version 4.10.00 firmware

*** This Release of firmware corrects the interaction between the KBD300 joystick and the lens keys (Iris and Focus) functionality. The functionality allows the user to move the joystick and push a lens key simultaneously. After the joystick has been returned to the "neutral" state, the lens key continues to function.

*** Also corrected the problem with the character 'P' display on the 7-segment LED Display. When in "Program" mode, it displays the character 'P' and when exiting the "Program" mode, the LED Display MUST return to displaying the last

known valid Monitor ID number.

*** NO KNOWN BUGS... ***

*** DEVICE CHECKSUM WHEN PROGRAMMED IS: A853

*** THE SECOND RELEASE OF THIS FIRMWARE IS REVISION 2.00

THIS RELEASE IS CALLED : PRGKBD300_R200
FILENAME : PK300200.HEX
DATED : 01-13-98

Compiled using MPLAB for Windows version 3.30
Disassembler version 2.00
Original parts programmed using MicroChip Promate II
Device Programmer running version 4.10.00 firmware

*** 01-13-98

*** FOUND A MINOR PROBLEM WITH THE JOYSTICK CONTROL AND LENS KEYS
NOT INTERACTING PROPERLY. SOMETIMES A LENS COMMAND COULD CHANGE THE
PAN/TILT SPEED WHILE THE JOYSTICK WAS MOVING. THIS PROBLEM WAS CORRECTED AND
TESTED...

*** 12-16-97

*** UPDATED CODE TO CORRECT A HARDWARE CONTENTION PROBLEM BETWEEN
THE PIC16C642 AND THE MAXIM114 ADC. THE PROBLEM STEMS FROM THE /WR
LINE BEING USED BY THE PIC AS AN OUTPUT DRIVE WHILE THE ADC IS ALSO TRYING TO
DRIVE THE /WR LINE TO INDICATE THAT A CONVERSION WAS COMPLETED. THIS BUS
CONTENTION COULD CAUSE FIELD FAILURES OF EITHER DEVICE. THUS A SOFTWARE
REVISION WAS CREATED TO PROGRAM THE PIC16C642 /WR LINE PIN TO BE
SWITCHABLE FROM OUTPUT TO INPUT DURING THE APPROPRIATE PARTS OF THE
CODE. DURING THE TIME THE PIC MUST COMMUNICATE WITH THE UART, THIS PIN IS
CONFIGURED ON THE 16C642 AS AN OUTPUT AND WHEN THE ADC MUST DRIVE THE LINE
TO INDICATE THAT A CONVERSION WAS COMPLETED, THE /WR LINE PIN ON THE PIC IS
CONFIGURED AS AN "INPUT".

*** ALSO ADDED FUNCTIONALITY FOR THE KEYBOARD TO OPERATE IN A
"DIRECT MODE", WHICH ALLOWS THE KEYBOARD TO DIRECTLY CONNECT
ITS RS-422 PORT TO RECEIVER/DRIVERS (UP TO 16 DEVICES). THE
PROTOCOL USED TO COMMUNICATE OVER THE SERIAL LINK IS THE PELCO "P"
PROTOCOL. THE FUNCTIONS THIS "MODE" CAN IMPLEMENT ARE AS FOLLOWS: 1) AUXES;
2) CALL/SET PRESETS; 3) CAMERA SELECT; 4) PAN/TILT CONTROL; 5) LENS CONTROL
- ZOOM, IRIS, FOCUS; 5) EXECUTE THE REMOTE RESET FUNCTION.

THE "DIRECT MODE" OF KEYBOARD OPERATION IS ACTIVATED BY TWO
METHODS. FIRST, AN INTERNAL DIP SWITCH (S1) MAY BE SET TO
ACTIVATE DIRECT MODE BY PLACING BIT '1' IN THE "ON" POSITION.
SECONDLY, THE DIRECT MODE MAY BE ACTIVATED BY HOLDING DOWN THE SHIFT KEY

WHILE APPLYING POWER TO THE KEYBOARD. THIS LATTER METHOD MAY ALSO BE USED TO 'TOGGLE' THE KEYBOARD MODE WHEN THE DIP SWITCH SETTING METHOD IS NOT USED. FOR EXAMPLE,

WHEN THE DIP SWITCH IS SET FOR "DIRECT MODE", USING THE 'SHIFT KEY' METHOD FOR MODE SETTING WILL POWER-UP THE KEYBOARD IN 6700 MODE. CONVERSELY WHEN THE DIP SWITCH IS SET FOR "6700 MODE", USING THE 'SHIFT KEY' METHOD ON POWER-UP WILL ACTIVATE THE KEYBOARD IN "DIRECT MODE".

*** NO KNOWN BUGS ***

*** DEVICE CHECKSUM WHEN PROGRAMMED IS: E54B

*** THE FIRST RELEASE OF THIS FIRMWARE IS REVISION 1.20

FIRST RELEASE IS CALLED : PRGKBD300_R120
FILENAME : PK300120.HEX
DATED : 10-29-97

Compiled using MPLAB for Windows version3.22
Disassembler version 2.00
Original parts programmed using MicroChip Promate II
Device Programmer running version 4.00.07 software

NOTE: THIS RELEASE OF THE FIRMWARE INCLUDES MULTIPLEXER CONTROL CODES THAT ARE TRANSMITTED ONLY WHEN THE SHIFT KEY HAS BEEN DEPRESSED. THIS ACTION LIGHTS A GREEN LED INDICATOR LOCATED AT THE TOP ROW OF KEYS TO INFORM THE USER THAT THE KEYBOARD WILL NOW TRANSMIT MULTIPLEXER COMMANDS THAT ARE REPRESENTED BY PELLCO ASCII PRESSING THE F1 thru F5 KEYS. REFER TO THE PROTOCOL DOCUMENT TO DETERMINE THE ASCII CODES TRANSMITTED WHILE THE KEYBOARD IS OPERATING IN MULTIPLEXER COMMAND MODE.

*** NO KNOWN BUGS...

*** DEVICE CHECKSUM WHEN PROGRAMMED IS: 0949