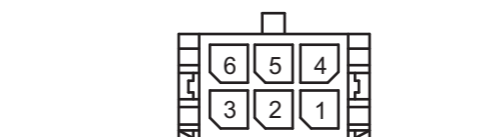
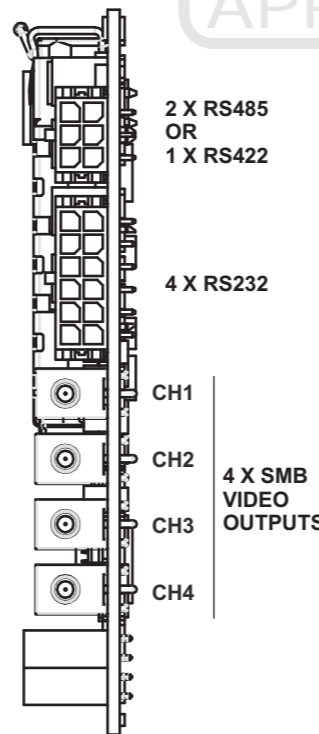
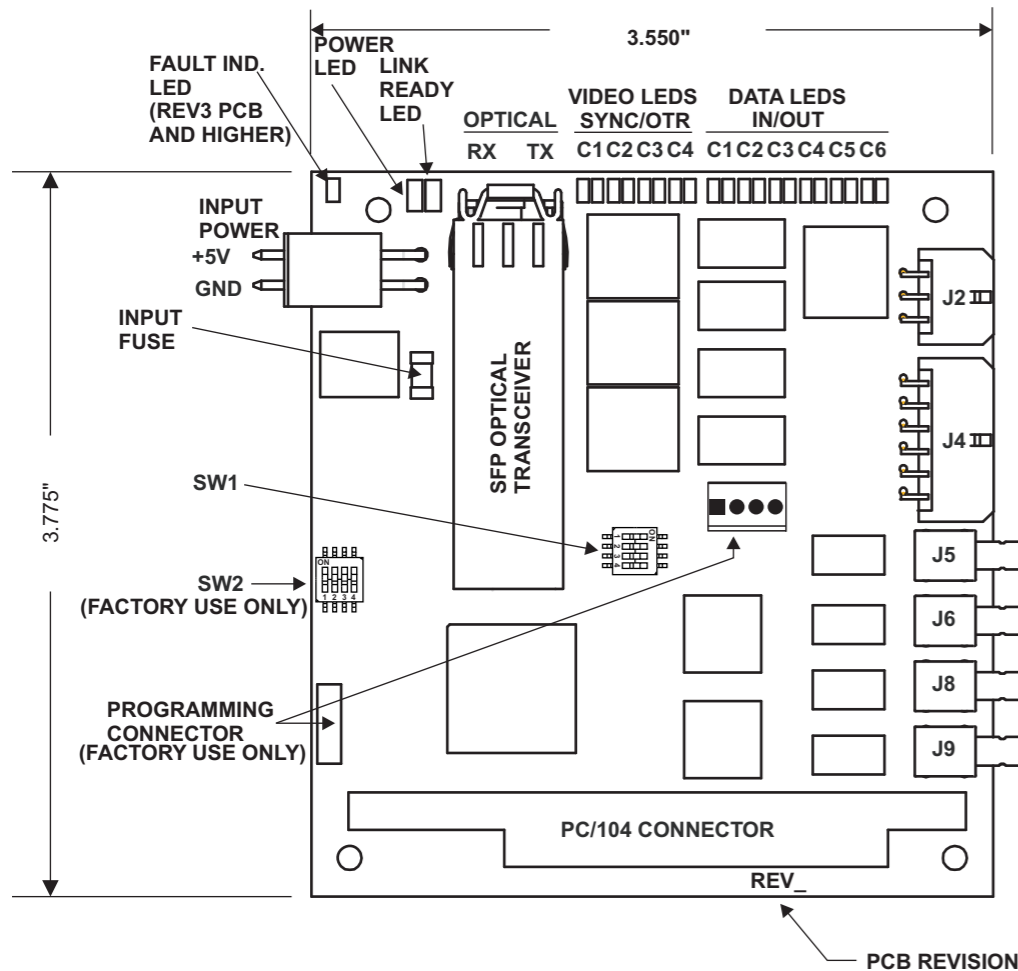


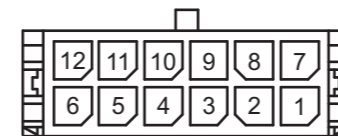
PCB: 907-0336-00  
PCBA: 907-0236-00



ZONE	ISSUE	DESCRIPTION	DATE	APPROVAL
	B	CHANGED DEFAULT RS485 SWITCH SETTING. SEE ECN 20087	2009-07	
	C	SEE ECN 29824	2013-09	



PIN #	RS485	RS422
1	CH1 RX/TX+	RX+
2	CH1 RX/TX-	RX-
3	CH1 REF	RX REF
4	CH2 RX/TX+	TX+
5	CH2 RX/TX-	TX-
6	CH2 REF	TX REF



DESCRIPTION	TX	RX	GND
CHANNEL 3	1	2	3
CHANNEL 4	7	8	9
CHANNEL 5	4	5	6
CHANNEL 6	10	11	12

SW1 SETTINGS (VIDEO AND DATA FORMAT)				
CHANNEL CONFIG.	SW1:1	SW1:2	SW1:3	SW1:4
ALL COMPOSITE (DEFAULT)	OFF	OFF	X	X
GRB ON 1, 2, 3 COMPOSITE ON 4	ON	OFF	X	X
Y/C ON 1, 2 Y/C ON 3, 4	OFF	ON	X	X
YPrPb ON 1, 2, 3 COMPOSITE ON 4	ON	ON	X	X
CH1 AND CH2 RS485(NO TIMEOUT)	X	X	OFF	OFF
CH1 RS485 (1mS TIMEOUT)	X	X	ON	OFF
CH1 AND CH2 RS485 (1mSEC TIMEOUT) (DEFAULT)	X	X	OFF	ON
RS422 MODE (CH1 - RX, CH2 - TX)	X	X	ON	ON

X - DON'T CARE

SW2 SETTINGS (BACKPLANE CONFIGURATION)				
CHANNEL CONFIG.	SW2:1	SW2:2	SW2:3	SW2:4
REV 3 PCBs AND HIGHER				
DEFAULT	OFF	ON	OFF	OFF
REV 2 PCBs AND LOWER				
DEFAULT	OFF	OFF	OFF	OFF

GENERAL NOTES:

- INPUT POWER MUST BE REGULATED +5VDC (+/- 10%). MATING CONNECTOR IS MOLEX P/N 26-03-4020 WITH CRIMP TERMINALS P/N 08-52-0113. ALL POWER, DIGITAL, AND ANALOG/VIDEO GROUNDS ARE CONNECTED ON BOARD.
- INPUT FUSE IS LITTELFUSE 2A SLO-BLO, REPLACEABLE SURFACE MOUNT TYPE, P/N R452002
- ALL 4 VIDEO CHANNELS ARE DEFAULT CONFIGURED FOR NTSC/PAL COMPOSITE SIGNALS. CHANNELS MAY BE SWITCH CONFIGURED TO SUPPORT ONE RGB CHANNEL, TWO Y/C (S-VIDEO) CHANNELS, OR ONE YPrPb. SEE SW1 TABLE.
- VIDEO SIGNALS ARE OUTPUT AT THIS CONSOLE UNIT AND INPUT AT THE REMOTE UNIT (907-0235-00). DATA SIGNALS ARE BIDIRECTIONAL.
- A MINIMUM OF 5 dB OPTICAL ATTENUATION IS REQUIRED BETWEEN THE REMOTE AND CONSOLE MODULES TO ENSURE THE SPECIFIED OPTICAL BIT ERROR RATE OF 1E-10.
- THE LINK LED IS SOLID GREEN WHEN AN OPTICAL SIGNAL IS RECEIVED FROM THE REMOTE AND OFF WHEN THE SIGNAL IS INVALID. WHEN THE LINK LED IS OFF (INVALID) THE FAULT LED INDICATOR WILL BE SOLID RED.
- THE VIDEO SYNC LEDS ARE GREEN WHILE THERE IS A VALID VIDEO SYNC SIGNAL PRESENT. WHEN THE AMPLITUDE OF THE VIDEO SIGNAL IS GREATER THAN APPROXIMATELY 1.5Vp-p THE RED OUT OF RANGE (OTR) LED WILL TURN ON. IF THE OTR LED IS LIT THEN THE VIDEO SIGNAL NEEDS TO BE REDUCED IN AMPLITUDE.
- BOARD DIMENSIONS SHOWN ARE NOMINAL. MODEL 907 USES THE PC/104 FORM FACTOR ONLY.
- IN ADDITION TO THE SIX ON-BOARD DATA CHANNELS, THERE ARE SIX DATA PORTS AVAILABLE THROUGH THE PC/104 CONNECTOR. THESE SIX DATA PORTS CAN BE USED WITH 907 EXPANSION CARDS TO ADD UP TO 32 SERIAL DATA CHANNELS, 4 ETHERNET CHANNELS, OR 6 AIB PLUG-INS.
- DATA CONNECTOR J2 REQUIRES MATING CONNECTOR MOLEX 43025-0600 AND CONNECTOR J4 REQUIRES MATING CONNECTOR MOLEX 43025-1200. BOTH MATING CONNECTOR USE CRIMP TERMINALS MOLEX 43030-0007 WITH 20-24 AWG WIRE.
- THE SIX ON-BOARD DATA CHANNELS EACH HAVE A RED AND GREEN LED FOR DIAGNOSTICS. THE RED LED INDICATES DATA COMING INTO THE BOARD FROM THE DATA CONNECTOR AND THE GREEN LED INDICATES DATA GOING OUT THE DATA CONNECTOR. THE LEDS TURN ON WHEN THE NRZ SIGNAL LEVEL IS TTL LOW OR SPACE STATE (SILKSCREEN C1 = CHANNEL 1, C2 = CHANNEL 2, ETC). USE SW1 SETTING TABLE TO CONFIGURE THE DATA CHANNELS 1 AND 2.
- ACCESS TO SYSTEM DIAGNOSTICS IS PROVIDED BY AN OPTIONAL ADD-ON DIAGNOSTIC DAUGHTERCARD(907-0238-00) WITH SERIAL AND ETHERNET OUTPUTS. CONTACT FOCAL FOR MORE INFORMATION ON THE DIAGNOSTIC OPTION.
- WHEN RS485 CHANNELS ARE CONFIGURED FOR 'NO TIMEOUT', EXTERNAL TERMINATIONS SHOULD NOT BE USED. RS485/422 CHANNELS INCLUDE 120 OHM TERMINATORS ON TX AND RX LINES AS WELL AS 475 OHM PULL UP AND 475 OHM PULL DOWN RESISTORS TO 5V AND GROUND.
- SWITCH SW2 SETTINGS SHOULD BE IN THE DEFAULT CONFIGURATION AT ALL TIMES. DEFAULT SETTINGS FOR SW2 DEPENDS ON PCB REVISION, AS SHOWN IN SW2 TABLE.

TOLERANCES (EXCEPT AS NOTED)	
1. DIMENSIONS IN INCHES	
2. 3 DECIMAL PLACES +/- 0.005	
3. 2 DECIMAL PLACES +/- 0.010	
4. FRACTIONS +/- 1/32	
5. ANGLES +/- 0.5 DEGREE	
	ESD SENSITIVE PARTS MAY BE USED. TAKE PRECAUTIONS.
MATERIAL	N/A
FINISH	N/A
SCALE	NTS

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DRAWN A CRESS		<b>FOCAL TECHNOLOGIES CORPORATION</b> 77 FRAZEE AVENUE DARTMOUTH, NS CANADA, B3B 1Z4		
CHECKED				
APPROVED		TITLE		
DATE 2007-08-15		<b>CONSOLE 907+ CONFIGURATION</b>		
FILENAME 907-2036-00RC.DES	SIZE B	TYPE SK	DRAWING NO. 907-2036-00	ISSUE C
SHEET 1 OF 2				

## SPECIFICATIONS

PARAMETER	MIN	TYP	MAX	UNITS
<b>ELECTRICAL</b>				
POWER VOLTAGE <sup>1</sup>	4.5	5.0	5.5	VOLTS
POWER CURRENT <sup>1</sup>		0.7	1.0	AMPS
<b>VIDEO</b>				
OUTPUT LEVEL		1.0	1.2	Vp-p
OUTPUT IMPEDANCE <sup>2</sup>		75		OHMS
BANDWIDTH			6.0	MHz
DIGITAL RESOLUTION		10		BITS
SIGNAL TO NOISE RATIO	58			dB
DIFFERENTIAL GAIN		1	3	%
DIFFERENTIAL PHASE		1	3	DEGREES
LUMINANCE NONLINEARITY		2	4	%
<b>DATA</b>				
RS485 DATA RATE <sup>5</sup>			2.5	MBAUD
INTERNAL TERMINATION		120		OHMS
DIFF. OUTPUT LEVEL (27OHM)	2.1		5	VOLTS
RS232 DATA RATE			120	KBAUD
RS232 OUTPUT SWING (3KOHM)	±5.0	±5.4		VOLTS
RS232 INPUT VOLTAGE RANGE	-15		+15	VOLTS
<b>OPTICAL</b>				
BAUD RATE		1200		MBAUD
WAVELENGTH (NOMINAL) <sup>3</sup>	1271		1611	nm
OPTICAL BUDGET <sup>3,4</sup>	24			dB
RANGE	10			Km
<b>ENVIROMENTAL</b>				
TEMPERATURE (OPERATIONAL)	-10		+60	DEG. C
TEMPERATURE (STORAGE)	-40		+85	DEG. C

## SPECIFICATION NOTES:

- INPUT POWER IS PROTECTED WITH A 2A FUSE. THE INPUT ALSO HAS REVERSE POLARITY PROTECTION AND OVER-VOLTAGE PROTECTION. CURRENT DRAW INCLUDES SFP MODULE.
- VIDEO OUTPUTS ARE AC-COUPLED WITH ESD PROTECTION.
- CONTACT FOCAL FOR OTHER OPTICAL CONFIGURATIONS, SUCH AS CWDM WAVELENGTHS AND HIGHER OPTICAL BUDGETS).
- ALL SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE. VIDEO SPECIFICATIONS SHOWN ARE FOR 10-BIT MODE AND OPTICAL POWER SPECIFICATIONS ARE WITH STANDARD (NON-BIDI) OPTICAL TRANSCEIVERS.
- THE MAXIMUM BAUD RATE IS DETERMINED BY HOW MUCH JITTER THE END EQUIPMENT CAN TOLERATE, THE IMPEDANCE OF THE CABLE USED AND THE TIMEOUT SETTING. THE MUX/DEMUX SAMPLE RATE OF THE RS485 CHANNELS IS 15MHz. TO ACHIEVE MAX BAUD RATE, THE TWISTED CABLE NEEDS TO HAVE AN IMPEDANCE OF 120 OHMS AND THE TIMEOUT SETTING NEEDS TO BE 1MILLISECOND. WHEN USING ZERO TIMEOUT SETTING THE MAXIMUM BAUD RATE IS 120KBAUD.

## ORDER INFORMATION

PART NUMBER	CARD ID	FIBER TYPE	TX NOMINAL WAVELENGTH (nm)	MIN. OPTICAL BUDGET (dB)	WDM	ACCESS BUSHING	TX TYPE
907-0026-00	907+C-SMD15	SMF	1550	24	NO	LC	DFB
907-0026-03	907+C-SMB15	SMF	1550	20	YES	LC	DFB BIDI
907-0026-29	907+C-SMD29	SMF	1291	24	NO	LC	DFB-CWDM
907-0026-31	907+C-SMD31	SMF	1311	24	NO	LC	DFB-CWDM
907-0026-49	907+C-SMD49	SMF	1491	24	NO	LC	DFB-CWDM
907-0026-53	907+C-SMD53	SMF	1531	24	NO	LC	DFB-CWDM
907-0026-57	907+C-SMD57	SMF	1571	24	NO	LC	DFB-CWDM
907-0026-61	907+C-SMD61	SMF	1611	24	NO	LC	DFB-CWDM

NOTE: BIDI STANDS FOR BIDIRECTIONAL, MEANING WDM IS BUILT INTO THE OPTICAL TRANSCEIVER.



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1. DIMENSIONS IN INCHES 2. 3 DECIMAL PLACES +/- 0.005 3. 2 DECIMAL PLACES +/- 0.010 4. FRACTIONS +/- 1/32 5. ANGLES +/- 0.5 DEGREE		DRAWN A CRESS		<b>FOCAL TECHNOLOGIES CORPORATION</b> 77 FRAZEE AVENUE DARTMOUTH, NS CANADA, B3B 1Z4	
		CHECKED			
MATERIAL N/A		APPROVED		TITLE	
FINISH N/A		DATE 2007-08-15		<b>CONSOLE 907+ CONFIGURATION</b>	
SCALE NTS		FILENAME 907-2036-00RC.DES		SIZE	TYPE
		SHEET 2 OF 2		<b>B</b>	<b>SK</b>
				DRAWING NO.	
				<b>907-2036-00</b>	
				ISSUE	
				<b>C</b>	